WILLOW VILLAGE MASTER PLAN PROJECT ENVIRONMENTAL IMPACT REPORT

PREPARED FOR:

City of Menlo Park
701 Laurel Street
Menlo Park, CA 94025

PREPARED BY:

ICF
201 Mission Street, Suite 1500
San Francisco, CA 94105

APRIL 2022

ICF. 2022. *Willow Village Master Plan Project*. Environmental Impact Report. April. (ICF 104393.0.001.01.) San Francisco, CA. Prepared for City of Menlo Park, Menlo Park, CA.

Contents

APPENDICES

Tables

Figures

Acronyms and Abbreviations

°C	degree Celsius
2017 Scoping Plan	2017 Climate Change Scoping Plan
AADT	Annual average daily traffic
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AC Transit	Alameda-Contra Costa Transit District
ADA	Americans with Disabilities Act
ADT	average daily traffic
AMI	Average median income
AMP	Archaeological Monitoring Plan
APCO	Air Pollution Control Officer
AQTR	An Air Quality Technical Report
ATCM	Air Toxic Control Measure
ATP	Archaeological Treatment Plan
BAAH	breaker-and-a-half
BAAQMD	Bay Area Air Quality Management District
BAT	Best available technology
BAWSCA	Bay Area Water Supply and Conservation Agency
Bay	San Francisco Bay
Bay Area	San Francisco Bay Area
Bay Trail	San Francisco Bay Trail
BCDC	Bay Conservation and Development Commission
BFE	base flood elevation
BMP	best management practice
BMR	Below-Market-Rate
BP	Before present
BTEX	Benzene, toluene, ethylbenzene, and xylenes
BTU	British thermal units
C/CAG	City/County Association of Governments of San Mateo County
C-2-B	Neighborhood Commercial District, Restrictive

C-2-S	Neighborhood Commercial District, Special
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CARE	Community Air Risk Evaluation
CCE	Community Choice Energy
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Conditional Development Permit
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CIH	Certified Industrial Hygienist
CIP	Capital Improvement Program
City	City of Menlo Park
City Council	Menlo Park City Council
Clean Air Plan	2017 Bay Area Clean Air Plan
CLOMR	Conditional Letter of Map Revision
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent

ConnectMenlo	City of Menlo Park General Plan and M-2 Area Zoning Update
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CRS	Community rating system
CSD	City School District
CUPA	Certified Unified Program Agencies
CWA	Clean Water Act
DA	Development Agreement
dB	decibel
dBA	A-weighted decibel
DDW	Division of Drinking Water
DEH	Department of Environmental Health
DOAS	direct outside air system
DOF	Department of Finance
DPM	diesel particulate matter
DPR	Department of Parks and Recreation
DTSC	Department of Toxic Substances Control
du/acre	dwelling units per acre
DWR	Department of Water Resources
EDR	Environmental Data Resources
EIP	Enhanced Identification Program
EIR	Environmental Impact Report
EMFAC	EMission FACtor
EMFAC2021	Emission Factor 2021
Energy Assessment	Assessment of Energy Use and Impact, Willow Village Project
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESA	Environmental Site Assessment
ESL	Environmental screening levels
ESMP	Environmental Site Management Plan
EV	electric-vehicle
EVAE	Emergency Vehicle Access Easement

EVSE	electric-vehicle supply equipment
FAR	floor area ratio
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FTA	Federal Transit Administration
FTE	Full-time-equivalent
G&D	Grading and Drainage
GFA	gross floor area
GHG	greenhouse gas
GIS	geographic information system
GSP	Groundwater sustainability plans
GVWR	gross vehicle weight rating
GWP	global warming potential
H&SC	Health and Safety Code
HFCs	hydrofluorocarbons
HHPS	Hamilton Henderson Pump Station
HI	hazard index
HNA	Housing Needs Assessment
“Hot Spots” Act	Air Toxics “Hot Spots” Information and Assessment Act of 1987
HOV	high-occupancy vehicle
HRA	health risk assessment
HREC	Historic recognized environmental conditions
HS	Health and Safety Specifications
HSP	Health and Safety Plan
HVAC	heating, ventilation, and air-conditioning
I	Interstate
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
IRM	Interim Remedial Measures
IRP	Integrated Resource Plan
ISG	Individual Supply Guarantee
ITE	Institute of Transportation Engineers

Kelly Park	Joseph B. Kelly Park
KPAO	Palo Alto Airport
KSQL	San Carlos Airport
kV	kilovolt
lbs/day	pounds per day
L_{dn}	day-night level
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent sound level
LID	Low-impact development
L_{max}	maximum sound levels
L_{min}	minimum sound level
LOMR	Letters of Map Revision
LOS	level of service
LS	Life Science
LSAA	Lake and Streambed Alteration Agreement
LTS	less-than-significant
LTS/M	less than significant with mitigation
LUC	Land Use Covenant
MBTA	Migratory Bird Treaty Act
MEIR	Maximally Exposed Individual Receptor
MERV	Minimum Efficiency Reporting Value
Meta	Meta Platforms, Inc.
MLD	Most Likely Descendant
MM	Moment magnitude
m-M-2	General Industrial
MMRP	Mitigation Monitoring and Reporting Program
MPFPD	Menlo Park Fire Protection District
mpg	miles per gallon
mph	miles per hour
MPMW	Menlo Park Municipal Water
MPPD	Menlo Park Police Department
MRP	Municipal Regional Permit
MTBE	Methyl tert-butyl ether

MTC	Metropolitan Transportation Commission
$MTCO_2e$/SP/year	$MTCO_2e$ per service population per year
$MTCO_2e$/year	metric tons of carbon dioxide equivalent per year
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAVD88	North American Vertical Datum 1988
NAZ	Non-attainment zone
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHTSA	National Highway Traffic Safety Administration
NI	No impact
NMFS	National Marine Fisheries Service
NO^2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NSR	New Source Review
NWIC	Northwest Information Center
NWPR	Navigable Waters Protection Rule
O	Office
O_3	Ozone
O-B	Office Bonus
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	Ordinary high-water mark
OPR	Office of Planning and Research
OSC	Open Space and Conservation
OSHA	Occupational Health and Safety Administration
PCE	Peninsula Clean Energy
PCU	pollution control unit
PDA	Priority Development Area
Peninsula	San Francisco Peninsula
PF	Public Facilities
PG&E	Pacific Gas and Electric
PGA	Peak ground acceleration

PM_{10}	particles less than 10 microns in diameter
$PM_{2.5}$	particulate matter no more than 2.5 microns in diameter
PPE	Personal protective equipment
PPV	peak particle velocity
PRC	Public Resources Code
Project Sponsor	Peninsula Innovation Partners, LLC
Proposed Project or Project	Willow Village Master Plan Project
PS	Potentially significant
R&D	research-and-development
R-4-S	High-Density, Special
RAP	Remediation Action Plan
RAW	Removal Action Workplan
RCRA	Resource Conservation and Recovery Act
RDIP	Remedial Design and Implementation Plan
REC	Recognized environmental conditions
Refuge	Don Edwards San Francisco Bay National Wildlife Refuge
Residential Mixed-Use Bonus	R-MU-B
RHNA	Regional Housing Needs Allocation
R-MU	Residential Mixed-Use
R-MU-B	Residential Mixed-Use, Bonus
ROG	reactive organic gas
ROW	Right of way
RPS	Renewables Portfolio Standard
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWF	Recycled Water Facility
RWQCB	Regional Water Quality Control Board
RWS	Regional Water System
S	significant
SAFE	Safer Affordable Fuel-Efficient
SamTrans	San Mateo County Transit District
SB	Senate Bill

SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SDWA	Safe Drinking Water Act
SEL	Sound Equivalent Level
sf	square feet
SF&SJRR	San Francisco & San José Railroad
SFBAAB	San Francisco Bay Area Air Basin
SFPUC	San Francisco Public Utilities Commission
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLCP	Short-lived climate pollutants
SLCP Reduction Strategy	Short-Lived Climate Pollutant Reduction Strategy
SLR	Sea-level rise
SMCWPPP	San Mateo Countywide Water Pollution Prevention Program
SMP	Site Management Plan
SMP	Soil Management Plan
SO^2	sulfur dioxide
SPRR	Southern Pacific Railroad
SR	State Route
SRO	Single-room occupancy
SU	significant and unavoidable
SUHSD	Sequoia Union High School District
SVCW	Silicon Valley Clean Water
SVE	Soil vapor extraction
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
Tanner Act	Toxic Air Contaminant Identification and Control Act
TAZ	transportation analysis zones
TDM	Transportation Demand Management
TDS	Total dissolved solids

TIA	Transportation Impact Analysis
TIF	transportation impact fee
TIF	traffic impact fee
TMA	Transportation Management Association
TMDL	Total maximum daily loads
TPH	Total petroleum hydrocarbons
TPP	transit priority project
TSCA	Toxic Substances Control Act
TSP	Transit Signal Priority
USACE	U.S. Army Corps of Engineers
USEPA	United States Environmental Protection Agency
UST	Underground storage tank
UWMP	Urban Water Management Plan
V/C ratio	volume-to-capacity ratio
VdB	vibration decibel level
VIMP	Vapor Intrusion Mitigation Plan
VMT	vehicle miles traveled
VOC	volatile organic compound
VRF	Variable-refrigerant Flow
WBSD	West Bay Sanitary District
WDR	Waste discharge requirement
WRF	Water reuse facilities
WSA	Water Supply Assessment
WSAP	Water Shortage Allocation Plan
WSCP	Water Shortage Contingency Plan
WSE	Water Supply Evaluation
WSMP	Water System Master Plan
WTP	Water treatment plant
ZEV	zero-emission vehicle

Project Overview

Peninsula Innovation Partners, LLC (Project Sponsor), a subsidiary of Meta Platforms, Inc. (Meta), is proposing redevelopment of an approximately 59-acre industrial site plus three parcels (within two sites) west of Willow Road (collectively, the Project Site) as a multi-phase, mixed-use development.[1] The Willow Village Master Plan Project (Proposed Project) includes demolition of all buildings and landscaping on the 59-acre portion of the Project Site (main Project Site) and construction of new buildings, establishment of various open space areas (defined below), and installation of infrastructure within a new Residential/Shopping District, Town Square District, and Campus District. In addition, the Proposed Project would alter three parcels (Hamilton Avenue Parcels North and South), totaling 3.1 acres, to accommodate realignment of Hamilton Avenue at Willow Road for Project Site access. The City of Menlo Park (City) is the Lead Agency for the Proposed Project.

At the main Project Site, the Proposed Project would demolish approximately 1 million square feet (sf) of existing nonresidential uses and construct approximately 1.8 million sf of nonresidential uses (excluding the proposed hotel), for a net increase of 800,000 sf in nonresidential square footage. The new nonresidential uses would be composed of up to 1.6 million sf of office and accessory uses[2] in the Campus District (i.e., up to 1.25 million sf of office space, with the balance [space for accessory use, including meeting and collaboration space of 350,000 sf if the office sf is maximized], in multiple buildings) and up to approximately 200,000 sf of commercial/retail space in the Residential/Shopping District and Town Square District. Some of the commercial/retail sf would be located on the East Side of Main Street within the Office Campus District and would be accessible by the public from Main Street. The Proposed Project would also include up to approximately 1,730 multi-family residential units, an up to 193-room hotel, and, assuming full buildout, approximately 20 acres of open spaces, which include approximately 8 acres of publicly accessible parks, bike paths, and trails. The Proposed Project would be developed using the bonus level allowances from the Zoning Ordinance. The Proposed Project would utilize these allowances for increased density, intensity, and height in exchange for the provision of Community Amenities.

The three proposed districts within the main Project Site would be located as follows: the approximately 17.7-acre Residential/Shopping District in the southwestern portion of the main Project Site, the approximately 4.3-acre Town Square District in the northwestern portion of the main Project Site, and the approximately 32-acre Campus District in the eastern portion of the main Project Site.[3] The Campus District would include office uses and amenity space, accessory uses,[4] publicly

[1] The Project Site includes the main 59-acre existing industrial site plus Hamilton Avenue Parcels North and South. However, references to the Project Site in this Draft EIR will generally focus on the main 59-acre campus; changes and modifications to the two parcels on Hamilton Avenue will generally be discussed separately.

[2] Accessory uses could include the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitor center, product demonstration areas, film studio, gathering terraces and private gardens, and space for other Meta accessory uses. Accessory uses could occur in spaces located anywhere throughout the Campus District.

[3] The Proposed Project also includes approximately 5.6 acres of land designated as public right-of-way.

[4] Accessory uses are defined in footnote 3 above.

accessible retail space, and a publicly accessible elevated park (i.e., the Elevated Park) that would serve to connect the main Project Site to the adjacent Belle Haven neighborhood via an overpass at Willow Road. The Proposed Project includes an undercrossing (Willow Road Tunnel) to provide tram and pedestrian/bicyclist access to the neighboring Meta campuses from the Campus District.

The main Project Site would be bisected by a new north–south street (Main Street) as well as an east–west street that would provide access to all three districts. The Proposed Project would include a circulation network for vehicles, bicycles, and pedestrians, inclusive of both public rights-of-way and private streets, that would be generally aligned to an east-to-west and a north-to-south grid. The Proposed Project would also alter parcels west of the main Project Site, across Willow Road, on both the north and south sides of Hamilton Avenue (Hamilton Avenue Parcels North and South) to support realignment of the Hamilton Avenue right-of-way and provide access to the new Elevated Park. The realignment of Hamilton Avenue would require demolition and reconstruction of an existing Chevron gas station (with a potential increase in approximately 1,000 sf) at Hamilton Avenue Parcel South and enable the potential addition of up to 6,700 sf of retail uses at the existing neighborhood shopping center (Belle Haven Retail Center) on Hamilton Avenue Parcel North. In addition, other offsite transportation and utility improvements would be constructed to serve the Proposed Project. These include various potential intersection improvements (that may be required to bring intersection congestion back to pre-Project conditions per the City's transportation impact analysis guidelines), expansion of a Pacific Gas and Electric (PG&E) Ravenswood substation, installation of a new conduit to connect the Ravenswood substation to the main Project Site, construction of a sanitary sewer force main and recycled water line in the same trench in Hamilton Avenue, and an extension of the sanitary sewer line in Willow Road from O'Brien Drive to the proposed southwest sanitary sewer pump station.

Regulatory Context and Background

The main Project Site is zoned O-B (Office Bonus) and R-MU-B (Residential Mixed-Use Bonus) on the City's General Plan Land Use Designation Map, which was updated as part of the General Plan Land Use and Circulation Elements Update (referred to herein as ConnectMenlo). The existing Hamilton Avenue Parcels North and South are zoned Neighborhood Commercial District, Special (C-2-S). The certified ConnectMenlo Final Environmental Impact Report (ConnectMenlo Final EIR) provided a program-level analysis of the development potential envisioned for the entire city, including the increased development potential in the Bayfront Area. The Land Use Element specifically identified available development potential in the Bayfront Area as follows: up to 4.1 million gsf of non-residential space, 400 hotel rooms, and 4,500 residential units.

This EIR was prepared in accordance with the terms of the settlement agreement between the cities of Menlo Park and East Palo Alto, which allows for simplification in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15168 for all topic areas, except housing and transportation. The analysis provided in this EIR tiers from the ConnectMenlo Final EIR, as appropriate and as further described in each topic section. Refer to the *2017 Settlement Agreement* section in Chapter 3.0, *Environmental Impact Analysis*, for a complete description of the settlement agreement.

Areas of Controversy

California Environmental Quality Act (CEQA) Guidelines Section 15124 specifies that the Draft Environmental Impact Report (EIR) summary identify "areas of controversy" known to the Lead Agency, including issues raised by agencies and the public.

A Notice of Preparation (NOP) was released for the Project on September 18, 2019, for a 30-day public review period. A public scoping meeting was held before the City's Planning Commission on October 7, 2019. This summary list is based on written comments received (included in Appendix 1 of this Draft EIR) and comments stated during the public scoping meeting. The topics that would result in physical impacts under CEQA are addressed in the EIR analysis. Potential areas of controversy may include those listed below:

Aesthetics

- Provide overlay of Meta developments (both current and future) for project context.

Air Quality

- Air quality impacts resulting from the significant number of vehicles
- Dust and air pollution from construction of new offices and structures in the perimeter of the Belle Haven neighborhood
- Concern for impacts on asthma and respiratory illnesses for children
- Use Belle Haven Neighborhood air quality monitoring location and not Redwood City
- Work to reduce the spread of air pollution caused by traffic
- Increase in soot from cutting down the trees at Willow and 101
- Consider net zero emissions from all buildings, without the use of offset or credits
- Consider no net increase in indoor and outdoor air pollution

Alternatives

- Consider alternative where the street connection (Main Street) over the SFPUC property is not built
- Consider alternative with less office space and more housing units
- Consider alternative with 1 million sf office, 3000 homes, with Dumbarton rail
- Consider alternative with 1 million sf office, 3000 homes without Dumbarton rail
- Consider alternative keeping office space at or close to its current size
- Consider alternative keeping traffic at or close to existing baseline
- Consider alternative where FAR is reduced for office, and housing is increased

Biological Resources

- Evaluate impacts to birds
- Evaluate impacts to plant and insect species
- Trees to be planted on site, and inclusion of mitigation measures for trees that would be removed
- Plant 10 percent of trees (50) with older, mature trees (e.g., 20 year native oak)

Cumulative

- Include these projects in the cumulative analysis: Dumbarton Corridor project, including train stop; Bohannon Gateway (almost completed); Gateway Family Housing; Sobrato Office development; SP Menlo LLC multi-family; Menlo Uptown; Menlo Portal; and Hotels citizen and Moxy
- Include Dumbarton Rail in analysis
- Consider cumulative impacts on traffic [Bohannon buildings, Sobrato proposed development, and Hotels shuttles, buses, and private vehicles (including Uber, Lyft and limousines)]

Energy

- Do not include credits/offsets as options for this project in order to meet 100 percent renewable energy use

Geology and Soils

- Consider secondary impacts resulting from earthquakes (i.e., fire)

Greenhouse Gas Emissions

- Evaluate impacts related to climate change

Hazardous Materials

- Consider toxic release site

Hydrology and Water Quality

- Address compliance with current West Bay Regulations and Standards
- Evaluate sea level rise sustainability and flood resilience

Land Use

- Consider Project's consistency with SFPUC adopted plans and policies
- Evaluate the potential loss of the local businesses on Willow Road and Hamilton Avenue and resulting additional hardship on the residential area
- Consider land use compatibility with other office developments south of the Project Site

Noise

- Analyze Project-related noise sources and volume impacts on nearby schools
- Analyze noise impacts from construction equipment and labor in the perimeter of the Belle Haven neighborhood
- Work to reduce the spread of noise caused by traffic
- Evaluate increase in noise from cutting down the trees at Willow and 101

Population and Housing

- Address jobs/housing imbalance
- Type and number of anticipated dwelling units resulting directly or indirectly from the Project
- Include average square footage for anticipated dwelling units, broken down by type of unit, directly or indirectly resulting from the Project
- Specify amount of development fees to be generated
- Consider total population growth, both directly and indirectly, resulting from the Project
- Analyze impacts resulting from provision of 20 percent below market rate units
- Consider cumulative jobs and housing growth impacts
- Analyze impacts on current occupants of the Project Site due to displacement
- Use ConnectMenlo General Plan projections instead of the ABAG projections

Project Description

- Address temporary access or staging area locations
- Provide Project construction details
- Specify Project-related review/approvals
- Prepare a Housing Needs Assessment (HNA)
- Move construction of the grocery store from Phase 3 to Phase 1 and in an alternative location
- Suggest building housing before office uses
- Pursuit of AB 900
- Public amenities to be incorporated
- Retail, grocery, and restaurant uses to be incorporated as part of the Project
- Community space to be provided
- Provide increased housing rather than community space
- Increase affordable housing to be provided from a minimum of 15 percent to 30 percent
- Increase amount of open space to be provided by 50 percent more
- Reduce FAR and decrease office size (30-50%) to allow for more housing

- Include access to Bayfront Expressway from the Southern boundary
- Include plans for connecting the Project with future rail or bus rapid transit station (Dumbarton)
- Evaluate each phase separately since mitigation measures should be implemented by phase, as they occur

Public Services

- Address impacts to school districts
- Consider historical, current, and future population projections for the School District
- Address impacts to emergency services providers

Transportation

- Prepare a Transportation Impact Analysis (TIA)
- Address pedestrian and bicyclists' safety
- Address parking and access to the Project Site
- Consider traffic impacts from the increase in the number of vehicles
- Consider existing and the anticipated vehicular traffic and student pedestrian movement patterns to and from school sites
- Estimate travel demand and trip generation, trip distribution, and trip assignment by including consideration of school sites and home-to-school travel
- Evaluate cumulative traffic impacts on schools and the community
- Consider increased potential for accidents due to gridlock during school drop-off and pick-up hours
- Analyze response time for emergency services and first responders
- Include East Palo Alto intersections in the TIA
- Analyze City intersections, grade separations, specify the trip reduction measures, and specify transit capacity enhancements
- Include potential mitigation measures to reduce traffic-related impacts on surrounding roadways and intersections
- Consider transportation impacts to and from the Willow station, which will be adjacent or co-located with the development
- Include VMT for the following scenarios: Project with Dumbarton Rail and Project without Dumbarton Rail
- Address timeline for offsetting new traffic caused by the Project
- Consider cost from the infrastructure improvements needed due to increased traffic from the Project
- Include Bus Stop Occupancy Plan in analysis
- Include "cross-traffic" between University Avenue, O'Brien Drive, and Willow Road

- Study “cut-through traffic" along Hamilton Avenue, Chilco Street, and Ivy Drive
- Include LOS analysis
- Consider no net increase in VMT

Cultural and Tribal Cultural Resources

- Consult with California Native American Tribes
- Adhere to AB 52 and SB 18, including the procedures that would be followed for AB 52, including notification, consultation, requirements for the environmental document, and the types of mitigation that could be implemented
- Recommendations for cultural resources assessments

Utilities and Service Systems

- Describe SFPUC pipelines and property ownership as part of the existing setting, as well as the Project’s impact on this infrastructure.
- Adhere to the SFPUC permitting and project review process.
- Applicant should determine the feasibility of constructing Main Street over the SFPUC pipelines, and adjacent to the SFPUC appurtenances
- Describe the disruptions that could occur to the SFPUC Hetch Hetchy Regional Water System during construction and whether critical infrastructure would be impacted or reconfigured
- Address all sewer improvements, including gravity mains, force mains, and pump stations
- Consider on-site recycled water
- Address impacts to landfill resulting from Project demolition debris

Project Alternatives

In accordance with CEQA and the CEQA Guidelines, specifically Section 15126.6, an EIR must describe a reasonable range of alternatives to a project, or the location of a project, that could attain most of the project’s basic objectives while avoiding or substantially lessening any of the significant environmental effects of the project. The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. CEQA states that an EIR should not consider alternatives “whose effects cannot be ascertained and whose implementation is remote and speculative.”

The four alternatives to the Proposed Project that are discussed and analyzed in Chapter 6, *Alternatives*, of this EIR are:

- **No Project Alternative**. The No Project Alternative is provided in this EIR to compare the impacts of the Proposed Project with what would be reasonably expected to occur in the foreseeable future if the Proposed Project were not approved and no additional construction would occur at the Project site (CEQA Guidelines Section 15126.6 [e][2]).

- **No Willow Road Tunnel Alternative.** The No Willow Road Tunnel Alternative would consist of the Proposed Project but without the Willow Road Tunnel. The trams would use the public street network, Bayfront Expressway and Willow Road to access the proposed Campus District. Historically, three tram routes have served the Willow Village campus. Without the Willow Road Tunnel, the trams would continue to operate as they do under baseline conditions. Most bicyclists and pedestrians would use on-street bicycle lanes and sidewalk improvements when accessing the proposed Campus District by traveling through the Willow Road corridor and crossing the Willow Road and Main Street/Hamilton Avenue intersection.
- **Base Level Alternative**. The Base Level Alternative assumes a FAR consistent with the base-level development standards in the R-MU zoning district, which allow for a maximum density of up to 30 dwelling units per acre, a maximum height of up to 40 feet, and a maximum nonresidential FAR of 0.15. For the O zoning district, the base-level development standards allow for a FAR of 0.45 (plus 10 percent for non-office commercial uses and 175 percent for hotels) and a maximum height of 35 feet (110 for hotels).
- **Reduced Intensity Alternative**. The Reduced Intensity Alternative would consist of the Proposed Project, developed utilizing the bonus level development provisions of the Zoning Ordinance, but developed at a lesser intensity. Both the total residential and non-residential square footage would be reduced compared to the Proposed Project. Under this alternative approximately 1,225,000 sf of office uses, 80,000 sf of non-office commercial/retail uses, 172,000 sf of hotel uses, and 1,482,222 sf of residential uses would be provided.

Each alternative is compared to the Proposed Project and discussed in terms of its adverse effects on the environment. Analysis of the alternatives focuses on those topics for which significant adverse impacts would result from the Proposed Project. The No Project Alternative is considered to be the environmentally superior alternative. However, when the No Project Alternative is deemed the environmentally superior alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives considered (State CEQA Guidelines Section 15126.6(e)(2)). As discussed in Chapter 6, *Alternatives Analysis*, the Base Level Development Alternative and the Reduced Intensity Alternative would reduce the project-level and cumulative operational air quality impacts related to reactive organic gases (ROG) emissions to a less-than-significant level with mitigation. The Base Level Development Alternative would result in the greatest reduction (19 net pounds per day [lbs/day] of ROG compared to 53.6 net lbs/ day under the Reduced Intensity Alternative). Therefore, the Base Level Development Alternative is the environmentally superior alternative.

Impacts and Mitigation Measures

Table ES-1 presents a summary of the impacts of the Project, proposed mitigation measures, and each impact's level of significance after mitigation. The environmental impacts are identified and classified as "Significant," "Potentially Significant," "Less than Significant," or "No Impact." According to State CEQA Guidelines Section 15382, a significant impact is "… a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…" State CEQA Guidelines Section 15126.4 (a)(1) also states that an EIR "…shall describe feasible mitigation measures which could minimize significant adverse impacts…" Mitigation measures are identified for all impacts labeled as "Significant" or "Potentially Significant" where feasible mitigation measures have been identified.

Significant Impacts

As discussed in more detail in Chapter 3 of this EIR, and as summarized in Table ES-1 below, impacts in the following areas would be significant or potentially significant without implementation of mitigation measures. Impacts associated with transportation, air quality, energy, greenhouse gas emissions, noise, cultural and tribal cultural resources, biological resources, geology and soils, hydrology and water quality, and hazards and hazardous materials would be reduced to a less-than-significant level if the mitigation measures recommended in this report are implemented.

- Transportation (vehicle miles traveled, and hazards due to design feature or incompatible uses)
- Air Quality (sensitive and receptors, and other air emissions)
- Energy (consumption of energy resources)
- Greenhouse Gas Emissions (generation of greenhouse gas emissions, and conflicts with applicable plans and polices)
- Noise (operational noise)
- Cultural and Tribal Cultural Resources (historical resources, archaeological resources, human remains, and tribal cultural resources)
- Biological Resources (special-status species, riparian habitat and other sensitive natural communities, protected wetlands, wildlife movement and native wildlife nursery sites, and conflicts with any local policies or ordinances)
- Geology and Soils (paleontological resources)
- Hydrology and Water Quality (water quality, and conflict or obstruct a water resource management plan)
- Hazards and Hazardous Materials (accidental hazardous materials release, and exposure to schools)

Impacts related to land use, aesthetics, population and housing, public services and recreation, and utilities and service systems would be less than significant, and no mitigation measures would be required.

Significant and Unavoidable Impacts

CEQA) requires that an EIR identify any significant environmental effects that cannot be avoided should a project be implemented. Many impacts identified for the Proposed Project would either be less than significant or mitigated to a less-than-significant level with implementation of identified mitigation measures, as discussed throughout Chapter 3 of this EIR. However, air quality impacts (Impact AQ-1 and AQ-2) and noise impacts (Impact NOI-1a and NOI-2) would be significant and unavoidable even with implementation of mitigation measures. Because the EIR identifies impacts that would remain significant and unavoidable, the City will need to determine whether to approve the Project as proposed and, if so, provide its rationale in a Statement of Overriding Considerations.

Draft EIR Conclusions

In accordance with State CEQA Guidelines Section 15123(b)(3), this summary section must identify issues to be resolved, including whether or how to mitigate the significant effects and the choice among alternatives. Chapter 3 of the Draft EIR, *Environmental Impact Analysis*, presents mitigation measures to reduce or avoid significant impacts identified for the Project. A Mitigation Monitoring and Reporting Program (MMRP) will be prepared to define the timing of implementation of the measures, the parties who will be responsible for implementation, and the parties who will be responsible for reporting and verifying implementation.

How to Comment on This Draft EIR

This Draft EIR is considered a draft under CEQA because it must be reviewed and commented upon by public agencies, organizations, and individuals before being finalized. This document is being distributed for a 45-day (minimum) public review and comment period. Readers are invited to submit written comments on the document. Comments are most helpful when they suggest specific alternatives or measures that would better mitigate significant environmental effects. Hard copies of the Draft EIR are available for review at the Menlo Park Library located at 800 Alma Street and the Belle Haven Branch Library, located at 413 Ivy Drive. Electronic copies of the Draft EIR are available for review online at [https://beta.menlopark.org/willowvillage]. Written comments should be submitted to:

Kyle Perata, Acting Planning Manager
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025
Email: ktperata@menlopark.org

To receive comments on the Draft EIR, a public hearing will be held before the Planning Commission on April 25, 2022. Hearing notices will be mailed to responsible agencies and interested individuals.

Summary Tables

Information in Table ES-1, *Summary of Impacts and Mitigation Measures*, (a) describes impact topics considered in the EIR, (b) level of significance without mitigation, (c) recites recommended mitigation measures, and (d) recites level of significance with mitigation. Levels of significance are categorized as follows:

NI	No Impact
LTS	Less than Significant
PS	Potentially Significant
LTS/M	Less than Significant with Mitigation
SU/M	Significant and Unavoidable with Mitigation

For a complete description of potential impacts and recommended mitigation measures, please refer to the specific topic discussion in Chapter 3.

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
3.1 Land Use			
Impact LU-1: Conflicts with any Land Use Plan, Policy, or Regulation Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect. The Proposed Project would not result in a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation with jurisdiction over the Proposed Project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	None required	N/A
Impact C-LU-1: Cumulative Land Use Impacts. Cumulative development would not result in a significant cumulative impact to land use, and the Proposed Project would not be a cumulatively considerable contributor to such cumulative impact.	PS	***ConnectMenlo Mitigation Measure LU-2:*** Prior to project approval, as part of the project application process, future development in Menlo Park is required to demonstrate consistency with the applicable goals, policies, and programs in the General Plan and the supporting Zoning standards to the satisfaction of the City of Menlo Park's Community Development Department. A future project is consistent with the General Plan and Zoning standards if, considering all its aspects, it will further the goals, policies and programs of the General Plan and supporting Zoning standards and not obstruct their attainment.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
3.2 Aesthetics			
Impact AES-1: Substantial Adverse Effect on Scenic Vista. The Proposed Project would not result in a substantial adverse effect on scenic vistas.	LTS	None required	N/A
Impact AES-2: Conflict with Applicable Zoning and Other Regulations Governing Scenic Quality. The Proposed Project would not conflict with applicable zoning or other regulations governing scenic quality.	LTS	None required	N/A
Impact AES-3: The Proposed Project would not create new Sources of Light and Glare. The Proposed Project would not create a new source of substantial light or glare that could adversely affect daytime or nighttime views in the area.	LTS	None required	N/A
Impact C-AES-1: Cumulative Aesthetic Impacts. Cumulative development would result in less than significant cumulative aesthetic impact, and thus the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact to aesthetic.	LTS	None required	N/A
3.3 Transportation			
Impact TRA-1: The Proposed Project would not conflict with Applicable Plans, Ordinances, or Policies. The Proposed Project would not conflict with an applicable plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	LTS	None required	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact TRA-2: The Proposed Project would exceed an applicable VMT threshold of significance. The Proposed Project would exceed the applicable VMT threshold of significance for the residential land use and would result in a significant impact.	PS	***Mitigation Measure TRA-2*:** The residential land use of the Project Site will be required to implement a TDM Plan achieving 19% active TDM trip reduction from ITE trip generation rates equivalent to 6,023 daily trips. Should a different number of residential units be built, the total daily trips will be adjusted accordingly. The required residential TDM Plan will include annual monitoring and reporting requirements on the effectiveness of the TDM program. The Project applicant will be required to work with City staff to identify the details of the TDM plan. If the annual monitoring finds that the TDM reduction is not met (i.e. the Proposed Project exceeds 6,023 daily trips from the residential land use), the TDM coordinator will be required to work with City staff to detail next steps to achieve the TDM reduction.	LTS/M
Impact TRA-3: The Proposed Project would substantially increase hazards due to a design feature or incompatible uses. The Proposed Project includes a design feature that could increase hazards and would result in a significant impact.	PS	***Mitigation Measure TRA-3*:** Revise the North Garage access design to provide adequate sight distance for the eastern driveway or incorporate other design solutions to reduce hazards to the satisfaction of the Public Works Director. Potential solutions that would reduce hazards to a less than significant level include restricting the eastern driveway to inbound vehicles only or prohibiting exiting left turns, modifying landscaping or relocating the driveway to the west to allow for adequate sight distance for exiting vehicles, or installing an all-way stop or signal.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact TRA-4: The Proposed Project would not result in inadequate emergency access. The Proposed Project would not result in inadequate emergency access.	LTS	None required	N/A
Impact C-TRA-1: Conflicts with Applicable Plans, Ordinances, or Policies.	LTS	None required	N/A
Impact C-TRA-2: Vehicle Miles Traveled.	PS	Implement ***Mitigation Measure TRA-2*** above.	LTS/M
Impact C-TRA-3: Hazards or Incompatible Uses.	PS	Implement ***Mitigation Measure TRA-3***, above.	LTS/M
Impact C-TRA-4: Emergency Access.	LTS	None required	N/A
3.4 Air Quality			
Impact AQ-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan. The Proposed Project would conflict with or obstruct implementation of the applicable air quality plan.	PS	***Project Mitigation Measure AQ-1.1: Use Clean Diesel-powered Equipment during Construction to Control Construction-related Emissions.*** The Project Sponsor shall either: • Ensure all off-road construction equipment with greater than 25 horsepower and operating for more than 20 hours total over the entire duration of construction activities have engines that meet or exceed either EPA or ARB Tier 4 Final off-road emission standards. The exception to this requirement allows a cumulative total of 618,028 horsepower-hours over the duration of construction activities before residents move onsite and 34,716 horsepower-hours over the duration of construction activities after residents move onsite from the operation of off-road construction equipment that meets standards less than Tier 4 Final; or • Prior to issuance of building permits, provide supplemental analysis prepared by a qualified air quality specialist to the City for approval that shows that	SU/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		emissions of ROG and NO_X, the excess lifetime cancer risk, and the $PM_{2.5}$ concentration would not exceed the thresholds from the 2017 BAAQMD CEQA Air Quality Guidelines using the mix of equipment proposed by the applicant. ***Project Mitigation Measure AQ-1.2: Architectural Coatings.*** The Project Sponsor shall use super-compliant architectural coatings during construction and operation for all buildings, which shall have VOC content that meet SCAQMD Rule 1113 Architectural Coatings as revised on February 5, 2016.	
Impact AQ-2: Cumulatively Considerable Net Increase in Criteria Pollutants. The Proposed Project would result in a cumulative net increase in a criteria pollutant for which the Project region is classified as a nonattainment area under an applicable federal or ambient air quality standard.	PS	Implement ***Mitigation Measures AQ-1.1 and AQ-1.2*****,** above, plus: ***ConnectMenlo Mitigation Measure AQ-2b1*****:** Prior to building permit issuance, the City shall require applicants for all development projects in the city to comply with the current Bay Area Air Quality Management District's (BAAQMD) basic control measures for reducing construction emissions of PM_{10} (Table 8-1, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the BAAQMD CEQA Guidelines). ***ConnectMenlo Mitigation Measure AQ-2b2*****:** Prior to issuance of a building permit, development projects in the City that are subject to CEQA and exceed the screening sizes in the BAAQMD's CEQA Guidelines shall prepare and submit to the City of Menlo Park a technical assessment evaluating potential project construction-related air quality impacts. The evaluation shall be prepared in conformance with the BAAQMD methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines,	SU/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		the project applicant is required to incorporate mitigation measures to reduce air pollutant emissions during construction activities to below these thresholds (e.g., Table 8-2, Additional Construction Mitigation Measures Recommended for projects with Construction Emissions Above the Threshold of the BAAQMD CEQA Guidelines, or applicable construction mitigation measures subsequently approved by BAAQMD). These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans), subject to the review and approval of the Planning Division prior to building permit issuance. (The AQTR prepared and submitted for the Proposed Project fulfills the air quality technical assessment requirement.)	
Impact AQ-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations. The Proposed Project would expose sensitive receptors to substantial pollutant concentrations.	PS	Implement ***Project Mitigation Measure AQ-1.1 and ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2***, above.	LTS/M
Impact AQ-4: Other Air Emissions. The Proposed Project would result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people.	PS	***Project Mitigation Measure AQ-4.1: Molecular Neutralizer for Odors.*** The Project Sponsor and West Bay Sanitary District shall install a molecular neutralizer at the proposed sanitary sewer pump station to convert hydrogen sulfide gas into a biodegradable effluent during sewer pump operations. The molecular neutralizer shall be installed prior to the commencement of sewer pump operations.	LTS/M
Impact C-AQ-1: Cumulative Air Quality Impacts. Cumulative development would result in a significant and unavoidable cumulative impact on air quality; thus, the Proposed Project would be a cumulatively considerable contributor to a significant cumulative impact on air quality.	PS	Implement ***Project Mitigation Measure AQ-1.1 and ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2***.	SU/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
3.5 Energy			
Impact EN-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources. The Proposed Project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.	LTS	None required.	N/A
Impact EN-2: Conflict with Energy Plan. The Proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTS	None required	N/A
Impact C-EN-1: Cumulative Energy Impacts. Cumulative development would result in a less-than-significant cumulative impact on energy resources; thus, the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on energy resources.	LTS	None required	N/A
3.6 Greenhouse Gas Emissions			
Impact GHG-1a: Generation of GHG Emissions during Construction. Construction of the Proposed Project would not generate GHG emissions that may have a significant impact on the environment.	LTS	None required.	N/A
Impact GHG-1b: Generation of GHG Emissions during Operation. Operation of the Proposed Project would generate GHG emissions that may have a significant impact on the environment.	PS	Implement ***Mitigation Measure TRA-2***, above.	LTS/M
Impact GHG-2: Conflicts with Applicable Plans and Policies. The Proposed Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions or GHGs.	PS	Implement ***Mitigation Measure TRA-2***, above.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
3.7 Noise			
Impact NOI-1a: Construction Noise. Construction of the Proposed Project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.	PS	***Modified ConnectMenlo Mitigation Measure NOISE-1c.*** Project applicants for all development projects in the city shall minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and/or enforcement of the City's Noise Ordinance. Prior to issuance of demolition, grading, and/or building permits for development projects, a note shall be provided on development plans indicating that during on-going grading, demolition, and construction, the property owner/developer shall be responsible for requiring contractors to implement the following measures to limit construction-related noise: • All internal combustion engines on construction equipment and trucks are fitted with properly maintained mufflers, air intake silencers, and/or engine shrouds that are no less effective than as originally equipped by the manufacturer. • Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses. • Stockpiling is located as far as feasible from nearby noise-sensitive receptors. • Limit unnecessary engine idling to the extent feasible. • Limit the use of public address systems. • Construction traffic shall be limited to the haul routes established by the City of Menlo Park. ***Mitigation Measure NOI-1.1: Construction Noise Control Plan to Reduce Construction Noise.*** The Project applicant and/or the contractor(s) shall obtain a permit to complete work outside the	SU/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		exempt/standard construction hours outlined in the City of Menlo Park Municipal Code, which may be incorporated into the conditional development permit for the Proposed Project. In addition, the applicant and/or contractor(s) shall develop a construction noise control plan to reduce noise levels and comply with Municipal Code daytime (during non-exempt hours) and nighttime noise standards to the extent feasible and practical, subject to review and determination by the Community Development Department. The plan shall also include measures to reduce noise levels such that a 10-dB increase over the ambient noise level does not occur at nearby noise-sensitive land uses, such as schools and residences to the extent feasible and practical (as determined by the City). Finally, the plan shall include measures to reduce pile driving noise such that noise from this equipment does not exceed 85 dBA L_{eq} at a distance of 50 feet, as feasible. The plan shall demonstrate that, to the extent feasible and practical, noise from construction activities that occur daily between 7:00 and 8:00 a.m. or between 6:00 p.m. and 10:00 p.m. will comply with the applicable City of Menlo Park noise limit of 60 dBA at the nearest existing residential or noise-sensitive land use, and construction activities that occur between 10:00 p.m. and 7:00 a.m. will comply with the applicable City noise limit of 50 dBA at the residential or noise-sensitive land use. The plan shall also demonstrate that, to the extent feasible and practical (as determined by the City), noise from construction activities during all hours will not result in a 10 dB increase over the ambient noise level at the nearest noise-sensitive land uses, and that pile driving noise would not exceed 85 dBA L_{eq} at a distance	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		of 50 feet. This Noise Control Plan shall be approved by the City prior to the issuance of building permits to confirm the precise noise minimization strategies that will be implemented and to document that strategies will be employed to the extent feasible and practical. Measures to help reduce noise from construction activity to these levels shall be incorporated into this plan and may include, but are not limited to, the following: • To the extent feasible and practical, plan for the noisiest construction activities to occur during daytime hours when the quantitative standards are less stringent, existing ambient noise levels are generally louder, and when people are less sensitive to noise. • Require all construction equipment be equipped with mufflers and sound control devices (e.g., intake silencers and noise shrouds) that are in good condition (at least as effective as those originally provided by the manufacturer) and appropriate for the equipment. • Maintain all construction equipment to minimize noise emissions. • Locate construction equipment as far as feasible from adjacent or nearby noise-sensitive receptors. • Require all stationary equipment be located to maintain the greatest possible distance to the nearby existing buildings, where feasible and practical. • Require stationary noise sources associated with construction (e.g., generators and compressors) in proximity to noise-sensitive land uses to be muffled and/or enclosed within temporary enclosures and shielded by barriers, which can reduce construction noise by as much as 5 dB.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• Install noise-reducing sound walls or fencing (e.g. temporary fencing with sound blankets) around noise-generating equipment, to the extent feasible and practical, where no perimeter wall is provided pursuant to Mitigation Measure NOI-1.2. • Prohibit idling of inactive construction equipment for prolonged periods during nighttime/non-standard hours (i.e., more than 2 minutes). • Provide advance notification in the form of mailings/deliveries of notices to surrounding land uses regarding the construction schedule, including the various types of activities that would be occurring throughout the duration of the construction period. • Provide the name and telephone number of an on-site construction liaison through on-site signage and on the notices mailed/delivered to surrounding land uses. If construction noise is found to be intrusive to the community (i.e., if complaints are received), the construction liaison shall take reasonable efforts to investigate the source of the noise and require that reasonable measures be implemented to correct the problem. • Use electric motors rather than gasoline- or diesel-powered engines to avoid noise associated with compressed air exhaust from pneumatically powered tools during nighttime hours, to the extent feasible and practical (as determined by the City). Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust could be used; this muffler can lower noise levels from the exhaust by about 10 dB. External jackets on the tools themselves could be used, which could achieve a reduction of 5 dB.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		Mitigation Measure NOI-1.2: Construction of Temporary Noise Barrier along Project Perimeter. The Project contractor(s) shall install an 8-foot-high temporary noise barrier along the complete length of the western and southern perimeter (e.g., areas near residential and school land uses), and along the southernmost 500 feet of the eastern perimeter of the main Project Site. As project buildout occurs, removal and/or adjustment in the location of the perimeter noise barrier may occur because either the construction of project buildings (completion of core and shell) in alignment with said perimeter barrier and therefore the perimeter barrier is not needed or preparation of an acoustical analysis indicates the balance of the construction activities will not result in construction noise that exceeds the allowable limits. Regarding the Hamilton Avenue Parcel South, a similar noise barrier shall be installed around the complete length of the southern, western and northern perimeters as well as the southernmost 100 feet of the eastern perimeter of the Hamilton Avenue Parcel South, unless the Project Sponsor can demonstrate, through an acoustical analysis, that construction noise at this site would not exceed the allowable limits. The decision regarding the necessity of this barrier and location(s) shall be subject to review and approval of the City based on evidence and analyses providing by the applicant team. Regarding the Hamilton Avenue Parcel North, a similar noise barrier shall also be constructed along the complete length of the southern and western perimeters, along with the eastern most 100 feet of the northern perimeter of the Hamilton Avenue Parcel North, unless the Project Sponsor can demonstrate, through an acoustical analysis, that	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		construction noise at this site would not exceed the allowable limits. The decision regarding the necessity of this barrier and location(s) shall be subject to review and approval of the City based on evidence and analyses providing by the applicant team. The barriers shall be constructed of material that has an acoustical rating of at least 26 STC (Sound Transmission Class). This can include a temporary barrier constructed with plywood supported on a wood frame, sound curtains supported on a frame, or other comparable material.	
Impact NOI-1b: Operational Noise. Operation of the Proposed Project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.	PS	***ConnectMenlo Mitigation Measure NOISE-1b.*** Stationary noise sources and landscaping and maintenance activities citywide shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code. ***Mitigation Measure NOI-1.3: Mechanical Equipment Noise Reduction Plan.*** To reduce potential noise impacts resulting from Project mechanical equipment, including heating, cooling, and ventilation equipment, the Project applicant shall conduct a noise analysis to estimate noise levels of Project-specific mechanical equipment based on the final selected equipment models and design features. In addition to the analysis, a Mechanical Equipment Noise Reduction Plan shall be created to ensure noise levels of equipment, once installed, are below the applicable criteria described below. The Noise Reduction Plan shall include any necessary noise reduction measures required to reduce Project-specific mechanical equipment noise to a less-than-significant levels.. The plan shall also demonstrate that with the inclusion of selected measures, noise from equipment would be below the significance thresholds. Feasible noise reduction measures to reduce noise below the significance thresholdsinclude, but are not limited to,	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		selecting quieter equipment, utilizing silencers and acoustical equipment at vent openings, siting equipment farther from the roofline, and/or enclosing all equipment in a mechanical equipment room designed to reduce noise. This analysis shall be conducted and the results and final Noise Reduction Plan shall be provided to the City prior to the issuance of building permits for each building. The noise analysis and Noise Reduction Plan shall be prepared by persons qualified in acoustical analysis and/or engineering. The Noise Reduction Plan shall demonstrate with reasonable certainty that noise from mechanical equipment selected for the Project, including the attenuation features incorporated into the Project design, will not exceed the City of Menlo Park's property plane threshold of 60 dBA during daytime hours or 50 dBA during nighttime hours at nearby noise-sensitive land uses, as well as the 50 dBA at 50 feet threshold that applies to rooftop equipment in the City. The Project applicant shall incorporate all feasible methods to reduce noise identified above and other feasible recommendations from the acoustical analysis and Noise Reduction Plan into the building design and operations as necessary to ensure that noise sources meet applicable requirements of the respective noise ordinances at receiving properties. ***Mitigation Measure NOI-1.4: Emergency Generator Noise Reduction Plan (All Parcels).*** Prior to approval of a building permit for each building, the Project applicant shall conduct a noise analysis to estimate noise levels from the testing of Project-specific emergency generators, based on the actual generator makes and models proposed and the actual selected attenuation features. Based on the results of	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		the analysis, a Noise Reduction Plan shall be created to ensure noise levels of generator testing are below the applicable Code requirements. The results, methods, and final Noise Reduction Plan shall be provided to the City prior to the issuance of building permits. The analysis shall account for proposed noise attenuation features, such as specific acoustical enclosures and mufflers or silences, and the final Noise Reduction Plan shall demonstrate with reasonable certainty that proposed generator(s) will not exceed the City of Menlo Park noise thresholds of 60 dBA at the nearest noise-sensitive use during daytime hours, and/or 85 dBA at 50 feet for powered equipment, whichever is lower. Acoustical treatments may include, but are not limited to: • Enclosing generator(s); • Installing relatively quiet model generator(s); • Orienting or shielding generator(s) to protect noise-sensitive receptors to the greatest extent feasible; • Installing exhaust mufflers or silencers; • Increasing the distance between generator(s) and noise-sensitive receptors; and/or • Placing barriers around generator(s) to facilitate the attenuation of noise. In addition, all Project generator(s) shall be tested only between the hours of 7:00 a.m. and 10:00 p.m. Because no nighttime testing of generators will be allowed, compliance with the 50-dB nighttime noise threshold in the City need not be demonstrated. The Project applicant shall incorporate sufficient recommendations from the acoustical analysis into the building design and operations to ensure that noise sources meet applicable requirements of the noise ordinance.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact NOI-2: Generation of excessive vibration or groundborne noise levels. The Proposed Project would generate excessive groundborne vibration or noise levels.	PS	***ConnectMenlo Mitigation Measure NOISE-2a.***[5] To prevent architectural damage citywide as a result of construction-generated vibration: • Prior to the issuance of a building permit for any development project requiring pile driving or blasting, the project applicant/developer shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. The maximum levels shall not exceed 0.2 in/sec, which is the level that can cause architectural damage for typical residential construction. If maximum levels would exceed the thresholds, alternative methods, such static rollers, non-explosive blasting, and pile drilling, as opposed to pile driving, shall be used to the extent feasible and practical, subject to review and determination by the Community Development Department. To prevent vibration-induced annoyance as a result of construction-generated vibration: • Individual projects that involve vibration-intensive construction activities, such as blasting or the use of pile drivers, jack hammers, or vibratory rollers, within 200 feet of sensitive receptors shall be evaluated for potential vibration impacts. A vibration study shall be conducted for individual projects where vibration-intensive impacts may occur. The study shall be prepared by an acoustical or vibration engineer holding a degree in engineering, physics, or an allied discipline who is able to demonstrate a minimum of 2 years of	SU/M

[5] This noise and vibration study for the Proposed Project has been prepared in accordance with ConnectMenlo Mitigation Measure NOISE-2a.

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		experience in preparing technical assessments regarding acoustics and/or ground-borne vibration. The study is subject to review and approval of the Community Development Department. Vibration impacts on nearby receptors shall not exceed the vibration annoyance levels (in RMS inches per second), as follows: • Workshop = 0.126 • Office = 0.063 • Residence, daytime (7:00 a.m.–10:00 p.m.) = 0.032 • Residence, nighttime (10:00 p.m. to 7:00 a.m.) = 0.016 If construction-related vibration is determined to be perceptible at vibration-sensitive uses, additional requirements, such as less vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., non-explosive blasting, pile drilling, as opposed to pile driving, preclusion for vibratory roller use, use of small or medium-sized bulldozers) to the extent feasible and practical. Vibration reduction measures shall be incorporated into the site development plan as a component of the Project and applicable building plans, subject to the review and approval of the Community Development Department. ***Mitigation Measure NOI-2.1: Vibration Control Measures for Annoyance from Daytime Pile Driving Activity.*** During daytime hours, pile driving activity shall take place no closer than 335 feet from residential land uses, 210 feet from office or school land uses, and 130 feet from workshops or retail land uses, to the extent feasible and practical. When pile driving work must take place closer than these distances from the aforementioned land uses, reduction measures shall be incorporated to the extent feasible and practical, such as the use of alternative pile	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		installation methods that do not require impact or vibratory pile driving. Examples of alternative pile installation methods include auger cast pressure grouted displacement (APGD) piles, stone columns, cast-in-drilled-hole (CIDH) piles, or press-in piles. These measures will be subject to review and approval of the Community Development Department. In addition, the construction contractor shall appoint a Project vibration coordinator who will serve as the point of contact for vibration-related complaints during project construction. Contact information for the Project vibration coordinator will be posted at the Project Site and on a publicly available Project website. Should complaints be received, the Project vibration coordinator shall work with the construction team to adjust activities (e.g., drilling instead of driving piles in closer proximity to certain land uses) to the extent feasible and practical to reduce vibration or to reschedule activities for a less sensitive time. The Project vibration coordinator shall notify the Community Development Department of all vibration-related complaints and actions taken to address the complaints. ***Project Mitigation Measure NOI-2.2: Vibration Control Measures for Annoyance from Daytime Construction Activities Excluding Pile Driving.*** During daytime hours, construction activity involving a vibratory roller shall take place no closer than 90 feet from residential land uses, 60 feet from office or school land uses, and 35 feet from workshops or retail land uses, to the extent feasible and practical, subject to review and approval by the Community Development Department. In addition, equipment that generates vibration levels similar to a large bulldozer shall take place no closer than 50 feet from	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		residential land uses, 35 feet from office or school land uses, and 20 feet from workshops or retail land uses, to the extent feasible and practical, subject to review and approval by the Community Development Department. Maintaining these distances between equipment and the nearest residential, school/office, or workshop land uses would ensure vibration levels would be below 0.032 PPV in/sec at the nearest residences, 0.063 PPV in/sec at the nearest school or office, and 0.126 PPV in/sec at the nearest workshop, per the requirements in ConnectMenlo Mitigation measure NOISE-2a. When construction would require the use of these equipment types at distances closer than these to nearby sensitive uses, reduction measures shall be incorporated to the extent feasible and practical, such as the use of smaller or less vibration-intensive equipment. For example, the vibration level from a large bulldozer at 10 feet would be approximately 0.352 PPV in/sec, whereas the vibration level from a large bulldozer at the same distance would be approximately 0.012 PPV in/sec. The vibration level from a small bulldozer at 10 feet would be below all daytime vibration thresholds from ConnectMenlo Mitigation Measure Noise-2a. The feasibility of reduction measures shall be subject to review and determination by the Community Development Department. In addition, the construction contractor shall appoint a Project vibration coordinator who will serve as the point of contact for vibration-related complaints during Project construction. Contact information for the Project vibration coordinator will be posted at the Project Site and on a publicly available Project website. Should complaints be received, the Project vibration coordinator shall work	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		with the construction team to adjust activities (e.g., drilling instead of driving piles in closer proximity to certain land uses) to the extent feasible and practical to reduce vibration or to reschedule activities for a less sensitive time. The Project vibration coordinator shall notify the Community Development Department of all vibration-related complaints and actions taken to address the complaints. ***Project Mitigation Measure NOI-2.3: Vibration Control Measures for Annoyance from Nighttime Pile Installation Activity.*** During the nighttime hours of 10:00 p.m. to 7:00 a.m., pile driving activity shall take place no closer than 540 feet from residential land uses to the extent feasible and practical. When pile installation work must take place closer than this distance to residences, alternative pile installation methods that do not require impact or vibratory pile driving shall be employed to the extent feasible and practical. Examples of alternative pile installation methods include auger cast pressure grouted displacement (APGD) piles, stone columns, cast-in-drilled-hole (CIDH) piles, or press-in piles. The feasibility of these alternative measures shall be subject to review and determination of the Community Development Department. In addition, the construction contractor shall appoint a Project vibration coordinator who will serve as the point of contact for vibration-related complaints during Project construction. Contact information for the Project vibration coordinator will be posted at the Project Site and on a publicly available Project website. Should complaints be received, the Project vibration coordinator shall work with the construction team to adjust activities (e.g., drilling instead of driving piles in closer proximity to certain land uses) to the extent feasible and practical to	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		reduce vibration or to reschedule activities for a less sensitive time. The Project vibration coordinator shall notify the Community Development Department of all vibration-related complaints and actions taken to address the complaints.	
Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose of people residing or working in the project area to excessive noise levels.	NI	None required	NI
Impact C-NOI-1: Cumulative Noise Impacts. Cumulative development would result in a significant and unavoidable cumulative noise impact; thus, the Proposed Project would be a cumulatively considerable contributor to a significant cumulative noise impact.	PS	Implement ***Mitigation Measure NOI-1.1, NOI-1.2, and NOI-1.3, and ConnectMenlo Mitigation Measure NOI-1c***, above.	SU/M
3.8 Cultural and Tribal Cultural Resources			
Impact CR-1: Historical Resources. The Proposed Project would cause a substantial adverse change in the significance of a historical resource, pursuant to Section 15064.5.	PS	***CR 1.1. Remove, Store, and Reinstall Dumbarton Cutoff Line Tracks.*** The Project Sponsor shall remove the Dumbarton Cutoff Line tracks, store them during construction of the Proposed Project, and reinstall them in their historic location without irreparable damage to their character-defining historic fabric. The Project Sponsor will prepare a preservation plan specifying the practices to be employed to preserve the historical integrity of the tracks during their removal, storage, and reinstallation. These methods may include the following: using straps to lift rails rather than chains or other "metal on metal" methods, marking or numbering the track components so they can be replaced in their original sequence, and ensuring secure	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		storage onsite or in a lay-down area. Following tunnel construction, the rail segments will be returned to their preconstruction location in Willow Road on new ballast and ties or other appropriate material for the rail crossing. The preservation plan shall be reviewed and approved by the City and Samtrans prior to the issuance of demolition permits related to construction activities within Willow Road, and the Project Sponsor will incorporate the recommended protective measures into construction specifications.	
Impact CR-2: Archaeological Resources. The Proposed Project would cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.	PS	***Mitigation Measure CR 2.1. Avoidance, Monitoring, and Treatment*** **Avoidance and Minimization of Ground-Disturbing Activities** The Project Sponsor shall avoid or minimize ground-disturbing excavation in CA-SMA-160/H to the extent feasible in both the high-sensitivity area[6] (1.77 acres) and revised site boundary (7.03 acres), as detailed below. The City of Menlo Park will review and confirm implementation of mitigation measures with each construction phase. • The Project Sponsor shall note on any plans that require ground-disturbing excavation that there is potential for exposing buried cultural resources, including Native American burials. Any archaeological site information supplied to the contractor shall be considered and marked confidential. • The Project Sponsor shall install a culturally sterile engineered cap to cover the archaeological deposit within the Hiller Mound Core and preserve the resource in place. The 4 to 7 feet of engineered fill will	LTS/M

[6] Defined here as the Hiller Mound Core.

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		function as a protective cover for cultural deposits within the Hiller Mound Core and raise the grade to accommodate future sea-level-rise above the 100-year flood elevation, consistent with surrounding areas where buildings will be constructed. • Onsite soil material is suitable as fill material provided it is processed to remove concentrations of organic material, debris, and particles greater than 6 inches in maximum dimension; oversized particles shall either be removed from the fill or broken down to meet the requirement. Imported fill material shall meet the above requirements and have a plasticity index of less than 20. Material used for engineered fill shall meet appropriate Department of Toxic Substances Control (DTSC) Environmental Screening Levels (ESLs), as determined by the environmental engineer. **Fill Placement within the Hiller Mound Core Boundary** Construction activities shall be conducted in a manner that protects against penetration of the core area and reduces the potential for disturbance from concentrated surface loads. The following measures shall be implemented within the Hiller Mound Core during fill placement and any subsequent construction to reduce potential impacts on subsurface archaeological materials. • An elevation contour plan shall be created to guide the surface preparation necessary to place the fill cap within the Hiller Mound Core boundaries. The plan shall show the top of the primary midden elevation, based on archaeological GeoProbe data, to establish a 6-inch-thick buffer zone above the primary midden layer, below which soil disturbance or penetration shall not be permitted.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• Tree root balls from trees removed within the Hiller Mound Core boundary that have roots extending within an area 24 inches from the primary midden layer shall be left in place. Stumps may be ground flat with the existing grade. • Clearing of surface vegetation within the Hiller Mound Core boundary shall be performed through hand grubbing. • Ground surface preparation prior to fill placement within the Hiller Mound Core boundary shall use a walk-behind sheepsfoot roller to densify the 6-inch-thick buffer-zone material. The use of relatively light equipment (typical equipment weight of 3,000–5,000 pounds), such as a walk-behind roller, reduces potential for densification below the buffer zone. • A layer of geogrid reinforcement shall be placed over the prepared ground surface within the Hiller Mound Core boundary. Geogrid shall consist of a triaxial grid (e.g., TX140 or approved equivalent). A second layer of geogrid shall be placed to reinforce the engineered fill approximately 24 inches above the base geogrid layer. Geogrid shall be installed in accordance with the manufacturer's specifications. • Once the 6-inch-thick buffer zone has been prepared and reinforcement grid placed within the Hiller Mound Core boundary, engineered fill may be placed in 8-inch lifts and compacted using a single-drum ride-on sheepsfoot roller. The roller shall not be parked or left stationary on the Hiller Mound Core overnight. If yielding subgrade is encountered in the buffer zone, the geotechnical consultant may recommend placement of additional layers of reinforcement within the	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		engineered fill. This determination will be based on field observations during preparation of the ground surface. • In order to protect against construction damage to the primary midden, construction and construction vehicle traffic (with the exception of equipment necessary to place and compact engineered fill) shall not be permitted to rest on or pass over the Hiller Mound Core boundary until after the engineered fill placement is complete to provide a buffer between mound material and the concentrated vehicle loads. Once the fill placement is complete, the primary midden will be protected, but construction equipment and construction vehicle traffic within the Hiller Mound Core nonetheless shall continue to be limited to the minimum necessary to complete construction of the Proposed Project. Vehicles shall not be stationary or parked on the Hiller Mound Core overnight. The contractor shall ensure that vehicles and equipment do not leak fuel or other liquids when operating on the Hiller Mound Core. Leaking vehicles and equipment shall be promptly removed from the Hiller Mound Core area and repaired before use is resumed on the Hiller Mound Core. **Temporary Construction Loading – Installation of Temporary Scaffolding within the Hiller Mound Core Boundary** The following measures shall be implemented within the Hiller Mound Core boundary during scaffold erection to reduce potential impacts on subsurface archaeological materials.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• Scaffolds within the Hiller Mound Core boundary shall be installed no earlier than 3 months after the engineered fill placement related to sea-level rise. • Scaffolds within the Hiller Mound Core boundary shall use 16-foot square bases on the engineered fill cap. Minor leveling of the fill cap shall be allowed at each scaffold installation, but excavation or other penetrations into the fill surface shall not be permitted. If equipment or the temporary auxiliary structures needed to install the atrium frame and associated glass would disturb more than 12 inches below the surface of the fill , the archeological consultant shall determine whether protective measures shall be required, including the installation of a wood or plastic mat around each scaffold. • Scaffolds within the Hiller Mound Core boundary shall be removed promptly after installation and inspection of the framework and glass within the atrium to remove pressure from the engineered fill over the Hiller Mound Core. ***Mitigation Measure CR 2.2. Train Workers to Respond to the Discovery of Cultural Resources and Prepare an Archaeological Monitoring Plan and Archeological Treatment Plan.*** If avoidance or preservation in place are not possible, the following measures will be followed: • Prior to the start of fill placement and other ground-disturbing construction, the archaeological consultant archaeological resources sensitivity training and Native American tribal representatives shall conduct tribal cultural sensitivity training for workers and construction superintendents. Training shall be required for all construction personnel	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		participating in ground-disturbing construction to alert them to the archaeological sensitivity of the area and provide protocols to follow in the event of a discovery of archaeological materials. The principal archaeological consultant and project archaeologist shall develop and distribute for job site posting a document ("ALERT SHEET") summarizing potential finds that could be exposed and the protocols to be followed as well as points of contact to alert in the event of a discovery. The ALERT SHEET and protocols shall be presented as part of the training. The contractor shall be responsible for ensuring that all workers requiring training are in attendance. Training shall be scheduled at the discretion of the Project Sponsor in consultation with the City. Worker training shall be required for all contractors and sub-contractors and documented for each permit and/or phase of permit that requires ground disturbing activities on-site. For work in the Hiller Mound Core, worker training shall also be included for workers who will work on the surface or who will drive across the Hiller Mound Core. • The archaeological consultant shall review, identify, and evaluate cultural resources that may be inadvertently exposed during construction to determine if a discovery is a historical resource and/or unique archaeological resource under CEQA. Significant resources shall be subject to treatment/mitigation that prevents an adverse effect on the resource, in accordance with PRC Section 15064.5. Mitigation could include avoidance, preservation in place, or the scientific removal, analysis, reporting, and curation of any recovered	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		cultural materials. If the discovery constitutes a tribal cultural resource, consultation shall be undertaken with the person the NAHC identifies as the MLD to determine appropriate treatment. • The Project Sponsor and archaeological consultant shall develop an Archaeological Monitoring Plan (AMP)7 to guide archaeological and tribal monitoring of ground-disturbing construction and protect any cultural materials and tribal cultural resources exposed during construction from further damage so they can be identified and evaluated for their potential eligibility for listing in the California Register and properly treated. The AMP's monitoring plan for tribal cultural resources shall be developed in consultation with Native American tribal representatives. The AMP will be submitted to the City of Menlo Park for review and approval prior to issuance of a building permit and/or implementation. **The AMP shall include, at a minimum:** • Background information and context data on the Project and cultural resource; • Monitoring requirements, including worker awareness training; a discussion of specific locations and the intensity of the monitoring effort for areas with potential for the discovery of unexpected cultural materials; and anticipated personnel, including retention of local Native American tribal representative(s) from lists maintained by the NAHC;	

7 *Archaeological monitoring r*efers to the controlled observation and regulation of construction operations on or in the vicinity of a known or potentially significant cultural resource in order to prevent or minimize impact to the resource.

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• Protocols for unexpected discoveries during construction, consistent with Modified ConnectMenlo EIR MM CULT-2a; • Pre-historic research design, identifying pertinent archaeological research issues and questions; anticipated property types; and data requirements for addressing each research issue to be used for significance evaluation; • Detailed procedures regarding unexpected significant discoveries made during construction, including a discussion of field and artifact analysis methods to be used. • Treatment of human remains (consistent with state burial law and recommendations of the NAHC MLD and Modified ConnectMenlo EIR MM CULT-4); • Laboratory methods, including artifact cataloging and special analyses. • The plan shall outline provisions for reporting (e.g., Monitoring Closure Report), artifact curation, and potential public outreach in the event of significant finds. • A formal Archaeological Treatment Plan (ATP), which may include data recovery, shall be prepared prior to any grading or ground-disturbing activity. • The ATP, similar to the AMP, shall detail the appropriate procedures, analytical methods, and reports to be completed if data recovery of significant archaeological Native American cultural materials, including Native American burials, is undertaken. Curation at an appropriate repository of recovered archaeological and Native American cultural materials shall be arranged once the extent of the collected	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		materials is known. The ATP will be developed and implemented by the project archaeologist; while the precise treatment for identified resources determined in consultation with the City and, for tribal cultural resources, Native American tribal representatives. • The ATP may be included within the AMP for a combined Archaeological Monitoring and Treatment Plan at the discretion of the archaeological consultant. ***ConnectMenlo Mitigation Measure CULT-2a (Modified) Stop Work if Archaeological Material or Features Are Encountered during Ground-Disturbing Activities.*** ○ If a potentially significant subsurface cultural resource is encountered during ground-disturbing activities on any parcel in the city, all construction activities within a 100-foot radius of the find shall cease until a qualified archeologist determines whether the resource requires further study. All developers in the Study Area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate DPR forms and evaluated for significance in terms of CEQA criteria by a qualified archeologist in accordance with Project Mitigation Measure CR 2.2.	
Impact CR-3. Human Remains. The Proposed Project could disturb human remains, including those interred outside of dedicated cemeteries.	PS	Implement ***Mitigation Measure CR-2.1 and CR-2.2***, above. ***ConnectMenlo Mitigation Measure CULT-4: (Modified) Comply with State Regulations Regarding the Discovery of Human Remains at the Project Site.*** Procedures of conduct following the discovery of human remains citywide have been mandated by Health and Safety Code Section 7050.5, PRC Section 5097.98, and the California Code of	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The coroner shall then determine whether the remains are Native American. If the coroner determines the remains are Native American, the coroner shall notify the NAHC within 24 hours, which will, in turn, notify the person the NAHC identifies as the MLD in connection with any human remains. Further actions shall be determined, in part, by the desires of the MLD. The Project Proponent, the Project Archaeologist, and the MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects, including those associated with known an unknown Native American burial locations (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The MLD will have 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, or the owner does not accept the recommendation of the MLD in accordance with Pub. Res. Code 5097.98(e), the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact CR-4: Tribal Cultural Resources. The Proposed Project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is: a) Listed or eligible for listing in the California Register or local register of historical resources, as defined in PRC Section 5020.1(k), or b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native America tribe.	PS	Implement ***Mitigation Measure CR-2.1 and CR-2.2, and ConnectMenlo Mitigation Measure CULT-4 (modified)***, above.	LTS/M
Impact C-CR-1: Cumulative Impacts on Cultural and Tribal Cultural Resources. Cumulative development would result in a less-than-significant cumulative impact on cultural and tribal cultural resources, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on cultural and tribal cultural resources.	LTS	None required	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
3.9 Biological Resources			
Impact BIO-1: Direct Impacts on Special-Status Species. The Proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations.	LTS	None required	LTS
Impact BIO-2: Indirect Impacts on Special-Status Species. The Proposed Project would result in substantial predation among special-status bird and mammal species that breed in the nearby brackish marshes and may forage, in the case of special-status birds, in the Project area.	PS	***BIO-2.1: Feral Cat Management Program.*** The Project Sponsor shall implement a feral cat management program, similar to the program developed in conjunction with the Peninsula Humane Society and the Society for the Prevention of Cruelty to Animals for the East Campus in 2013. For one week every 3 months (i.e., each quarter), three live trap cages, designed to trap cats, shall be placed around the perimeter of the main Project Site in locations where feral cats are likely to prey upon native wildlife species. Each trap cage shall be monitored and maintained on a daily basis during the week when traps have been set to determine whether a feral cat has been caught and whether the trap has inadvertently captured a non-target species. If a feral cat is caught, a representative from a pest control operator (or a similar service organization/company) shall be contacted and dispatched to transport the trapped cat to the Humane Society of San Mateo County, a local cat shelter, a local cat rescue facility, or other local facility that accepts feral cats. If an animal other than a feral cat is caught in one of the traps, it shall be released immediately at the trap location.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact BIO-3: Impacts on Riparian Habitat and Other Sensitive Natural Communities. Project demolition and construction would affect riparian and other sensitive natural communities.	PS	***BIO-3.1: Avoid and Minimize Impacts on Riparian Habitat and Other Sensitive Natural Communities.*** To the extent feasible, construction activities should avoid or minimize the removal of wetland vegetation or the placement of fill in the wetlands immediately north and northeast of the Project Site. If all direct impacts on wetlands (i.e., vegetation removal and fill) are avoided, Mitigation Measures BIO-3.2 and BIO-3.3 would not need to be implemented. However, if any wetland vegetation needs to be removed from the wetlands, or any fill needs to be placed in the wetlands, Mitigation Measure BIO-3.2 (and Mitigation Measure BIO-3.3 if permanent impacts would occur) shall be implemented. ***BIO-3.2: In-Situ Restoration of Temporary Impacts.*** If impacts on the wetlands immediately north of the Project Site are temporary, resulting in vegetation removal or temporary fill within the wetland but no permanent fill, then the wetland area shall be restored by the Project Sponsor following construction. The herbaceous seasonal wetlands are likely to become recolonized easily without the need for seeding and planting as long as their existing hydrology and topography are restored following temporary impacts. There is some potential for the arroyo willow clumps in the isolated forested wetland to regrow from cut stumps. In such a case, the in-situ restoration shall involve simply protecting the area with exclusion fencing following construction to allow for regrowth of vegetation. For temporary impacts involving removed willow root masses where in-situ restoration is still an option, a more detailed restoration plan shall be developed. The mitigation shall, at a minimum, achieve no net loss of wetland acreage (i.e., jurisdictional wetlands lost to fill shall be replaced through the creation or restoration of wetland habitat of	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		the same type as the affected habitat [either forested or herbaceous seasonal] at a minimum ratio of 1:1 on an acreage basis or as otherwise required by any state or federal permitting agencies) or ecological functions and values through the restoration and enhancement of the affected wetlands to a level equal to or greater than the baseline condition of the existing wetlands. An in-situ restoration approach could involve salvaging wetland plant material prior to construction (e.g., willow cuttings or willow clumps, in the case of the isolated forested wetland) and then replanting the material if the seasonal timing of construction is appropriate. USACE and/or RWQCB approvals may be required to authorize temporary impacts on these features. ***BIO-3.3: Provide Compensatory Mitigation*.** If any permanent fill of the isolated forested wetland or the herbaceous seasonal wetlands occurs, the Project Sponsor shall provide new wetland habitat of the same type (either forested or herbaceous seasonal) to offset this impact, either through the creation, enhancement, or restoration of wetlands in an appropriate location or through the purchase of mitigation credits from a USACE- or RWQCB-approved wetland mitigation bank. The purchase of such credits shall serve as full mitigation for impacts on these wetland features.[8] If Project-specific creation, enhancement, or restoration of wetland habitat is implemented, habitat shall be restored or created at a minimum ratio of 2:1 (compensation: impact) on an acreage basis or as otherwise required by any state or	

[8] Refer to UC Army Corp of Engineers 33 C.F.R. Pt. 325 and California State Water Resources Control Board's State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (April 2, 2019) pages 28 to 29.

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		federal permitting agencies. This ratio is not higher because of the relatively low quality of the wetlands on the Project Site relative to the more extensive, less fragmented wetlands elsewhere in the region, and it is not lower because of the temporal loss of wetland functions and values that would result from the lag between impacts on the wetlands and maturation of the mitigation habitat. USACE and/or RWQCB approvals may be required to authorize permanent impacts on this feature. To the extent that compensatory mitigation is not provided by purchasing mitigation credits from a USACE- or RWQCB-approved wetland mitigation bank, then, if feasible, compensation shall be provided by creating, enhancing, or restoring wetland habitat so as to achieve the 2:1 ratio somewhere in San Mateo County or as otherwise required by any state or federal permitting agencies. A qualified biologist shall develop a wetland mitigation and monitoring plan that describes the mitigation, including the following components (or as otherwise modified by regulatory agency permitting conditions): • Summary of habitat impacts and proposed mitigation ratios; • Goal of the restoration to achieve no net loss of habitat functions and values; • Location of mitigation site(s) and description of existing site conditions; • Mitigation design; o Existing and proposed site hydrology; o Grading plan, if appropriate, including bank stabilization or other site stabilization features; o Soil amendments and other site preparation elements, as appropriate;	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		○ Planting plan; ○ Irrigation and maintenance plan; ○ Remedial measures and adaptive management; and • Monitoring plan, including final and performance criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule. Success criteria shall include quantifiable measurements of wetland vegetation type (e.g., dominance by natives), the appropriate extent for the restoration location, and the provision of ecological functions and values equal to or exceeding those in the affected wetland habitat. At a minimum, success criteria shall include following: ○ At Year 5 post-mitigation, at least 75 percent of the mitigation site shall be dominated by native hydrophytic vegetation. The wetland mitigation and monitoring plan must be approved by the City and other applicable agencies prior to the wetland impacts and must be implemented within 1 year after the discharge of fill into wetland features. Alternately, offsite mitigation could be provided through the purchase of mitigation credits at an agency-approved mitigation bank, as noted above.	
Impact BIO-4: Impacts on State and/or Federally Protected Wetlands. Project demolition and construction could affect state and/or federally protected wetlands.	PS	Implement ***Mitigation Measures BIO-3.1, BIO-3.2, and BIO-3.3***, above.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact BIO-5: Impacts on Wildlife Movement and Native Wildlife Nursery Sites. The removal of buildings, trees, shrubs, or woody vegetation and the construction of new buildings and installation of lighting that could affect native migratory birds.	PS	***BIO-5.1: Avoidance and Pre-construction Surveys for Nesting Migratory Birds.*** The Project Sponsor shall implement the following measures to reduce impacts on nesting migratory birds: • To the extent feasible, construction activities shall be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts on nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in San Mateo County extends from February 1 through August 31. • If it is not possible to schedule construction activities between September 1 and January 31, then preconstruction surveys for nesting birds shall be conducted by a qualified ornithologist to ensure that no nests of migratory birds will be disturbed during Project implementation. Surveys shall be conducted no more than 7 days prior to the initiation of construction activities for each construction phase. During this survey, the ornithologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, California annual grasslands, buildings) in and immediately adjacent to the impact areas for migratory bird nests. • If an active nest is found within trees or other potential nesting habitats that would be disturbed by construction activities, a construction-free buffer zone (typically 300 feet for raptors and 100 feet for other species) will be established around the nest to ensure that species that are protected under the MBTA and California Fish and Game Code will not be disturbed during Project implementation. The ornithologist shall determine the extent of the buffer.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• If construction activities will not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the Proposed Project may be removed prior to the start of the nesting season (i.e., prior to February 1). This would preclude the initiation of nests in this vegetation and prevent any potential delay for the Proposed Project because of the presence of active nests in these substrates. ***BIO-5.2: Atrium Bird-safe Design Requirements*.** The Project Sponsor shall implement the following measures to reduce impacts on migratory birds due to construction of the atrium: • The Project Sponsor shall treat 100 percent of the glazing on the dome-shaped portions of the atrium's façades (i.e., all areas of the north façade and all areas of the south façade above the Elevated Park) with a bird-safe glazing treatment to reduce the frequency of collisions. This glazing shall have a Threat Factor of 15 or less.[9] Because a Threat Factor is a nonlinear index, its value is not equivalent to the percent reduction in collisions that a glazing product provides. However, products with lower Threat Factors result in fewer bird collisions.	

[9] A material's Threat Factor, as assigned by the American Bird Conservancy, refers to the level of danger posed to birds, based on the birds' ability to perceive the material as an obstruction, as tested using a "tunnel" protocol (a standardized test that uses wild birds to determine the relative effectiveness of various products at deterring bird collisions). The higher the Threat Factor, the greater the risk that collisions will occur. An opaque material will have a Threat Factor of 0, and a completely transparent material will have a Threat Factor of 100. Threat Factors for many commercially available façade materials can be found at https://abcbirds.org/wp-content/ uploads/2021/01/Masterspreadsheet-1-25-2021.xlsx.

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• The Project Sponsor shall treat 100 percent of the glazing on the atrium's east and west façades with a bird-safe glazing treatment to reduce the frequency of collisions. This glazing shall have a Threat Factor of 15 or less. • Interior trees and woody shrubs shall be set back from the atrium's east, west, and non-sloped (i.e., vertical/perpendicular to the ground) portions of the south façades by at least 50 feet to reduce the potential for collisions with these facades due to the visibility of interior trees. This 50-foot distance is greater than the distance used in the project design for the north and sloped portions of the south facades (e.g., 20-25 feet for the north façade) due to the vertical nature of the east, west, and non-sloped portion of the south façades, as opposed to the articulated nature of the north and sloped portions of the south façades (which is expected to reduce the visibility of internal vegetation to some extent), as well as the direct line-of-sight views between interior and exterior vegetation through the east, west, and non-sloped portions of the south façades compared to the north façade (where internal vegetation is elevated above exterior vegetation). Interior trees and shrubs that are not visible through the east, west, and south façades may be planted closer than 50 feet to glass façades. • Because the glass production process can result in substantial variations in the effectiveness of bird-safe glazing, a qualified biologist will review physical samples of all glazing to be used on the atrium to confirm that the bird-safe frit will be visible to birds under various lighting conditions and expected to be effective.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• The Project Sponsor shall monitor bird collisions around the atrium for a minimum of 2 years following construction to identify any collision "hot spots" (i.e., areas where collisions occur repeatedly). A monitoring plan for the atrium shall be developed by a qualified biologist and shall include focused surveys for bird collisions from late April through May (spring migration), September through October (fall migration), and mid-November through mid-January (winter) to maximize the possibility of detecting bird collisions that might occur. Surveys of the atrium shall be conducted daily for 3 weeks during each of these periods (i.e., 21 consecutive days during each season, for a total of 63 surveys per year). In addition, for the 2-year monitoring period, surveys of the atrium shall be conducted the day following nighttime events during which temporary lighting exceed would typical levels (i.e., levels specified in the International Dark-Sky Association's defined lighting zone, LZ-2 [Moderate Ambient], from dusk until 10:00 p.m., or 30 percent below these levels from 10:00 p.m. to midnight). The applicant can assign responsibility for tracking events and notifying the biologist when a survey is needed to a designated individual who is involved in the planning and scheduling of atrium events. The timing of the 63 seasonal surveys (e.g., morning or afternoon) shall vary on the different days to the extent feasible; surveys conducted specifically to follow nighttime events shall be conducted in the early morning. • At a frequency of no less than every 6 months, a qualified biologist shall review the bird collision data for the atrium in consultation with the City to	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		determine whether any potential hot spots are present (i.e., if collisions have occurred repeatedly at the same location). A "*potential hot spot"* is defined as a cluster of three or more collisions that occur within one of the 3-week monitoring periods described above at a given location on the atrium. The "*location"* shall be identified by the qualified biologist as makes sense for the observed collision pattern, and may consist of a single pane of glass, an area of glass adjacent to a landscape tree or light fixture, the 8,990-square-foot vertical façade beneath the Elevated Park, the façade adjacent to the vegetation at the Elevated Park, the atrium's east façade, the atrium's west façade, or another defined area where the collision pattern is observed. "Location" shall be defined based on observations of (1) collision patterns and (2) the architectural, lighting, and/or landscape features that contributed to the collisions and not arbitrarily determined (e.g., by assigning random grids). If any such potential hot spots are found, the qualified biologist shall provide an opinion as to whether the potential hot spots will affect bird populations over the long term to the point that additional measures (e.g., light adjustments, planting of vegetation) will be needed to reduce the frequency of bird strikes at the hot spot location in order to reduce impacts to a less-than-significant level under CEQA (i.e., whether it constitutes an actual "hotspot"). This determination shall be based on the number of birds and the species of birds that collide with the atrium over the monitoring period. In addition, a "hotspot" is automatically defined if a cluster of five or more collisions are identified at a	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		given "location" on the atrium within one of the three-week monitoring periods described above. If a hotspot is identified, additional measures will be implemented at the potential hotspot location at the atrium; these may include one or more of the following options in the area of the hotspot depending on the cause of the collisions: o Adding a visible bird-safe frit pattern, netting, exterior screens, art, printed sheets, interior shades, grilles, shutters, exterior shades, or other features to untreated glazing (i.e., on the façade below the Elevated Park) to help birds recognize the façade as a solid structure. o Installing interior or exterior blinds on buildings within the atrium to prevent light from spilling outward though glazed façades at night. o Reducing lighting by dimming fixtures, redirecting fixtures, turning lights off, and/or adjusting the programmed timing for dimming/shutoff. o Replacing certain light fixtures with new fixtures to increase shielding or redirect lighting. o Adjusting or reducing lighting during events. o Adjusting the timing of events to reduce the frequency during certain times of year (e.g., spring and/or fall migration) when relatively high numbers of collisions occur. o Adjusting landscape vegetation by removing, trimming, or relocating trees or other plants (e.g., moving them farther from glass) or blocking birds' views of vegetation through glazing (e.g., using a screen or other opaque feature).	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• If modifications to the atrium are implemented to reduce collisions at a hot spot, 1 year of subsequent focused monitoring of the hot-spot location shall be performed to confirm that the modifications effectively reduced bird collisions to a less-than-significant level under CEQA. In the event that a hot-spot is detected at a time when there is less than one year remaining of the initial 2-year monitoring period, then this one year of subsequent monitoring of that hot-spot would extend beyond the 2-year monitoring period described above. ***BIO-5.3: Lighting Design Requirements.*** The Project Sponsor shall implement the following measures to reduce lighting impacts on migratory birds**:** • To the maximum extent feasible, up-lighting (i.e., lighting that projects upward above the fixture) shall be avoided in the Project design. All lighting shall be fully shielded to prevent illumination from shining upward above the fixture. If up-lighting cannot be avoided in the Project design, up-lights shall be shielded and/or directed such that no luminance projects above/beyond the objects at which they are directed (e.g., trees and buildings) and no light shines directly into the eyes of a bird flying above the object. If the objects themselves can be used to shield the lights from the sky beyond, no substantial adverse effects on migrating birds are anticipated. • All lighting shall be fully shielded to prevent it from shining outward and toward Bay habitats to the north. No light trespass shall be permitted more than 80 feet beyond the Project Site's northern property line (i.e., beyond the Dumbarton Rail Corridor).	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• Exterior lighting shall be minimized (i.e., outdoor lumens shall be reduced by at least 30 percent, consistent with recommendations from the International Dark-Sky Association [2011]) from 10:00 p.m. until sunrise, except as needed for safety and City code compliance. • Temporary lighting that exceeds minimal site lighting requirements may be used for nighttime social events. This lighting shall be switched off no later than midnight. No exterior up-lighting (i.e., lighting that projects upward above the fixture, including spotlights) shall be used during events. • Lights shall be shielded and directed so as not to spill outward from the elevator/stair towers and into adjacent areas. • Interior or exterior blinds shall be programmed to close on north-facing windows of buildings within the atrium from 10:00 p.m. to sunrise to prevent light from spilling outward. • Accent lighting within the atrium shall not be used to illuminate trees or vegetation. Alternatively, the applicant shall provide documentation to the satisfaction of a qualified biologist that the illumination of vegetation and/or structures within the atrium by accent lighting and/or up-lighting will not make these features more conspicuous to the human eye from any elevation outside the atrium compared to ambient conditions within the atrium. The biologist shall submit a report to the City following completion of the lighting design, documenting compliance with this requirement.	

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		• Exterior lighting shall be minimized (i.e., total outdoor lighting lumens shall be reduced by at least 30 percent or extinguished, consistent with recommendations from the International Dark Sky Association [2011]) from midnight until sunrise, except as needed for safety and compliance with Menlo Park Municipal Code.	
Impact BIO-6: Conflicts with Any Local Policies or Ordinances that Protect Biological Resources. The Project would result in conflicts with the Menlo Park Municipal Code.	PS	Implement ***Mitigation Measures BIO-2.1, BIO-3.1 through BIO-3.3, and BIO-5.2***, above.	LTS/M
Impact C-BIO-1: Cumulative Biological Resources Impacts. Cumulative development would not result in a significant cumulative impact on biological resources, and the Proposed Project would not be a cumulatively considerable contributor to such a cumulative impact.	PS	Implement ***ConnectMenlo Mitigation Measure BIO-***1, above.	LTS/M
3.10 Geology and Soils			
Impact GS-1: Strong Seismic Ground Shaking and Seismically Related Ground Failure. The Proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving (1) strong seismic ground shaking and (2) seismically related ground failure, including liquefaction.	LTS	None required	N/A
Impact GS-2: Substantial Soil Erosion. The Proposed Project would not result in substantial soil erosion.	LTS	None required	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact GS-3: Unstable Soils or Geologic Units. The Proposed Project would not be located on a geologic unit or soil that is unstable or would become unstable as a result of the Proposed Project and potentially result in subsidence, liquefaction, or collapse.	LTS	None required	N/A
Impact GS-4: Expansive Soils. The Proposed Project would not be located on expansive soils, creating substantial direct or indirect risks to life or property.	LTS	None required	N/A
Impact GS-5: Paleontological Resources. The Proposed Project could destroy a unique paleontological resource or site.	PS	***ConnectMenlo Mitigation Measure CULT-3: Conduct Protocol and Procedures for Encountering Paleontological Resources.*** In the event that fossils or fossil-bearing deposits are discovered during ground-disturbing activities anywhere in the City, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. Ground disturbance work shall cease until a City-approved, qualified paleontologist determines whether the resource requires further study. The paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology standards [Society of Vertebrate Paleontology 1995]), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine the procedures that would be followed before construction activities would be allowed to resume at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the City of Menlo Park for review and approval prior to implementation, and all construction activity shall adhere to the recommendations in the excavation plan.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		PALEO-1: Conduct Worker Awareness Training. Before the start of any excavation or grading activities, the construction contractor will retain a qualified paleontologist, as defined by the SVP, who is experienced in teaching non-specialists. The qualified paleontologist will train all construction personnel who are involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils that are likely to be seen during construction, and proper notification procedures should fossils be encountered. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who will evaluate the significance. The qualified paleontologist will also make periodic visits during earthmoving in high sensitivity sites to verify that workers are following the established procedures.	
Impact C-GS-1: Cumulative Geology and Soil Impacts. Cumulative development would result in a less than significant cumulative impact to geology, soils, and seismicity, and thus the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact to geology, soils, and seismicity. Cumulative development would result in a less-than-significant cumulative impact with mitigation to paleontological resources and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact.	PS	Implement ***ConnectMenlo Mitigation Measure CULT-3***, above.	LTS, LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
3.11 Hydrology and Water Quality			
Impact HY-1: Water Quality. The Proposed Project could violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.	PS	***HY-1.1: Implement Construction Dewatering Treatment (if necessary).*** If dewatering is needed to complete the Proposed Project, and if water from dewatering is discharged to a storm drain or surface water body, dewatering treatment may be necessary if groundwater exceeding water quality standards is encountered during excavation. Because there is potential for groundwater to be contaminated with VOCs or fuel products at the Project Site, the Project Sponsor would be required to comply with the San Francisco Bay Regional Water Board's VOC and Fuel General Permit (Order No. R2-2018-0050) if groundwater exceeding water quality standards is encountered. If dewatering requires discharges to the storm drain system or other water bodies, the water shall be pumped to a tank and tested using grab samples and sent to a certified laboratory for analysis. If it is found that the water does not meet water quality standards, it shall be treated as necessary prior to discharge so that all applicable water quality objectives (as noted in Table 3.11-2) are met or it shall be hauled offsite instead for treatment and disposed of at an appropriate waste treatment facility that is permitted to receive such water. The water treatment methods selected shall remove contaminants in the groundwater to meet discharge permit requirements while achieving local and state requirements, subject to approval by the San Francisco Bay Regional Water Board. Methods may include retaining dewatering effluent until particulate matter has settled before discharging it or using infiltration areas, filtration techniques, or other means. The contractor shall perform routine inspections of the construction area to	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		verify that water quality control measures are properly implemented and maintained, observe the water (i.e., check for discoloration or an oily sheen), and perform other sampling and reporting activities prior to discharge. The final selection of water quality control measures shall be submitted in a report to the San Francisco Bay Regional Water Board for approval prior to construction. If the results from the groundwater laboratory do not meet water quality standards and the identified water treatment measures cannot ensure that treatment meets all standards for receiving water quality, then the water shall be hauled offsite instead for treatment and disposal at an appropriate waste treatment facility that is permitted to receive such water.	
Impact HY-2: Groundwater Supply and Recharge. The Proposed Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that sustainable groundwater management of the basin would be impeded.	LTS	None required	N/A
Impact HY-3: Drainage and Flooding. The Proposed Project would not substantially alter the existing drainage pattern of the Project Site in a manner that would result in substantial erosion or flooding, impede or redirect flood flows, contribute runoff that would exceed the capacity of the stormwater system, or provide substantial additional sources of polluted runoff.	LTS	None required	N/A
Impact HY-4: Pollutant Release due to Project Inundation. In a flood hazard, tsunami, or seiche zones, the Proposed Project would not result in the release of pollutants due to inundation.	LTS	None required	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact HY-5: Conflict or Obstruct a Water Resource Management Plan. The Proposed Project could conflict with obstruct implementation of a water quality control plan or sustainable groundwater management plan.	PS	Implement ***Mitigation Measure HY-1.1***, above.	LTS/M
Impact C-HY-1: Cumulative Hydrology and Water Quality Impacts. Cumulative development would result in a less than significant cumulative impact to hydrology and water quality, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact to hydrology and water quality.	LTS	None required	N/A
3.12 Hazards and Hazardous Materials			
Impact HAZ-1: Routine Hazardous Materials Use. The Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LTS	None required	N/A
Impact HAZ-2: Upset and Accident Conditions Involving Hazardous Materials. The Propose Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	PS	***ConnectMenlo Mitigation Measure HAZ-4a: Environmental Site Management Plan.*** Construction of any site in the City with known contamination shall be conducted under a Project-specific Environmental Site Management Plan (ESMP) prepared in consultation with the Regional Water Quality Control Board (RWQCB) or the Department of Toxic Substances Control (DTSC), , as appropriate. The purpose of the ESMP is to protect construction workers, the general public, the environment, and future site occupants from subsurface hazardous materials previously identified at the site and address the possibility of encountering unknown contamination or hazards in the subsurface. The ESMP	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
		shall summarize soil and groundwater analytical data collected on the site during past investigations; identify management options for excavated soil and groundwater, if contaminated media are encountered during deep excavations; and identify monitoring, irrigation, or wells that require proper abandonment in compliance with local, state, and federal laws, policies, and regulations. The ESMP shall include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. The ESMP shall 1) provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during excavation and dewatering activities, respectively; 2) describe required worker health and safety provisions for all workers who could be exposed to hazardous materials, in accordance with state and federal worker safety regulations; and 3) designate the personnel responsible for implementation of the ESMP. ***HAZ-2.1: Phase I Environmental Site Assessment for the Willow Road Tunnel under Dumbarton Rail Corridor and Willow Road.*** For the offsite improvement in the area where the Willow Road Tunnel passes under the Dumbarton Rail Corridor and Willow Road, a Phase I ESA shall be performed by a licensed environmental professional. The Phase I ESA shall identify RECs at the site and indicate whether a Phase II ESA is required in order to evaluate contamination at the site.	
Impact HAZ-3: Exposure to Schools. The Proposed Project would not emit hazardous emissions or involving handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	PS	Implement ***Mitigation Measure HAZ-2.1 and ConnectMenlo Mitigation Measure HAZ-4a***, above.	LTS/M

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact HAZ-4: Impairment of Emergency Response or Evacuation Plans. The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan.	LTS	None required	N/A
Impact C-HAZ-1: Cumulative Hazards and Hazardous Materials Impacts. Cumulative development would not result in a significant cumulative impact from hazards and hazardous materials, and the Proposed Project would not be a cumulatively considerable contributor to such a cumulative impact.	PS	Implement ***ConnectMenlo Mitigation Measure HAZ-4a***, above.	LTS/M
3.13 Population and Housing			
Impact POP-1: Unplanned Population Growth. The Proposed Project would not induce substantial unplanned direct or indirect population growth.	LTS	None required	N/A
Impact POP-2: Displacement of People or Housing. The Proposed Project would not displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere.	LTS	None required	N/A
Impact C-POP-1: Cumulative Population and Housing Growth. Cumulative development would result in a less than significant cumulative impact related to population and housing growth, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact regarding population and housing.	LTS	None required	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
3.14 Public Services and Recreation			
Impact PS-1: Impacts on Fire Services. The Proposed Project would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered fire service facilities.	LTS	None required	N/A
Impact PS-2: Impacts on Police Services. The Proposed Project would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered police service facilities.	LTS	None required	N/A
Impact PS-3: Impacts on School Facilities. The Proposed Project would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered school facilities.	LTS	None required	N/A
Impact PS-4: Impacts on Parks and Recreational Facilities. The Proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, nor include the construction of, or require construction or expansion of, recreation facilities that would have an adverse physical effect on the environment.	LTS	None required	N/A
Impact PS-5: Impacts on Library Facilities. The Proposed Project would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered library facilities.	LTS	None required	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact C-PS-1: Cumulative Public Services Impacts. Cumulative development would result in a less-than-significant cumulative impact on public services and would not trigger physical impacts associated with new or altered facilities; the Proposed Project would not be a cumulatively considerable contributor.	LTS	None required	N/A
3.15 Utilities and Service Systems			
Impact UT-1: Construction or Relocation of Utilities. The Proposed Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which would cause significant environmental effects.	LTS	None required	N/A
Impact UT-2: Water Supply. The Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LTS	None required	N/A
Impact UT-3: Generation of Wastewater. The Proposed Project would not result in a determination by the wastewater treatment providers that they have inadequate capacity to serve the Proposed Project's projected demand in addition to the providers' existing commitments.	LTS	None required	N/A
Impact UT-4: Generation of Solid Waste. The Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	LTS	None required	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact UT-5: Compliance with Solid Waste Regulations. The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	LTS	None required	N/A
Impact C-UT-1: Cumulative Water Service and Infrastructure Impacts. Cumulative development would result in less-than-significant cumulative impact on water service and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on water service.	LTS	None required	N/A
Impact C-UT-2: Cumulative Wastewater Service and Infrastructure Impacts. Cumulative development would result in a less-than-significant cumulative impact on wastewater service and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on wastewater service.	LTS	None required	N/A
Impact C-UT-3: Cumulative Solid Waste Impacts. Cumulative development would result in a less-than-significant cumulative impact on solid waste service and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on solid waste service.	LTS	None required	N/A
Impact C-UT-4: Cumulative Stormwater Service and Infrastructure Impacts. Cumulative development would result in a less-than-significant cumulative impact on stormwater service, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on stormwater service and infrastructure.	LTS	None required	N/A

Table ES-1. Summary of Impacts and Mitigation Measures

Impacts	Impact Significance without Mitigation	Mitigation Measures	Impact Significance with Mitigation
Impact C-UT-5: Cumulative Natural Gas and Electrical Service Impacts. Cumulative development would result in a less-than-significant cumulative impact on natural gas and electrical, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on natural gas and electrical service and infrastructure.	LTS	None required	N/A
Impact C-UT-6: Cumulative Telecommunication Impacts. The Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on telecommunication facilities and infrastructure.	LTS	None required	N/A

Notes:
LTS = Less than significant
LTS/M = Less than significant with mitigation
SU = Significant and unavoidable
N/A = not applicable

Chapter 1
Introduction

1.1 Purpose of This Environmental Impact Report

This Draft Environmental Impact Report (Draft EIR) for the Willow Village Master Plan Project (Proposed Project or Project) has been prepared by the Lead Agency, the City of Menlo Park (City), in conformance with the provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines. The lead agency is the public agency that has principal responsibility for carrying out or approving a project. Here, the City has principal responsibility for approving the Proposed Project.

This Draft EIR assesses potentially significant environmental impacts that could result from the Proposed Project. As defined in CEQA Guidelines Section 15382, a "significant effect on the environment" is:

> . . . a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by a project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

As provided in the CEQA Guidelines, an EIR is an "informational document" that is intended to inform public-agency decision-makers and the general public of the significant environmental effects of a project, identify possible ways to avoid or substantially lessen the significant effects, and describe reasonable alternatives to a project. The purpose of this Draft EIR is to provide the City, responsible and trustee agencies, other public agencies, and the public with detailed information about the environmental effects that could result from implementing the Proposed Project; examine and identify methods for mitigating any adverse environmental impacts should the Proposed Project be approved; and consider feasible alternatives to the Proposed Project, including the required No Project Alternative. The City will use the Draft EIR, along with other information in the public record, to determine whether to approve, modify, or deny the Proposed Project and require any environmental conditions or mitigation measures as part of Project approvals.

1.2 Project Overview

Peninsula Innovation Partners, LLC (Project Sponsor), a subsidiary of Meta Platforms, Inc. (Meta), is proposing to comprehensively redevelop an approximately 59-acre industrial site (main Project Site) and alter three parcels west of the main Project Site, across Willow Road, on both the north and south sides of Hamilton Avenue (i.e., Hamilton Avenue Parcels North and South).[1] Collectively, the 59-acre main Project Site and Hamilton Avenue Parcels North and South make up the Project Site. The Proposed Project includes demolition of all buildings and landscaping on the main Project Site and construction of new buildings, the establishment of various open space areas (defined below), and the installation of infrastructure within a new Residential/Shopping District, Town Square District, and Campus District. In

[1] The Project Site includes the main 59-acre industrial site plus Hamilton Avenue Parcels North and South. References to the Project Site in this EIR will generally focus on the main 59-acre site; changes and modifications to the parcels on Hamilton Avenue will generally be discussed separately.

addition, the Proposed Project would alter Hamilton Avenue Parcels North and South, a total of 3.1 acres, to accommodate realignment of Hamilton Avenue at Willow Road for main Project Site access.

At the main Project Site, the Proposed Project would demolish approximately 1 million square feet (sf) of existing nonresidential uses and construct up to approximately 1.8 million sf of nonresidential uses (excluding a proposed hotel), for a net increase of approximately 800,000 sf in nonresidential uses. The new nonresidential uses would comprise up to 1.6 million sf of office and accessory uses[2] in the Campus District (with office space not to exceed 1.25 million sf) and up to approximately 200,000 sf of commercial/retail uses in the Campus District, Residential/Shopping District, and Town Square District. The Proposed Project would also include up to approximately 1,730 multi-family residential units, a 193-room hotel, and, with full buildout, approximately 20 acres of open spaces, including approximately 8 acres of publicly accessible parks, bike paths, and trails.

The three proposed districts within the main Project Site would be situated as follows: the approximately 17.7-acre Residential/Shopping District in the southwestern portion of the main Project Site, the approximately 4.3-acre Town Square District in the northwestern portion of the main Project Site, and the approximately 32-acre Campus District in the eastern portion of the main Project Site.[3] The Campus District would include office uses and amenity space, accessory uses, publicly accessible retail space, and a publicly accessible elevated park (i.e., the Elevated Park) that would connect the main Project Site to the adjacent Belle Haven neighborhood via an overpass at Willow Road. It would also include an undercrossing (i.e., Willow Road Tunnel) to facilitate tram, bicycle, and pedestrian access to the neighboring Meta campuses as well as bicycle and pedestrian access to the regional San Francisco Bay Trail.

The main Project Site would be bisected by a new north–south street (Main Street) and an east–west street that would provide access to all three districts. The Proposed Project would include a circulation network for vehicles, bicycles, and pedestrians, inclusive of both public rights-of-way and private streets, that would be generally aligned to an east-to-west and a north-to-south grid. The Proposed Project would also include construction within Hamilton Avenue Parcels North and South to support realignment of the Hamilton Avenue right-of-way and provide access to the new Elevated Park. Realignment of Hamilton Avenue would require demolition and reconstruction of a Chevron gas station at Hamilton Avenue Parcel South, with the potential for approximately 1,000 sf of additional space within the retail building associated with the service station and up to 6,700 sf of additional space within the retail uses at the neighborhood shopping center (Belle Haven Retail Center) on Hamilton Avenue Parcel North.

Offsite transportation and utility improvements would also be constructed to serve the Proposed Project. These would include various intersection improvements, which may be required to bring intersection congestion back to pre-Project conditions per the City's transportation impact analysis guidelines; expansion of the Pacific Gas and Electric (PG&E) Ravenswood substation; installation of a new conduit to connect the Ravenswood substation to the main Project Site; construction of a sanitary sewer force main and recycled waterline within the same trench in Hamilton Avenue; installation of a new sanitary sewer force main from the main Project Site to an existing wastewater pipeline in Chilco Street; and extension

[2] Accessory uses could include the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function collaboration areas and meeting/event rooms), a visitors center, product demonstration areas, film studio, gathering terraces and private gardens, and space for other Meta accessory uses. Accessory uses could occur throughout the Campus District.

[3] The Proposed Project also includes approximately 5.6 acres of land that has been designated as a public right-of-way.

of the wastewater line in Willow Road, extending it from O'Brien Drive to a proposed southwest sanitary sewer pump station.

1.3 CEQA Process

ConnectMenlo EIR

The Project Site is within the General Plan and M-2 Area Zoning Update (ConnectMenlo) study area. ConnectMenlo, which updated the City General Plan Land Use and Circulation Elements and rezoned land in the M-2 area, now referred to as the Bayfront Area, was approved on November 29, 2016. It serves as the City's comprehensive and long-range guide to land use and infrastructure development. Because the City General Plan is a long-range planning document, the ConnectMenlo EIR was prepared as a Program EIR, pursuant to CEQA Guidelines Section 15168, discussed below. ConnectMenlo's Land Use Element identifies an allowable increase in net new development potential of up to 2.3 million sf for nonresidential uses, up to 4,500 residential units, and up to 400 hotel rooms in the Bayfront Area.

CEQA Guidelines Section 15152 defines "tiering" as using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR solely on the issues specific to the later project (CEQA Guidelines Section 15152[a]). This approach can eliminate repetitive discussions of the same issues and focus the later EIR on the actual issues that are ripe for decision at each level of environmental review (CEQA Guidelines Section 15152[b]). Where an EIR has been prepared and certified for a program, plan, policy, or ordinance, the EIR for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit its analysis to effects that (1) were not examined as significant effects on the environment in the prior EIR or (2) are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means (CEQA Guidelines Section 15152[d]).

CEQA Guidelines Section 15168 provides additional provisions for tiering from a Program EIR. Once a Program EIR has been certified, subsequent activities within the program must be evaluated, pursuant to CEQA Guidelines Section 15162, to determine whether additional CEQA review is needed (CEQA Guidelines Section 15168[c].

Section 15162 provides that, once an EIR has been certified for a project, no subsequent EIR shall be prepared unless the lead agency determines one or more of the following:

- Substantial changes are proposed in the project that will require major revisions to the previous EIR due to the involvement of new or substantially more severe environmental effects than shown in the previous EIR.
- Substantial changes have occurred regarding the circumstances under which the project will be undertaken that require major revisions to the previous EIR due to the involvement of new or substantially more severe environmental effects than shown in the previous EIR.
- New information of substantial importance that was not known and could not reasonably have been known at the time of the previous EIR shows that the project will have new or substantially more severe environmental effects than shown in the previous EIR; that mitigation measures or alternatives previously thought to be infeasible would in fact be feasible and would substantially reduce significant effects, but the project proponent declines to adopt them; or mitigation measures

or alternatives considerably different from those analyzed in the previous EIR would substantially reduce significant effects, but the project proponent declines to adopt them.

If the lead agency finds, pursuant to CEQA Guidelines Section 15162, that no subsequent EIR would be required for the later activity within a program, the lead agency can approve the activity as being within the Program EIR's scope, and additional environmental review is not required (CEQA Guidelines Section 15168[c]). If the lead agency finds, pursuant to CEQA Guidelines Section 15162, that the later activity would have effects that were not examined in the Program EIR, a new negative declaration or EIR would be prepared, which may tier from the Program EIR, as provided in Section 15152 (CEQA Guidelines Section 15168[c]). When a Program EIR is relied on for subsequent activities, the lead agency must incorporate feasible mitigation measures into subsequent activities as well as the alternatives developed in the Program EIR (CEQA Guidelines Section 15168[c][3]). A Program EIR also may be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole (CEQA Guidelines Section 15168[d][2]). In addition, CEQA provides that, if a project is consistent with the development density established in a general plan for which an EIR was certified, CEQA review of the project shall be limited to effects on the environment that are peculiar to the parcel or the project, effects that were not addressed as significant effects in the prior EIR, effects that would result in potentially significant offsite and cumulative impacts that were not discussed in the prior EIR, or previously identified significant effects that, because of new information that was not known at the time of the prior EIR, would be more severe than described in the prior EIR (Public Resources Code Section 20183.3[b], CEQA Guidelines Section 15183[a], [b]). If an impact is not peculiar to the parcel or project, has been addressed as significant in the prior EIR, or can be substantially mitigated by the imposition of uniformly applied development polices or standards, then an additional EIR need not be prepared for the project, based solely on that impact (CEQA Guidelines Section 15183[c], [f]).

The City (as Lead Agency) has determined that the Proposed Project's location and development parameters, including density, are consistent with ConnectMenlo and that the Proposed Project is within the scope of the ConnectMenlo Program EIR. Thus, this EIR tiers from the ConnectMenlo Program EIR, pursuant to CEQA Guidelines Sections 15152, 15162, 15168, and 15183. The ConnectMenlo Program EIR is available for public examination at https://beta.menlopark.org/Government/Departments/Community-Development/Planning-Division/Comprehensive-planning/ConnectMenlo.

In many topic areas, the impacts of the Proposed Project are within the scope of the ConnectMenlo Program EIR, as determined in accordance with CEQA Guidelines 15168 and 15162. In those cases, the Proposed Project would not have new or substantially more severe impacts than those identified in the ConnectMenlo EIR, and there are no new or considerably different mitigation measures or alternatives that would substantially reduce significant impacts that the applicant has declined to adopt. Likewise, in many topic areas, there are no impacts peculiar to the Proposed Project that were not addressed in the ConnectMenlo EIR or that would be substantially more severe than those identified in the ConnectMenlo EIR or that cannot be substantially mitigated by the imposition of uniformly applied development policies or standards, as determined in accordance with CEQA Guidelines Section 15183. For these reasons, CEQA does not require preparation of a new EIR. Nonetheless, given the magnitude of the Proposed Project and the substantial public interest, the City chose to prepare an EIR that discusses all CEQA impacts of the Proposed Project, including those that were adequately addressed in the ConnectMenlo EIR. Thus, although the EIR tiers from the ConnectMenlo EIR, in accordance with CEQA, for purposes of providing comprehensive information, the EIR discusses all impacts, even when not required by CEQA.

On December 29, 2016, the City of East Palo Alto filed suit to challenge certification of the ConnectMenlo Final EIR. The City of East Palo Alto alleged that the City of Menlo Park did not comply with CEQA because

the EIR underestimated the amount of new employment and failed to adequately analyze the traffic impacts that would result from the development under ConnectMenlo. To resolve the litigation, the City of Menlo Park and the City of East Palo Alto entered into a settlement agreement. This EIR has been prepared in accordance with the terms of the settlement agreement. The key terms of the settlement agreement are as follows:

- *Reciprocal Environmental Review for Future Development Projects*. Menlo Park will prepare an EIR for any project located in the Office (O), Life Science (LS), or Residential Mixed-Use (R-MU) district[4] that exceeds 250,000 net new square feet and requires a use permit, that proposes bonus-level development, that proposes a master plan project, or that may have a significant environmental impact. Menlo Park may, with the exception of housing and traffic (which were the focus of East Palo Alto's challenge), simplify the environmental review for future development projects by incorporating analysis and discussions from the ConnectMenlo Final EIR, pursuant to CEQA Guidelines Section 15168(d). East Palo Alto will prepare an Initial Study for future development projects to determine the appropriate level of environmental review and will conduct that review, which can be simplified by incorporating by reference analysis and discussions from its general plan, referred to as Vista 2035.
- *Reciprocal Traffic Studies*. Menlo Park and East Palo Alto will work together to ensure that future development projects' potentially significant traffic impacts on the other jurisdiction are analyzed and mitigated.
- *Reciprocal Study of Multiplier Effect*. When the preparation of an EIR is required, as described above, Menlo Park or East Palo Alto, as applicable, will conduct a Housing Needs Assessment, which, to the extent possible, will include an analysis of the multiplier effect for indirect and induced employment.[5]

The Proposed Project would be required to comply with all applicable mitigation measures identified in the ConnectMenlo Mitigation Monitoring and Reporting Program (MMRP), which is an existing and enforceable MMRP prepared for the ConnectMenlo Final EIR and a requirement of any proposed development project in the city. Applicable mitigation measures identified in this EIR from ConnectMenlo EIR are provided in Table ES-1 of the *Executive Summary*.

Notice of Preparation

The Notice of Preparation (NOP) was released for the Proposed Project on September 18, 2019, for a 30-day public review period. A public scoping meeting was held on October 7, 2019, before the Planning Commission. The NOP noted that the Proposed Project may have a significant effect on the environment and that an EIR would be prepared for the Proposed Project. A copy of the NOP is provided in Appendix 1 of this Draft EIR.

The NOP was sent to individuals, local interest groups, adjacent property owners, and responsible and trustee state and local agencies that have jurisdiction over or interest in environmental resources or conditions in the vicinity of the Project Site. The purpose of the NOP was to allow various private and

[4] As discussed in Section 3.1, *Land Use and Planning*, the main Project Site was previously zoned M-2 (General Industrial), which permitted office and general industrial uses, such as warehousing, manufacturing, printing, and assembling, but did not allow housing, retail, or any form of mixed-use development. In 2016, as part of ConnectMenlo and an associated rezoning effort, nearly half of the main Project Site was rezoned for residential mixed-use development (R-MU), with the remainder zoned for office development (O). Hamilton Avenue Parcels North and South continued to be zoned Neighborhood Commercial, Special (C-2-S); no changes to the C-2-S zoning district were incorporated into ConnectMenlo.

[5] Nothing in the settlement agreement was intended to suggest that the analysis of the multiplier effect for indirect and induced employment is required by CEQA.

public entities to transmit their concerns and comments on the scope and content of this EIR, focusing on specific information related to each individual's or group's interest or agency's statutory responsibility early in the environmental review process.

In response to the NOP, letters were received from the following agencies:

- City of East Palo Alto
- West Bay Sanitary District
- San Francisco Public Utilities Commission
- Native American Heritage Commission
- Sequoia Union High School District
- Mid-Peninsula High School

Two letters were received from organizations (Menlo Together and Committee for Green Foothills), and 14 letters were received from individuals. In addition, members of the public made comments at the Planning Commission hearing. Copies of the NOP comment letters and the comments that were recorded at the Planning Commission hearing are included in Appendix 1 of this Draft EIR.

The NOP concluded that the following environmental resource areas would be addressed as separate sections in this Draft EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Utilities and Service Systems

The Proposed Project would not result in significant environmental impacts on agricultural, forestry, or mineral resources because none of these resources exist at the Project Site. A detailed analysis of these topics is therefore not included in the Draft EIR; however, these topics are briefly discussed in Chapter 3, *Environmental Impact Analysis*.

Draft EIR

Impact Analysis

This Draft EIR analyzes significant effects that could result from the Proposed Project. As explained in Section 15002(g) of the CEQA Guidelines, a significant effect on the environment is defined as a substantial adverse change in the physical conditions that exist in the area affected by a project. Pre-project environmental conditions (the environmental baseline) are considered in determining impact significance. The impact significance thresholds for each environmental resource area presented in this Draft EIR are based on CEQA Guidelines Appendix G, *Environmental Checklist Form*. In addition, this Draft

EIR uses City-adopted significance criteria for transportation impacts. Where significant impacts are identified, the Draft EIR recommends feasible mitigation measures to reduce, eliminate, or avoid the significant impacts and identifies which significant impacts are unavoidable despite mitigation.

As discussed in more detail in Chapter 3, *Environmental Impact Analysis*, cumulative impacts (i.e., two or more individual effects that, when considered together, compound or increase other related environmental impacts) are discussed for each environmental resource area. The methodology for assessing cumulative impacts varies by topic, depending on the cumulative context for the individual topic, as discussed in Chapter 3. This document also discusses feasible alternatives to the Proposed Project in Chapter 6, *Alternatives*.

In accordance with Section 15143 of the CEQA Guidelines, this Draft EIR focuses on the significant effects on the environment that could result from construction and operation of the Proposed Project. Section 15131 of the CEQA Guidelines specifies that "[e]conomic or social effects of a project shall not be treated as significant effects on the environment" but "[a]n EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes." When doing so, "[t]he intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes." Therefore, this Draft EIR does not treat economic or social effects of the Proposed Project as significant effects on the environment in and of themselves. In addition, if it is determined that a potential impact is too speculative for evaluation, this condition is noted, and further discussion of the impact is not necessary under CEQA.

Public Review

This Draft EIR is considered a draft under CEQA because it must be reviewed and commented upon by public agencies, organizations, and individuals before being finalized. This document is being distributed for a 45-day (minimum) public review and comment period. Readers are invited to submit written comments on the document. Comments are most helpful when they suggest specific alternatives or measures that would better mitigate significant environmental effects or raise specific questions about the details in the Draft EIR. Hard copies of the Draft EIR are available for review at the Menlo Park Library at 800 Alma Street and the Belle Haven Branch Library at 413 Ivy Drive. Electronic copies of the Draft EIR are available for review online at the City-maintained project page: https://beta.menlopark.org/willowvillage.

Written comments should be submitted to:

Kyle Perata, Acting Planning Manager
City of Menlo Park
Community Development Department, Planning Division
701 Laurel Street
Menlo Park, CA 94025
Email: ktperata@menlopark.org

Email correspondence is preferred. To receive oral comments on the Draft EIR, a public hearing will be held before the Planning Commission on April 25, 2022. Hearing notices will be mailed to responsible agencies and interested individuals.

Final EIR and Project Approval

Following the close of the public review period, the City will prepare responses to all substantive comments related to potential physical changes to the environment. The Draft EIR, along with the written and oral substantive comments received during the review period as well as responses to those comments, will make up the Final EIR and will be considered by the Planning Commission in making the decision whether to recommend that the City Council certify the Final EIR and approve or deny the Proposed Project. The City Council is the final decision-making body on the Conditional Development Permit (CDP); rezoning to incorporate "X" overlay district, which would enable the CDP; Development Agreement (DA); Below-Market-Rate (BMR) Housing Agreement; community amenities in exchange for bonus-level development (as part of the CDP and/or DA); general plan and zoning map amendments; vesting tentative map; and certification of the Final EIR for the Proposed Project. The Planning Commission is expected to be the final decision-making body on the architectural control applications for the specific buildings, unless the Planning Commission's action is appealed to the City Council. Subsequent applications for Hamilton Avenue Parcels North and South would require conditional use permits and architectural control permits, which would be subject to review and action by the Planning Commission. The Proposed Project would also involve permits for heritage tree removals, subject to review by the City arborist.

Certification of the Final EIR by the City Council as complete and adequate, in conformance with CEQA, does not grant any land use approvals or entitlements for the Proposed Project. The merits of the Proposed Project will be considered by the Planning Commission and City Council in tandem with review of the Final EIR. The CEQA Guidelines require that, for one or more significant and unavoidable impacts that cannot be substantially mitigated, a lead agency must prepare a Statement of Overriding Considerations that balances the social, economic, technological, and legal benefits of approving a project against the significant and unavoidable environmental impacts that would result from project implementation. If significant and unavoidable impacts are identified, the City Council will consider the Statement of Overriding Considerations for the Proposed Project.

1.4 Report Organization

This Draft EIR is organized into the following sections:

- *Executive Summary*: Provides a summary of the Proposed Project and the impacts that would result from its implementation and describes mitigation measures recommended to reduce, eliminate, or avoid significant impacts. The Executive Summary also discusses alternatives to the Proposed Project.
- *Chapter 1—Introduction*: Discusses the purpose of the overall Draft EIR, provides a summary of the Proposed Project and the CEQA process, and summarizes the organization of the Draft EIR.
- *Chapter 2—Project Description*: Describes the Project Site, proposed site development, Project objectives, the required approvals process, and Project characteristics.
- *Chapter 3—Environmental Impact Analysis*: Describes the following for each technical environmental topic: existing conditions (setting), applicable regulations adopted by the City and other agencies, a summary of ConnectMenlo Final EIR impacts and required mitigation measures, potential environmental impacts of the Proposed Project and their level of significance, and mitigation measures recommended to reduce or avoid identified potential impacts. Potential cumulative impacts are also addressed in each topical section. Potential adverse impacts are identified by level of significance, as follows: less-than-significant (LTS), significant (S), less than significant with mitigation (LTS/M), and significant and unavoidable (SU). The significance of each potential impact is

categorized before and after implementation of any recommended mitigation measure(s), including mitigation measures from the ConnectMenlo EIR. If uncertain, impacts that might be significant are characterized as "potentially significant."

- *Chapter 4—Other CEQA Considerations*: Provides discussions required by CEQA, including a list of the Proposed Project's effects, significant irreversible changes, cumulative impacts, and effects that were found not to be significant, among other topics.
- *Chapter 5—Variants:* Evaluates four variants to the Proposed Project: the Increased Residential Density Variant, No Hamilton Avenue Realignment Variant, No Willow Road Tunnel Variant, and Onsite Recycled Water Variant. These are variations of the Proposed Project at the same site and with the same objectives, background, and development controls but with specific variations that may or may not reduce environmental impacts. Each variant is analyzed at the same level of detail as the Proposed Project, when warranted, and available for selection by the Project Sponsor and decision-makers as part of an approval action.
- *Chapter 6—Alternatives*: Evaluates four alternatives to the Proposed Project, the No Project Alternative, No Willow Road Tunnel Alternative (which is also a variant), Base Level Development Alternative, and Reduced Intensity Alternative.
- *Chapter 7—Report Preparers*: Lists the people who prepared the EIR for the Proposed Project.

Chapter 2
Project Description

Peninsula Innovation Partners, LLC (Project Sponsor), a subsidiary of Meta Platforms, Inc. (Meta), is proposing redevelopment of an approximately 59-acre industrial site plus three parcels (within two sites) west of Willow Road (collectively, the Project Site) as a multi-phase, mixed-use development.[1] The Willow Village Master Plan Project (Proposed Project) includes demolition of all buildings and landscaping on the 59-acre portion of the Project Site (main Project Site) and construction of new buildings, the establishment of various open space areas (defined below), and the installation of infrastructure within a new Residential/Shopping District, Town Square District, and Campus District. In addition, the Proposed Project would alter three parcels (Hamilton Avenue Parcels North and South), totaling 3.1 acres, to accommodate realignment of Hamilton Avenue at Willow Road for Project Site access. The City of Menlo Park (City) is the Lead Agency for the Proposed Project.

At the main Project Site, the Proposed Project would demolish approximately 1 million square feet (sf) of nonresidential uses and construct approximately 1.8 million sf of nonresidential uses (excluding a proposed hotel), for a net increase of 800,000 sf in nonresidential uses. The new nonresidential uses would be composed of up to 1.6 million sf of office and accessory uses[2] in the Campus District (i.e., up to 1.25 million sf of office space, with the balance [e.g., space for accessory uses, including meeting and collaboration space totaling 350,000 sf if the office square footage is maximized] in multiple buildings) and up to approximately 200,000 sf of commercial/retail space in the Residential/Shopping District and Town Square District. Some of the commercial/retail square footage would be on the east side of Main Street, within the Office Campus, and accessible by the public from Main Street. The Proposed Project would also include up to 1,730 multi-family residential units, up to 193 hotel rooms, and, assuming full buildout, approximately 20 acres of open space, including approximately 8 acres of publicly accessible parks, bike paths, and trails.

The three proposed districts within the main Project Site would be situated as follows: the approximately 17.7-acre Residential/Shopping District in the southwestern portion of the main Project Site, the approximately 4.3-acre Town Square District in the northwestern portion of the Project Site, and the approximately 32-acre Campus District in the eastern portion of the main Project Site.[3] The Campus District would include office uses and amenity space, accessory uses,[4] publicly accessible retail space, and a publicly accessible elevated park (i.e., the Elevated Park) that would connect the main Project Site to the adjacent Belle Haven neighborhood via an overpass at Willow Road. The Proposed Project would also include an undercrossing (Willow Road Tunnel) to provide tram and bicyclist/pedestrian access to the neighboring Meta campuses from the Campus District.

---

1 The Project Site includes the main 59-acre industrial site plus Hamilton Avenue Parcels North and South. However, references to the Project Site in this Draft EIR will generally focus on the main 59-acre campus; changes and modifications to the two parcels on Hamilton Avenue will generally be discussed separately.

2 Accessory uses could include the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitor center, product demonstration areas, a film studio, gathering terraces and private gardens, and space for other Meta accessory uses. Accessory uses could occur in spaces located anywhere throughout the Campus District.

3 The Proposed Project also includes approximately 5.6 acres of land designated as a public right-of-way.

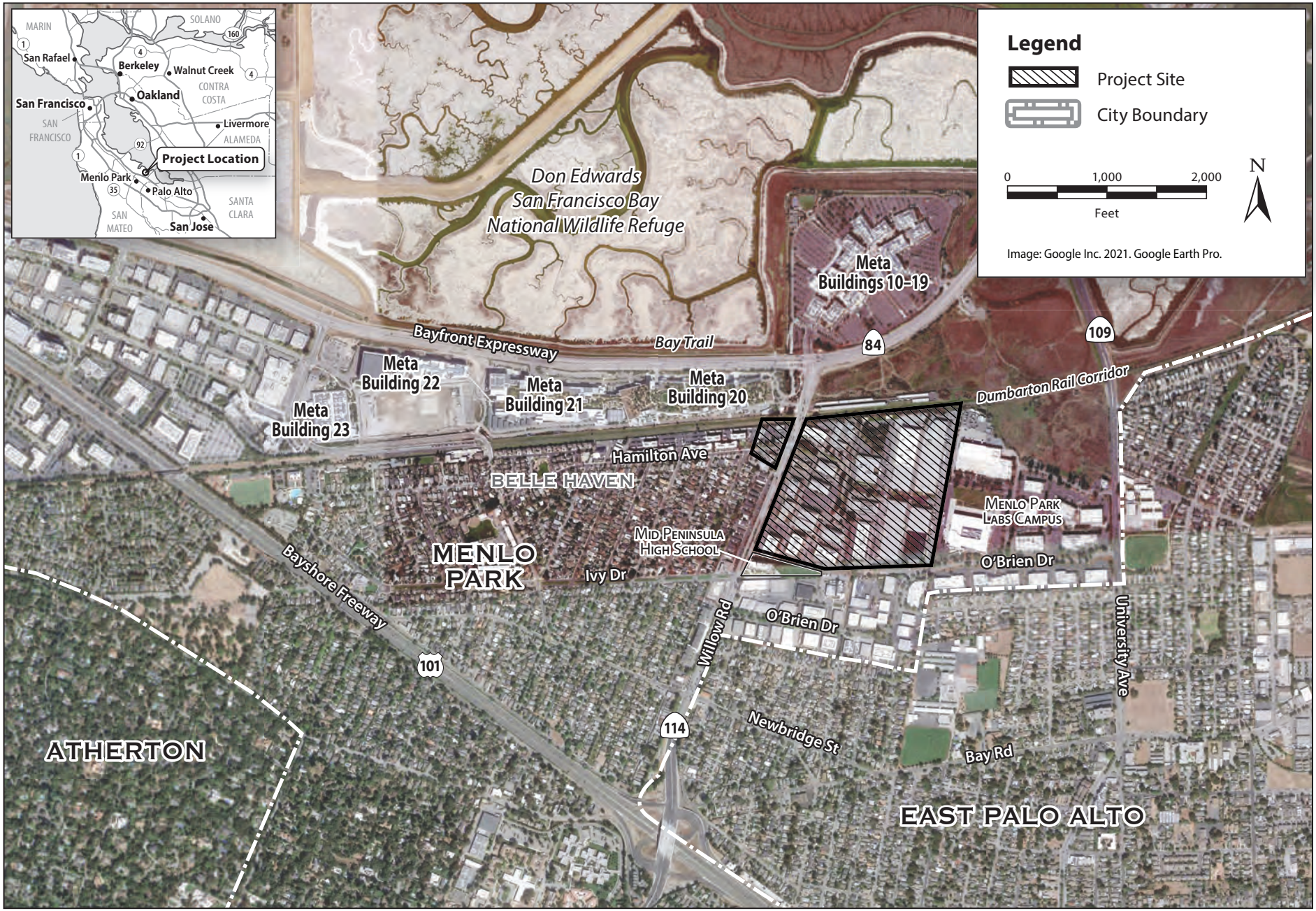
4 Accessory uses are defined in footnote 2, above.

The main Project Site would be bisected by a new north–south street (Main Street) as well as an east–west street that would provide access to all three districts. The Proposed Project would include a circulation network for vehicles, bicycles, and pedestrians, inclusive of both public rights-of-way and private streets that would be generally aligned to an east-to-west and a north-to-south grid. The Proposed Project would also alter parcels west of the main Project Site, across Willow Road, on both the north and south sides of Hamilton Avenue (Hamilton Avenue Parcels North and South) to support realignment of the Hamilton Avenue right-of-way and provide access to the new Elevated Park. The realignment of Hamilton Avenue would require demolition and reconstruction of an existing Chevron gas station (with a potential increase in area of approximately 1,000 sf) at Hamilton Avenue Parcel South and enable the potential addition of up to 6,700 sf of retail uses at the existing neighborhood shopping center (Belle Haven Retail Center) on Hamilton Avenue Parcel North. In addition, offsite transportation and utility improvements would be constructed to serve the Proposed Project. These include various intersection improvements, which may be required to bring intersection congestion back to pre-Project conditions per the City's transportation impact analysis guidelines; expansion of the Pacific Gas and Electric Company (PG&E) Ravenswood substation; installation of a new conduit to connect the Ravenswood substation to the main Project Site; construction of a sanitary sewer force main and recycled waterline in the same trench in Hamilton Avenue; and an extension to the sanitary sewer line in Willow Road from O'Brien Drive to the proposed southwest sanitary sewer pump station.

2.1 Project Location and Setting

The Project Site is north of US 101 in Menlo Park, as shown in Figure 2-1, Project Location. It is generally bounded by the currently inactive Dumbarton Rail Corridor to the north, an existing life science complex (Menlo Park Labs Campus) to the east, the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy utility right-of-way to the south, and Willow Road to the west. North of the Dumbarton Rail Corridor, across State Route 84 (SR 84 or Bayfront Expressway), are tidal mudflats and marshes along San Francisco Bay (Bay), the Don Edwards San Francisco Bay National Wildlife Refuge, and Ravenswood Slough. Two schools in Menlo Park, Open Mind School/Wund3rSCHOOL and Mid-Peninsula High School, are directly south of the Project Site. Open Mind School/Wund3rSCHOOL is a small private school for pre-kindergarten through 12th-grade students; the school is across from the Hetch Hetchy utility right-of-way on O'Brien Drive. Mid-Peninsula High School is a private high school at 1340 Willow Road, abutting the Project Site to the south. In the broader Bayfront Area, the Sequoia Union High School District operates the TIDE Academy, a small public high school at 150 Jefferson Drive in Menlo Park, approximately 1.25 miles west of the Project Site near the Marsh Road and US 101 interchange.

The Belle Haven neighborhood of Menlo Park is west of the Project Site, across Willow Road. Hamilton Avenue Parcels North and South are directly adjacent to the Belle Haven neighborhood, which includes a mix of uses, including churches, Menlo Park Fire Station No. 77, single-family residential units, multi-family residential units, and institutional buildings. The Belle Haven neighborhood's institutional and park uses include Beechwood School, Belle Haven Elementary School, the Belle Haven Pool, Belle Haven Youth Center, Onetta Harris Community Center, Menlo Park Senior Center, the Boys and Girls Club, Hamilton Park, Karl E. Clark Park, the Belle Haven Community Garden, and Kelly Park. The Onetta Harris Community Center and Menlo Park Senior Center are being redeveloped to create a new multi-generational facility that incorporates the current Onetta Harris Community Center, Menlo Park Senior



Graphics ... 104393 (2-16-2022) JC

Figure 2-1
Project Location

Center, Belle Haven Youth Center (childcare), Belle Haven Pool, and a branch library (collectively referred to as the Menlo Park Community Campus). Construction of the Menlo Park Community Campus began in the fall of 2021 and is expected to continue through January 2023.

Neighborhoods in East Palo Alto are farther east (across University Avenue) and south (across O'Brien Drive) of the Project Site. Included in these neighborhoods, as close as 0.1 mile from the Project Site, are single-family residential units; multi-family residential units; neighborhood-serving retail uses; César Chávez Ravenswood Middle School; Creative Montessori Learning; the 4 Corners Civic Hub, including the East Palo Alto Library, city hall, and post office; Costaño School and San Francisco 49ers Academy; and Jack Farrell Park.

Just north of the main Project Site are the other existing Bayfront Area Meta Campuses, which consist of Buildings 10–19 (the East Campus), located north of Bayfront Expressway, and Buildings 20–23 (the West Campus), located west of Willow Road. As described below, the Proposed Project would be an expansion of the existing Meta Campuses. In total, the other existing Meta-owned Bayfront Campuses (the East and West Campuses) can accommodate approximately 17,340 "seated workers."[5] Menlo Science and Technology Park (the main Project Site) currently accommodates approximately 3,570 seated workers (including tenant workers).

Regional highways that provide access to the Project Site include US 101, approximately 0.5 mile to the south, and Bayfront Expressway, which is across the Dumbarton Rail Corridor to the north. The Menlo Park Caltrain station is approximately 2 miles south of the Project Site; Caltrain provides weekday service from San Francisco to Gilroy and weekend service from San Francisco to San José.

Existing Site Characteristics

The approximately 59-acre main Project Site encompasses the Menlo Science and Technology Park, which, historically, supported industrial uses. In 1998, Prologis acquired the land and used it primarily for industrial, research-and-development (R&D), and office uses. Warehouse and storage facilities were also present. In 2015, a Meta affiliate purchased the entire site. Meta occupies several of the buildings for a variety of uses, including office space, R&D, dining facilities/employee amenities, and an employee health clinic. Other onsite occupants include various non-Meta tenants, including an existing dialysis center. In total, the main Project Site currently accommodates approximately 3,570 workers, consisting of approximately 3,500 Meta seated workers and approximately 70 workers of other onsite tenants.

[5] Seated workers are workers with assigned physical seats (desks). Seated workers include both Meta employees (i.e., workers employed by a Meta entity) and contract workers (i.e., workers employed by a third party who provides workers to perform services pursuant to a contract with a Meta entity). The number of seated workers is a good proxy for the number of workers actually present in a given Meta building or campus on a typical day (referred to as "onsite workers"). The number of onsite workers typically is less than or equal to the number of seated workers. This balance occurs because, on any given day, a certain number of seated workers are not present onsite (as a result of time off, offsite meetings, remote work, sick leave, etc.), while a certain number of contract workers without assigned seats (e.g., security, culinary, transportation personnel) are present onsite. The 17,340 seated workers are in the existing Bayfront Area Meta-owned East and West Campuses and does not include workers in other Meta-leased buildings in the area,(e.g. former Intuit campus, Menlo Gateway, the Commonwealth Corporate Center, and other buildings in the Bayfront Area that Meta occupies). However, employees, vendors/contractors, and interns within the East and West Campuses are included.

As shown in Figure 2-2, Existing Site Overview, the main Project Site contains 20 buildings with employee amenities/support services (for Meta) and a mix of office, R&D, and warehousing uses at the following addresses: 1350–1390 Willow Road, 925–1098 Hamilton Avenue, and 1005–1275 Hamilton Court. Existing buildings at the main Project Site were constructed between 1956 and 1996 and have an area of approximately 1 million sf. The main Project Site is relatively flat (a 0.5 percent slope south–north across the site), with elevations ranging from 6 to 11 feet North American Datum 1988 (NAVD88).[6] The buildings are conventional reinforced-concrete tilt-up buildings, the majority of which were constructed from the 1960s through the 1980s. Building heights range from approximately 21 feet to a maximum of approximately 38 feet. Landscaping consists of mostly native trees, hedges, and plant material, though most of the main Project Site is paved.

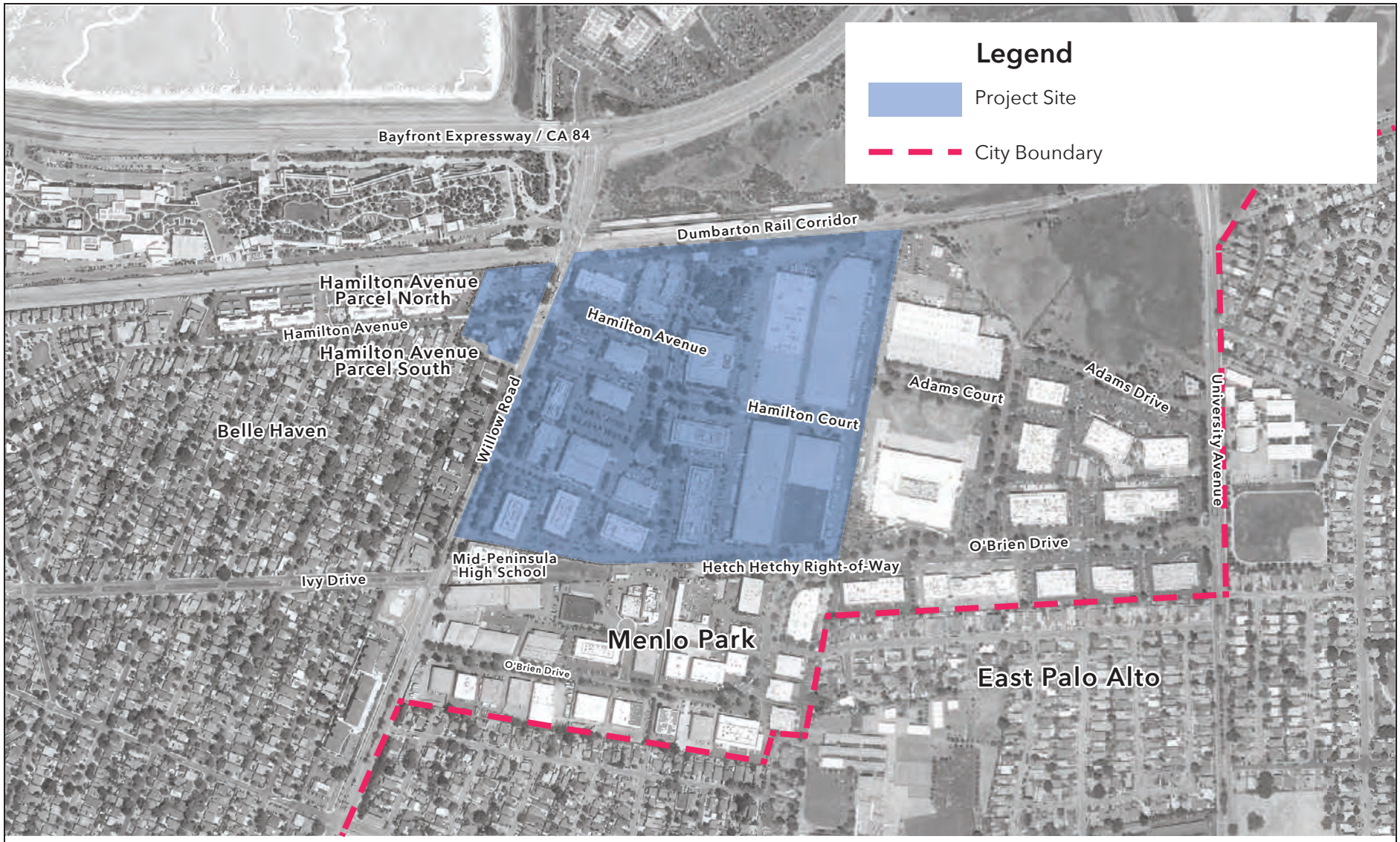
Hamilton Avenue Parcel North (consisting of two legal parcels), the approximately 1.8-acre block at the northwest corner of Willow Road and Hamilton Avenue, is currently owned by LLBG Properties, Inc., and developed with approximately 16,000 sf of retail buildings, including the Belle Haven Retail Center and a Jack in the Box restaurant. Hamilton Avenue Parcel South, an approximately 1.3-acre parcel at the southwest corner of Willow Road and Hamilton Avenue, is owned by Chevron USA. It includes a service station with approximately 4,500 sf of retail space and a car wash. Table 2-1 summarizes the buildings at the Project Site.

The main Project Site is currently accessible from a stoplight-controlled intersection at Willow Road via Hamilton Avenue/Hamilton Court as well as two driveways off northbound Willow Road. Multiple driveway entrances off Hamilton Avenue/Hamilton Court lead into the primary parking area for each building. There are approximately 2,300 parking spaces at the main Project Site. These are located within surface parking lots.

Existing Zoning

Prior to 2016, the main Project Site was zoned M-2 (General Industrial), which permitted office and general industrial uses, such as warehousing, manufacturing, printing, and assembling; it did not allow housing, retail, or any form of mixed-use development. In 2016, the main Project Site's zoning was changed to O-B (Office Bonus) and R-MU-B (Residential Mixed-Use Bonus) as part of the City of Menlo Park's General Plan and M-2 Area Zoning Update (ConnectMenlo) (see Figure 2-3, Existing Zoning). The updated zoning provisions created three new zoning districts (Office, Residential-Mixed Use, and Life Science) and established standards for new projects, including restrictions regarding height, density, use, sustainability, circulation, and open space. As part of the ConnectMenlo rezoning effort, nearly half of the main Project Site was rezoned for housing and mixed-use development (R-MU), with the remainder zoned for office use (O). The "base-level" development standards in the R-MU zoning district allow for up to 30 dwelling units per acre (du/acre) and a maximum height of up to 40 feet. For the O zoning district, the base-level development standards allow for a floor area ratio (FAR) of 0.45 (plus 10 percent for non-office commercial uses and 175 percent for hotels) and a maximum height of 35 feet (110 feet for hotels).

[6] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.



Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

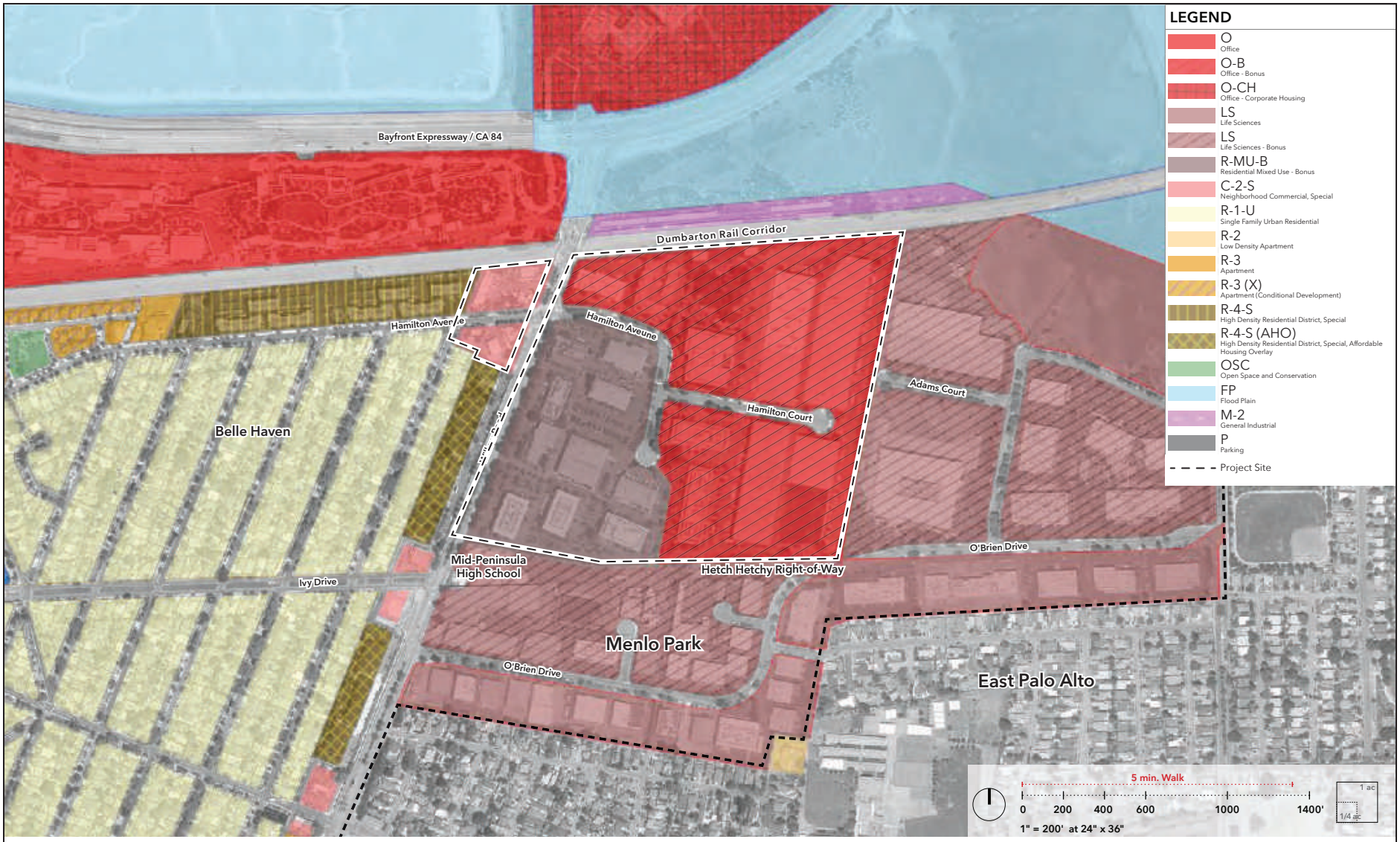
ICF

Figure 2-2
Existing Site Overview

Table 2-1. Existing Buildings at the Project Site

Building #	Address	Assessor's Parcel Number	Year Built	Area (sf)
Office				
MPK 47	959–967 Hamilton Avenue	055-440-090	1988	10,400
MPK 50	1390 Willow Road	055-440-130	1956	15,200
Office Subtotal				*25,600*
Office/Lab				
MPK 40	1050–1098 Hamilton Avenue	055-440-320	1981	46,640
MPK 43	1010–1042 Hamilton Avenue	055-440-310	1981	20,840
MPK 46	1003–1005 Hamilton Avenue	055-440-050	1996	56,340
MPK 48	927–953 Hamilton Avenue	055-440-090	1988	20,160
MPK 49	925 Hamilton Avenue	055-440-190	1988	24,060
MPK 51	940 Hamilton Avenue	055-440-230	1962	23,570
MPK 52	1380 Willow Road	055-440-300	1982	34,890
MPK 53	960 Hamilton Avenue	055-440-230	1982	19,970
MPK 57	1350 Willow Road	055-440-350	1985	50,500
MPK 58	1360 Willow Road	055-440-340	1982	47,960
MPK 59	990–998 Hamilton Avenue	055-440-330	—	25,760
Office/Lab Subtotal				*370,690*
Warehouse				
MPK 42	1200–1240 Hamilton Court	055-440-020	1979	107,350
MPK 44	1205–1275 Hamilton Court	055-440-010	1979	145,080
MPK 45	1105–1195 Hamilton Court	055-440-030	1980	118,740
MPK 55	1374–1376 Willow Road	055-440-110	1959–1962	80,100
MPK 56	980 Hamilton Avenue	055-440-260	1962	19,990
Warehouse Subtotal				*471,260*
Warehouse/Office				
MPK 41	1100–1190 Hamilton Court	055-440-040	1980	109,620
MPK 54	1370 Willow Road	055-440-210	1962	26,740
Warehouse/Office Subtotal				*136,630*
Total Buildings (Main Project Site)				***1,003,910***
Retail (Hamilton Avenue Parcels North and South)				
—	871–883 Hamilton	055-398-270	2000	9,178
—	1401 Willow Road	055-398-280	2000	4,311
—	1401 Willow Road	055-398-280	2000	2,488
Retail Subtotal				*15,977*
Service Station (Hamilton Avenue Parcels North and South)				
—	1399 Willow Road	055-395-090	2000	4,500
Total Buildings (Hamilton Avenue Parcels North and South)				***20,477***

Source: Peninsula Innovation Partners, LLC, 2020.



Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-3
Existing Zoning

Under the current R-MU-B and O-B zoning designations, additional "bonus-level" development is permitted in exchange for providing community amenities that are acceptable to the Menlo Park City Council (City Council) in the manner provided by the municipal code. Amenities are chosen from a list of potential options identified through community outreach and adopted by the City Council through payment of an in-lieu fee or by entering into a Development Agreement (DA) with the City. For the main Project Site, bonus-level development allows a FAR of up to 1.0 for office uses (plus 0.25 for non-office commercial uses) as well as an increased height limit within the O-B district; it also allows a FAR of up to 2.25 for residential uses (plus 0.25 for commercial uses, including offices) as well as an increased height limit within the R-MU-B district.

The existing Hamilton Avenue Parcels North and South are zoned Neighborhood Commercial District, Special (C-2-S).

2.2 Project Objectives

Section 15124(b) of the California Environmental Quality Act (CEQA) Guidelines requires that a project description contain a clear statement of the project objectives, including the underlying purpose of the project. The underlying purpose of the Proposed Project is to create a unique master-planned, mixed-use neighborhood with residential units, onsite amenities, neighborhood-serving retail uses, adequate office space to accommodate anticipated demand, a hotel, new bicycle and pedestrian connections, and open space. The Project Sponsor has also identified the following objectives of the Proposed Project:

- Create a unique master-planned, mixed-use neighborhood with up to 1,730 residential units, a grocery store/supermarket, neighborhood-serving retail uses, office space, a hotel, new bicycle and pedestrian connections, and open space.
- Redevelop an underutilized property with a contemporary master-planned, mixed-use neighborhood in furtherance of the goals for the Bayfront Area set forth in ConnectMenlo.
- Promote the City's General Plan goals of providing office, R&D, residential, and commercial uses and a hotel in proximity to or integrated with one another.
- Reduce vehicle miles traveled by locating residential, commercial, and office uses adjacent to each other.
- Provide multiple transportation options and a robust transportation demand management (TDM) program to reduce traffic congestion, air quality impacts, and greenhouse gas emissions.
- Create a bicycle- and pedestrian-friendly environment that enhances connectivity between the Project Site and surrounding areas with minimal traffic conflicts.
- Provide much-needed market-rate and below-market-rate housing in Menlo Park.
- Provide a pharmacy to serve the community within the main Project Site (may be located within the supermarket or separately) or on Hamilton Avenue Parcel North.
- Develop an integrated, highly connected office campus that accommodates anticipated worker space demands and provides flexible workspace at densities that support various transportation options.
- Foster knowledge, partnerships, and innovation by creating a "meeting and collaboration space" where workers can convene to share ideas and goals, visitors can understand the company's background and products, business partners can learn about technology, and new product demonstrations can occur.

- Use highly sustainable design techniques to promote energy and water efficiency.
- Respect the surrounding community through appropriate building siting, massing, density, and height, consistent with the standards prescribed for bonus-level development in the City's General Plan and zoning policies.
- Provide new green spaces and landscaped areas with native, drought-tolerant plant species.
- Provide for development that can be phased to be responsive to market demands.
- Provide a mix of uses at densities that achieve a financially feasible project.
- Generate revenue for the City, school districts, and other public entities.
- Ensure a secure, safe, and private work environment.

2.3 Project Characteristics

The Proposed Project would be designed as a master-planned project. Per the Project Sponsor's objectives, the Proposed Project is intended to implement ConnectMenlo, including development of new affordable and market-rate residential units, opportunities for future transit connections, and a grocery store. As discussed further below, the City's Zoning Ordinance authorizes master-planned projects to provide flexibility for creative design, more orderly development, and optimal use of open space while maintaining and achieving the City's General Plan vision for the Bayfront Area of the city where the Proposed Project would be located. As shown in Figure 2-4, Conceptual Master Plan, the Proposed Project would develop the site with new infrastructure, housing, sustainability features, circulation elements, open spaces, office uses, commercial (retail, dining, entertainment, and hotel) uses, and bicycle and pedestrian infrastructure. The new housing and community-serving retail uses would include publicly accessible spaces of various scales, along with restaurants. The Proposed Project would also include a Town Square, with ground-floor retail, publicly accessible gathering space, a visitors' center for the Campus District that would front the Town Square, and a 193-room hotel.

The Proposed Project is depicted in the conceptual and illustrative figures provided throughout this document (Figures 2-4 to 2-18). Although conceptual or illustrative in nature, the figures convey the Project Sponsor's overall vision through representative plans that comply with applicable standards, including the proposed minimum and maximum development parameters established in the master plan for the Proposed Project.[7] Throughout this environmental impact report (EIR), the conceptual and

[7] Conceptual plans are intended to convey the general vision and design of the Willow Village Master Plan while allowing flexibility in interpretation and implementation. Conceptual plans serve as guidelines for the general orientation and organization of land uses as well as transportation and open space networks, the general scale and massing of development, and overall architectural themes. Illustrative plans and renderings depict one possible example of development that would substantially conform to the applicable standards and be materially consistent with the vision and design intent conveyed by the conceptual plans. Illustrative plans and renderings are not determinative of the ultimate configuration, building orientation, massing, architectural, landscaping details, or parking.

LEGEND	
1	Town Square
2	Grocery Store on Ground Level
3	Publicly Accessible Park
4	Publicly Accessible Dog Park
5	Elevated Park Access (Elevator and Stairs)
6	Elevated Park
7	Hotel
8	Mixed-Use Block
9	Residential Block
10a	Office Campus
10b	Meeting & Collaboration Space
11	Parking Garage with Transit Hub on Ground Level
12	Proposed Multi-use Pathway
13	Willow Road Tunnel
14	Realigned Hamilton Avenue
15	Hamilton Avenue Parcel North
16	Hamilton Avenue Parcel South

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-4
Conceptual Master Plan

illustrative plans are used to describe the Proposed Project in a representative manner. The analysis of the environmental impacts of the Proposed Project, however, is based on the minimum and maximum development standards established in the master plan for the Proposed Project. The specifics regarding each building's architectural design and configuration within the Project Site would be determined through the City's architectural control (i.e., design review) process, as set forth in the Conditional Development Permit (CDP) and the subdivision mapping process.[8] In connection with this review, the City will assess whether the final design and configuration complies with the master plan parameters and is within the scope of this EIR.

As described below, the Project Sponsor would demolish the onsite buildings at the main Project Site (totaling 1 million sf) to construct the Residential/Shopping District, a Town Square District, and a Campus District. The Proposed Project would construct up to 1.8 million sf of nonresidential uses (excluding the hotel), resulting in a net increase in nonresidential uses at the main Project Site of up to 800,000 sf. In addition, the Proposed Project would include up to 1,730 residential units, a hotel with up to 193 rooms, and, assuming full buildout of the Proposed Project, approximately 20 acres of open space, of which approximately 8 acres would be publicly accessible.[9] Approximately 3.5 acres of publicly accessible open space would be in a park at the southwest corner of the main Project Site (Publicly Accessible Park). In addition, the Proposed Project would include the approximately 2-acre Elevated Park adjacent to and north of the Town Square. The Elevated Park would connect the main Project Site to the adjacent Belle Haven neighborhood via an overpass at Willow Road. The undercrossing (Willow Road Tunnel) would provide tram and bicycle/pedestrian access to the neighboring Bayfront Area Meta Campuses.

The Proposed Project would include a circulation network for vehicles, bicycles, and pedestrians, inclusive of both public rights-of-way and private streets that would be generally aligned to an east-to-west and a north-to-south grid. The Proposed Project would also alter parcels west of the main Project Site, across Willow Road, on both Hamilton Avenue Parcels North and South to support realignment of the Hamilton Avenue right-of-way and provide access to the new Elevated Park. The realignment of Hamilton Avenue would require demolition and reconstruction of a Chevron gas station at Hamilton Avenue Parcel South and provide for the addition of up to 6,700 sf of retail uses at the existing Belle Haven Retail Center on Hamilton Avenue Parcel North.

Offsite transportation improvements to serve the Proposed Project could include modifications to lane configurations, signalized intersections, traffic signal coordination, lane striping, curb ramps, and median construction at the following intersections that the City Council will consider as potential Project conditions, per the City's Transportation Impact Analysis (TIA) Guidelines. Offsite improvements that are included in the City's transportation impact fee (TIF) program would receive TIF credit for any such construction. The TIA identifies the following intersections that could require improvements to bring them back to pre-Project conditions:

[8] The City's design review process includes a consistency review of the plans and the analysis included in this project-level EIR. If a project is determined to be inconsistent with or outside the scope of the EIR analysis during the design review process, the City will determine whether subsequent environmental review is required, in accordance with CEQA.

[9] The 8 acres of publicly accessible open space does not include the portion of the Elevated Park where it would cross over Willow Road.

- Marsh Road and Bayfront Expressway (modify lane configuration)
- Chilco Street and Hamilton Avenue (signalize intersection)
- Willow Road Corridor (traffic signal coordination and lane configuration)
  - Willow Road and Newbridge Street (modify signal timing)
  - Willow Road and Bay Road (modify lane configuration)
- Willow Road and Ivy Drive (median construction/lane striping)
- O'Brien Drive and Kavanaugh Drive (signalize intersection/curb ramps/lane striping)
- Adams Drive and O'Brien Drive (signalize intersection/curb ramps/lane striping)

Offsite utility improvements to serve the Proposed Project include expansion of the PG&E Ravenswood substation, installation of new conduit to connect the Ravenswood substation to the main Project Site, construction of a sanitary sewer force main and recycled waterline in the same trench in Hamilton Avenue, and an extension to the sanitary sewer line in Willow Road from O'Brien Drive to the proposed southwest sanitary sewer pump station.

In total, the Proposed Project would demolish approximately 1 million sf of building space and construct approximately 3.7 million sf of new uses at the main Project Site.[10] Table 2-2 summarizes the proposed development program.

Table 2-2. Maximum Total Proposed Development at the Main Project Site

	Area	Units/Keys
Retail	200,000 sf	—
Residential	1,695,976 sf	1,730 units
Hotel	172,000 sf	193 keys
Office[a]	1,250,000 sf	—
Accessory[b]	350,000 sf[a,d]	
Open Space	Up to 20 acres[c]	—
Total	***3,487,976 sf***[e]	***1,730 units/193 keys***

Source: Peninsula Innovation Partners, LLC, 2021.

Notes:

a. The Proposed Project would include up to 1.6 million sf of office and accessory uses, consisting of up to 1.25 million sf of office space, with the balance (i.e., 350,000 sf of meeting/collaboration and accessory space if office space is maximized) in multiple buildings. Retail and non-office commercial uses along Main Street within the office buildings would be open to the public. Such uses are included in the up to 200,000 sf of retail/non-office commercial uses.

b. Accessory uses could occur in the following types of spaces: meeting/collaboration space, orientation space, training space, event space, a business partner center, incubator space, an event building (including pre-function space, collaboration areas, and meeting/event rooms), visitors center, product demonstration areas, a film studio, gathering terraces and private gardens, and space for other accessory uses for Meta. Includes private garden space within a sun-shaded, rain-protected area.

c. Approximately 8 acres of the total open space would be publicly accessible.

d. Total new building area to be developed. As explained above, the main Project Site currently includes approximately 1 million sf of office, lab, and warehouse uses, which would be demolished.

[10] Unless otherwise noted, all Proposed Project information and site plans were provided by Peninsula Innovation Partners, LLC (2021).

Land Use and Zoning

As noted above, the Proposed Project would be designed as a master-planned project under the City's Zoning Ordinance, which allows for the construction of single projects or phased development projects on sites that exceed 15 acres in size and meet certain specified criteria. Master-planned projects are permitted to aggregate permitted densities and uses across an entire site. The City's Zoning Ordinance states that the purpose of master-planned projects is to provide flexibility for creative design, orderly development, and optimal use of open space while maintaining and achieving the City's General Plan vision for the Bayfront Area. Master-planned projects for sites with the same zoning (O, LS, or R-MU) in proximity to one another or contiguous sites that have a mix of zoning designations (O or R-MU), exceed 15 acres in size, and are held in common ownership (or held by wholly owned affiliated entities), either proposed for development as a single project or single phased development project, are permitted as a conditional use, provided that sites with mixed zoning obtain a CDP and enter into a DA. For master-planned projects that meet the criteria, residential density, FAR, and open space requirements at the bonus level, if applicable, may be calculated in the aggregate across the site, provided the overall development proposed does not exceed what would be permitted if the site were developed in accordance with the zoning district applicable to each portion of the site and the project complies with all other design standards identified for the applicable zoning districts.

Main Project Site

The City General Plan designates the main Project Site, which is within the Bayfront Area, for Office and Mixed-Use Residential land uses and Hamilton Avenue Parcels North and South for Retail/Commercial land uses. As described above, the main Project Site is zoned O-B and R-MU-B. Consistent with the ConnectMenlo Land Use Element and M-2 Area Zoning Update, the Proposed Project would promote a live/work/play environment through the inclusion of multi-family housing, including affordable residential units, along with office and recreational uses of the same density and intensity as envisioned and analyzed in ConnectMenlo. To ensure consistency, the following City General Plan and Zoning Ordinance amendments would be required to implement the Proposed Project:

(i) Amendments to the adopted zoning map and the Circulation Element of the City's General Plan to modify the site-specific circulation plan with regard to the locations for new street connections to the surrounding roadway network as well as the locations of public rights-of-way and the proposed paseo within the main Project Site; and

(ii) Rezoning of the main Project Site to add a conditional development ("X") combining district to the main Project Site, which would allow for development of the site through the master-planned process, and modifications to development standards, such as maximum height, modulation, and step-back requirements, pursuant to a CDP. The "X" district would be combined with the underlying O-B and R-MU-B regulations.

The Project Sponsor has submitted an application for a CDP and a DA to comprehensively redevelop the main Project Site through a master-planned process. The Proposed Project would use bonus-level development allowances for density, FAR, and height in exchange for community amenities (as defined through the ConnectMenlo process and memorialized in the City's Zoning Ordinance). Pursuant to Sections 16.43.070 and 16.45.070 of the City's Zoning Ordinance, bonus-level density, FAR, and heights, above base-levels, are permitted in exchange for the provision of community amenities. To qualify for bonus-level development, the Project Sponsor would include community amenities equivalent to at least 50 percent of the fair-market value of the additional gross floor area of the bonus-level development. In

addition, under Sections 16.43.050 and 16.45.050, properties within the flood zone or subject to flooding and sea-level rise are allowed a 10-foot increase in height for both average height and maximum height limits, above the limits that would ordinarily apply. The calculation of height in the City Zoning Ordinance is the weighted average height of all buildings; maximum height is the absolute maximum height for any single building or portion thereof. Based on the zoning requirements, the Proposed Project would be required to adhere to the following:

- In the O-B zoning district, the bonus-level development allows a FAR of up to 1.0 for office uses (plus 0.25 for non-office commercial uses) and a maximum nonresidential height of 110 feet for any single building, plus 10 feet for the flood-zone allowance/sea-level rise. The average building height cannot exceed 67.5 feet (except hotels), plus 10 feet for the flood-zone allowance/sea-level rise. In addition, 30 percent of the portion of the main Project Site zoned O-B would be required to include open space, 50 percent of which would be publicly accessible.
- In the R-MU-B zoning district, the bonus-level development rules permit a residential FAR of 0.9 for 30 du/ac and up to 2.25 for 100 du/ac; the maximum nonresidential FAR is 0.25, which can be used for office uses. The maximum bonus-level height in the R-MU-B zoning district is 70 feet, plus 10 feet for the flood-zone allowance/sea-level rise, with an average of 52.5 feet, plus 10 feet for the flood-zone allowance/sea-level rise. In addition, 25 percent of the portion of the main Project Site zoned R-MU-B would be required to include open space, 25 percent of which would be publicly accessible.

Table 2-3, below, compares allowable development areas across the main Project Site with the Project Sponsor's proposed levels of development (assuming a bonus level of development).[11] As shown in the table, the Proposed Project would adhere to the zoning development regulations, with the exception of maximum height for the residential building bounded by Center Street, West Street, and Main Street on Parcel 3 on the main Project Site, which would be increased up to 85 feet through the proposed CDP. As stated previously, design standards may be adjusted through the design review process set forth in the CDP.

Table 2-3. Allowable and Proposed Development for the Main Project Site

Zoning District	Development Regulations per Zoning District[i]	Proposed Development[a,b,c,d,g]
Maximum Square Footage		
O-B Zoning		
Office	1,586,313 sf	1,600,000 sf
Non-Office Commercial/Retail	396,578 sf	200,000 sf
Hotel	2,776,048 sf	172,000 sf
R-MU-B Zoning		
Residential	1,695,976 sf	1,695,976 sf
Non-Residential/Retail	188,442 sf	-

[11] Development assumptions for Hamilton Avenue Parcels North and South are not included in the master plan.

Zoning District	Development Regulations per Zoning District[i]	Proposed Development[a,b,c,d,g]
Maximum Building Height[e,f]		
O-B Zoning	110 feet	120 feet
R-MU-B Zoning	70 feet	80 feet, 85 feet for the parcel bounded by Center, West, and Main Street (Building RS 3)
Building Height (average)[e,f]		
O-B Zoning	77.5 feet	70 feet
R-MU-B Zoning	62.5 feet	62.5 feet
Minimum Open Space at Full Buildout[h]		
O-B Zoning	475,894 sf (30%)	487,000 sf
R-MU-B Zoning	188,442 sf (25%)	370,000 sf
Total Open Space	664,336 sf	857,000 sf
Minimum Publicly Accessible Open Space		
O-B Zoning	237,947 sf (50%)	200,000 sf
R-MU-B Zoning	47,110 sf (25%)	160,000 sf
Total Public Open Space	285,057 sf	360,000 sf

Source: Peninsula Innovation Partners, LLC, 2021.

Notes:

a. Although the proposed hotel has a FAR of 1.75, the number of rooms (193) is a more useful metric for this analysis.

b. The Proposed Project would be developed at up to the maximum density for residential units, after accounting for rounding the maximum number of units down to the nearest whole unit; therefore, the Proposed Project would be permitted up to 225 percent FAR, as identified in this table.

c. The Proposed Project includes the nonresidential FAR permitted under R-MU zoning area, which allows for office uses.

d. The Proposed Project would include up to 1.6 million sf of office space and accessory uses, consisting of up to 1.25 million sf of office space, with the balance (i.e., 350,000 sf of meeting/collaboration and accessory uses if office space is maximized) in multiple buildings. Accessory uses could occur in the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitor center, product demonstration areas, a film studio, gathering terraces and private gardens, and space for other Meta accessory uses.

e. Properties within the flood zone or subject to flooding and sea-level rise are allowed a 10-foot increase in average height and maximum height. The height increase to 85 feet applies only to the parcel bounded by Center Street, West Street, and Main Street (Parcel 3) on the main Project Site.

f. Height is defined as the average height of all buildings on one site where a maximum height cannot be exceeded. Maximum height does not include roof-mounted equipment and utilities.

g. The difference between the amount of office permitted by the zoning district and the amount of office proposed by the Project comes from the "Non-Office Commercial/Retail" category. The 200,000 sf of Non-Residential/Retail proposed by the Project is utilizing the bonus-level commercial development from the Office District, not the R-MU district.

h. Private garden space is proposed within a sun-shaded, rain protected area that is included in the calculation of FAR, per the City's Zoning Ordinance.

i. The 188,442 sf of Non-Residential Commercial/Retail is included in the estimated 1,600,000 sf of office because the R-MU zoning district allows for office uses.

Because the City's master-planned project aggregation provisions apply to the Proposed Project, the precise distribution of uses across the main Project Site is flexible and not prescribed by the boundaries shown on the City's zoning map. These provisions permit allowable non-office commercial uses associated with the property zoned O-B to be allocated as part of the Residential/Shopping District and the Town Square District as well as allowable commercial uses associated with the property zoned R-MU-B to be allocated as part of the Campus District, subject to review and approval of a CDP and DA by the City Council.

Hamilton Avenue Parcels North and South

Table 2-4, below, compares allowable development areas across Hamilton Avenue Parcels North and South with the Project Sponsor's proposed levels of development. The City General Plan designates Hamilton Avenue Parcels North and South for Retail/Commercial. Hamilton Avenue Parcels North and South are both zoned C-2-S. The development regulations for the C-2-S district are intended to be flexible and encourage innovative site and design solutions that accommodate the uses allowed in this district. Apart from a FAR of 0.5, development for this district must be consistent with Willow Road design guidelines, heights, and open space restrictions on a case-by-case basis. To accommodate the Proposed Project's intersection realignment at Hamilton Avenue and Willow Road, the subdivision mapping process for the parcels would include abandonment of a portion of existing Hamilton Avenue and an irrevocable offer of dedication and public utility easement for the realigned Hamilton Avenue. In addition, the subdivision mapping process would include the creation of new parcels for retail uses at Hamilton Avenue Parcel North and the relocated service station at Hamilton Avenue Parcel South. A Use Permit would also be required to reconstruct the existing service station on the new Hamilton Avenue Parcel South. Height is set by the Use Permit and established by Planning Commission review of the Use Permit as well as architectural control permit. Hamilton Avenue Parcel North would include an expanded one-story structure (also subject to a Use Permit and Architectural Control permit), while Hamilton Avenue Parcel South would be reconstructed with a height similar to that under existing conditions. Pedestrian and bicycle access to the Elevated Park would be provided by an elevator and stairs that might partially encroach within the Menlo Park public utility easement and access that parallels Willow Road. The access structure has not been specifically sited; however, it is anticipated that it might encroach approximately 500 square feet within the Menlo Park public utility and access easement.

Table 2-4. Allowable and Proposed Development for Hamilton Avenue Parcels North and South

	Development Regulations per Zoning District[a,b]	Proposed Development
Land Uses – Maximum Square Footage (C-2-S Zoning)[c]		
Hamilton Avenue Parcel North	48,134 sf/(FAR 0.5)	22,400 sf
Hamilton Avenue Parcel South	21,126 sf/(FAR 0.5)	5,700 sf

Source: Peninsula Innovation Partners, LLC, 2021.

Notes:

a. "Development Regulations per Zoning District" represents maximum development potential after realignment of Hamilton Avenue.

b. The lot area for Hamilton Avenue Parcel North is 95,773 sf; the lot area for Hamilton Avenue Parcel South is 42,495 sf.

c. Hamilton Avenue Parcel North includes two legal parcels on one site.

Proposed Development and Districts

Main Project Site

The Proposed Project would redevelop an existing industrial, office, and warehouse complex into a mixed-use neighborhood that would connect to surrounding areas of Menlo Park and East Palo Alto. The mixed-use "village" would include up to 1,730 residential units; up to 200,000 sf of retail (non-office commercial) uses; up to 193 hotel rooms, along with accessory uses (e.g., restaurant and bar); and up to 1.6 million sf of office and accessory uses, consisting of up to 1.25 million sf of office space, with the balance (i.e., 350,000 sf of meeting/collaboration and accessory space if office space is maximized) in multiple buildings. In addition, other site improvements would include grading to elevate the property above the adopted Federal Emergency Management Agency (FEMA) base flood elevation (BFE), complying with the sea-level rise requirements of the City's Zoning Ordinance, creating buildable pads, and constructing a new circulation network, new utilities, new open spaces, and improvements at key connection points on O'Brien Drive, the proposed Park Street, Adams Court, and Hamilton Avenue. All components of the Proposed Project are discussed in detail below.

The Proposed Project would develop publicly accessible spaces within a network of streets, open spaces, and areas where neighbors, residents, and workers could work and assemble. As shown in Figure 2-5, Conceptual District Plan on Main Project Site, the Proposed Project would be arranged around a landscaped town square and separated into three distinct districts, a Residential/Shopping District, a Town Square District, and a Campus District. Main Street would bisect the main Project Site and connect the three districts. The pedestrian-oriented Main Street, as discussed in more detail below, would include ground-floor retail, sidewalks, street lighting, and outdoor seating. Main Street would connect to the Town Square and the approximately 2.0-acre Elevated Park for bicyclists and pedestrians. It would also connect from the Belle Haven neighborhood (from Hamilton Avenue Parcel North), over Willow Road, and across the main Project Site. Throughout the main Project Site, the Proposed Project would provide traditional community-serving retail uses, including a grocery store, pharmacy services[12] restaurants, entertainment venues, and other shops; below market-rate and market-rate housing; a hotel; an Office Campus, including amenity space, planned to be occupied by Meta; accessory use space for campus workers and visitors; private and publicly accessible open spaces; bicycle and pedestrian facilities; and transportation improvements.[13]

R-MU-B Uses: Residential/Shopping District

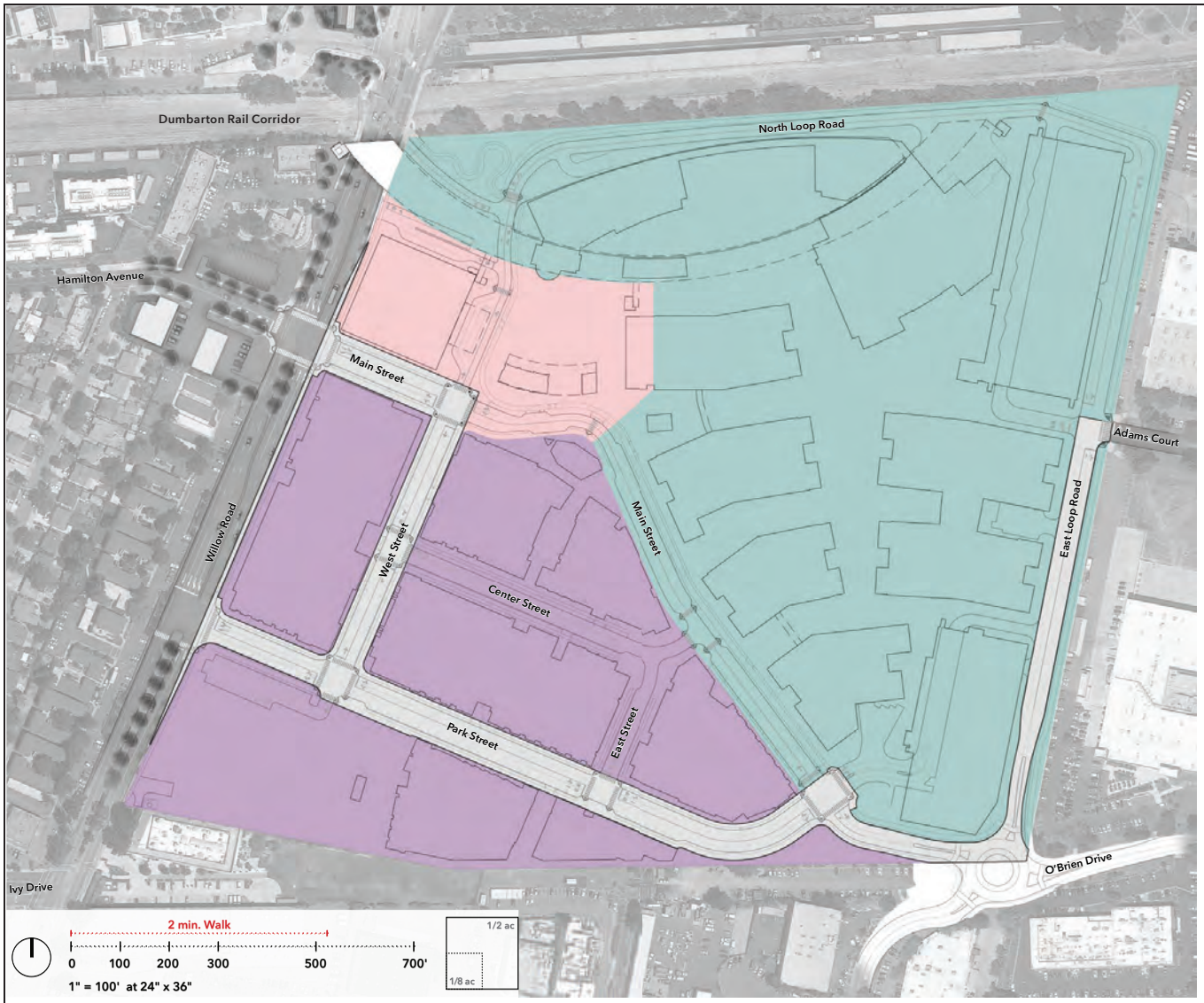
The approximately 17.7-acre[14] Residential/Shopping District would be in the southwestern portion of the main Project Site, representing the "live/play" component of the Proposed Project. The entire Residential/Shopping District would be generally within the portion of the site that is currently zoned R-MU-B. Approximately 100,000 sf of retail uses would be provided in the Residential/Shopping District, which could include uses such as a grocery store, entertainment space, and other retail and dining uses (the remainder of the 200,000 sf would be part of the Town Square and Campus Districts).

---

[12] Alternatively, the pharmacy may be located on the Hamilton Avenue Parcel North.

[13] Accessory uses could include the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitor center, product demonstration areas, a film studio, gathering terraces and private gardens, and space for other Meta accessory uses. Accessory uses could occur in spaces located anywhere throughout the Campus District.

[14] Including private and public rights-of-way.



LEGEND		
	Town Square District	4.33 acre
	Campus District	31.72 acre
	Residential / Shopping District	17.67 acre
	Public R.O.W.	5.64 acre
	Total	59.36 acre

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-5
Conceptual District Plan on Main Project Site

Also included in this Residential/Shopping District would be up to 1,730 multi-family rental units within multiple buildings, with approximately 1,695,976 sf of studio and one-, two- and three-bedroom apartments as well as active ground-floor uses. Of the proposed units, at least 15 percent (260 of the 1,730 units), and possibly up to 17.8 percent (308 of the 1,730 units), would be below-market-rate rental units, which would be located throughout the district. The below-market-rate units would include a dedicated senior housing community (up to 120 units).[15]

It is currently anticipated that, if the maximum number of residential units were constructed, the 1,730 units[16] would be distributed as follows:

- Studios: 29 percent (approximately 501 units)
- One-bedroom residential units: 32 percent (approximately 561 units)
- One-bedroom-plus-den residential units: 9 percent (approximately 158 units)
- Two-bedroom residential units: 27 percent (approximately 459 units)
- Three-bedroom residential units: 3 percent (approximately 51 units)

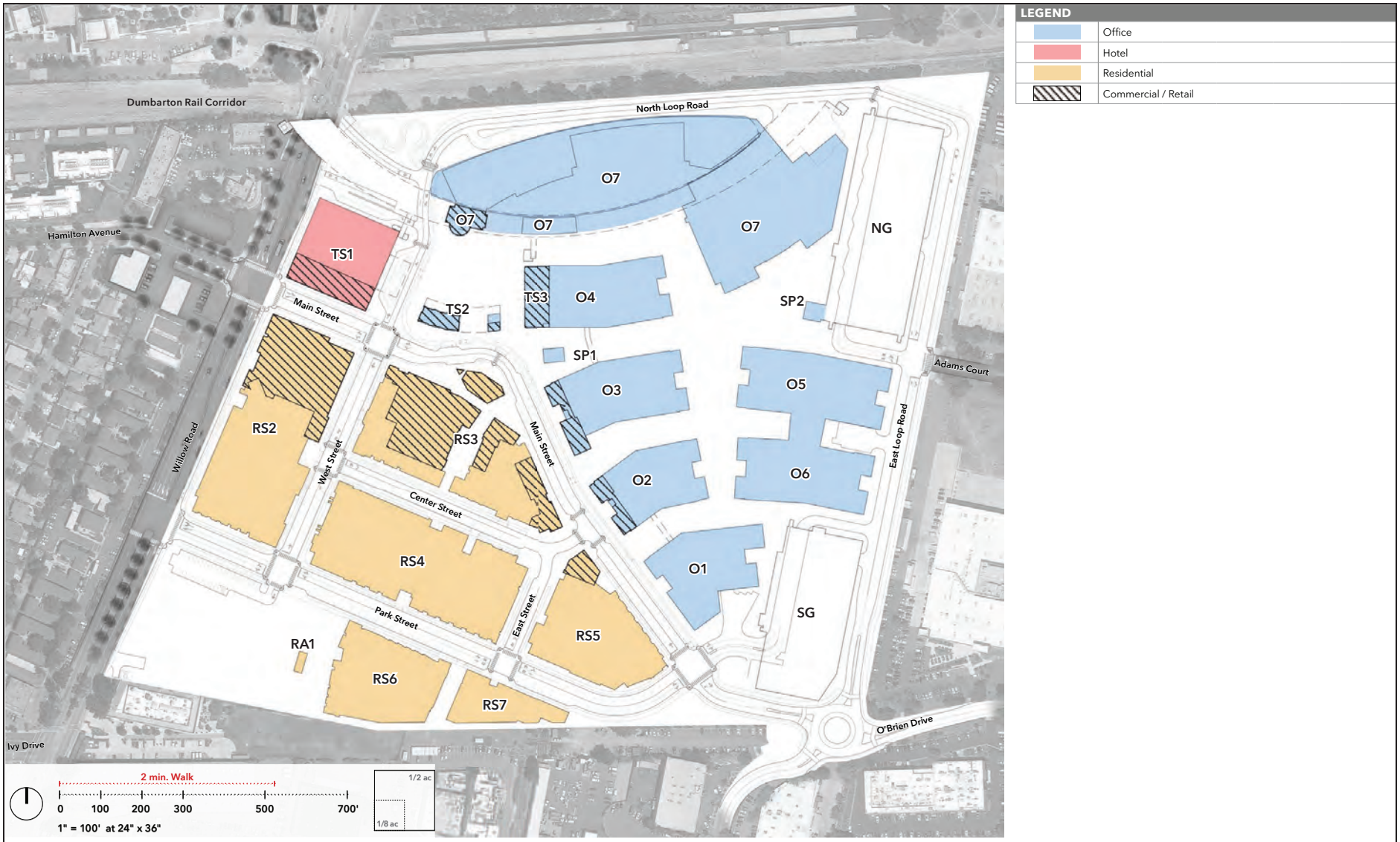
The illustrative plan for the Residential/Shopping District includes six buildings (Buildings RS2 through RS7) (see Figure 2-6, Illustrative Building Locations on Main Project Site, for building locations), with footprints ranging from approximately 20,000 to 117,000 sf. The total for all footprints in the Residential/Shopping District would be approximately 427,690 sf. The maximum heights for the mixed-use buildings would range from 15 to 85 feet, with an average height of approximately 62.5 feet for the buildings in the R-MU-B zoning district. The building heights currently identified in the master plan are conceptual and may change; however, the average and maximum heights for the Proposed Project would be set by the CDP, with compliance ensured through architectural control and subsequent building permit review. The increase in maximum height above the 80-foot limit of the City Zoning Ordinance, for the building bounded by Main Street, Center Street, and West Street, would be incorporated into the CDP as an adjustment to the development regulations.[17] Residential parking would be provided in each building, with visitor parking on selected streets within the Residential/Shopping District. Each building would include roof decks and/or roof terraces for residential uses. The residential blocks would provide open space opportunities, consistent with the requirements identified in the City Zoning Ordinance. Open space areas would provide common amenities and gathering areas as well as private spaces, which may include balconies, patios, podium-level open spaces, and rooftop spaces. The open spaces flanking the buildings would be activated with residential entries, patios, stoops, and landscaped areas (see Figure 2-7, Illustrative Open Space Plan on Main Project Site).

The approximately 3.54-acre Publicly Accessible Park would be in the southwest corner of the Residential/Shopping District, providing passive and active recreational areas and public restrooms. The location of the park would allow residents of the Proposed Project to access the facility, along with

[15] The distribution of senior units would be as follows: 90 percent studios, 9 percent one-bedroom units, 1 percent two-bedroom units.

[16] As a Project variant, the maximum residential unit count would be increased by approximately 200 units to 1,930 units. Please refer to Chapter 5, *Project Variants*, of this Draft EIR for more information.

[17] R-MU Zoning allows 70 feet, plus 10 feet for sea-level rise adaptation.

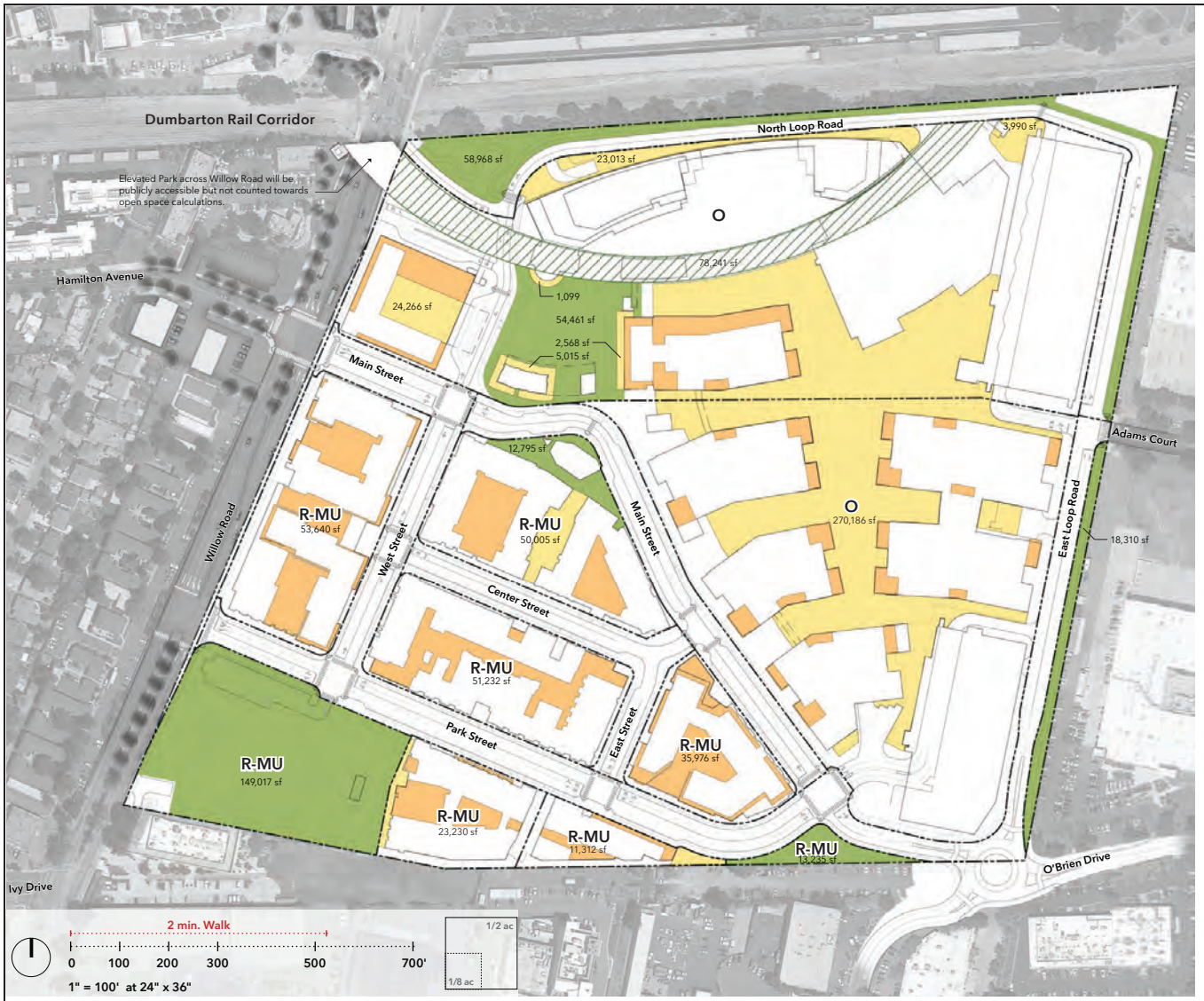


Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-6
Illustrative Building Locations on Main Project Site



LEGEND

	Open Space (Publicly Accessible)
	Elevated Open Space (Publicly Accessible)
	At-grade Open Space (No Public Access)*
	Above-grade Open Space (No Public Access)**

* Includes covered open space.
** Includes above-grade open space such as, roof and podium level decks, terraces, balconies, gardens, etc.

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-7
Illustrative Open Space Plan on Main Project Site

residents of the surrounding neighborhoods. The Publicly Accessible Park would be privately maintained and could include active programming, passive programming, or a combination of active and passive programming. The park would include play structures, gardens, public off-street parking, picnic areas, and open field areas for warm-ups or casual play. An additional 0.3-acre publicly accessible open space area (Dog Park) in the southeastern portion of the Residential/Shopping District would accommodate, in addition to a dog park, opportunities for passive recreation.

O-B Uses: Town Square District

The approximately 4-acre[18] Town Square District, in the northwestern portion of the main Project Site, would form the center of the proposed village. The entire Town Square District would generally correspond to the area of the main Project Site zoned O-B (Office-Bonus). A mix of uses would be organized around an approximately 1.5-acre Town Square that would be surrounded by a hotel (Building TS1, including retail uses), adjacent residential lobbies, public sidewalks, and bicycle lanes. In addition, the Town Square District would feature three buildings with approximately 50,000 sf of food and retail uses. The Town Square District's hotel uses, with ground-floor retail and restaurant uses, as well as the adjacent residential uses in the Residential/Shopping District are proposed to connect to surrounding sidewalks and a square with café seating. The Town Square District is envisioned as flexible space that would accommodate a range of activities, from passive recreation to seasonal markets and public events.

The Town Square District would be anchored by the approximately 2.0-acre Elevated Park, a bicyclist- and pedestrian-friendly Publicly Accessible Park along the northern boundary of the Campus District. The Elevated Park would include bicycle paths, pedestrian walking trails, gardens with native drought-tolerant and adapted species, lawns, interpretive horticultural exhibits, seating areas, picnic areas, and security and safety infrastructure. The Elevated Park would be constructed above grade, providing views to the south over the main Project Site, to the north toward Don Edwards San Francisco Bay National Wildlife Refuge, and to the east toward San Francisco Bay. The Elevated Park would provide public access to the Town Square District directly from the Belle Haven neighborhood via an access point (stairs and elevator) at the northeast corner of Hamilton Avenue Parcel North. Specifically, the Elevated Park would provide a grade-separated connection between the Belle Haven neighborhood at Hamilton Avenue Parcel North and the main Project Site. Bicyclists and pedestrians would not need to cross Willow Road at grade. Instead, they could use the publicly accessible stairs and elevators at Hamilton Avenue Parcel North.

The up to 193-room hotel (approximately 172,000 sf), with a maximum height of 110 feet but depicted in the illustrative plan at a height of up to 84 feet, would be on the western boundary of the Town Square District. The hotel would include retail space, which is included in the approximately 50,000 sf of retail space in the Town Square District. In addition, parking for visitors to the Town Square District and visitors to the Campus District would be provided in a shared-use subterranean parking garage located below the Town Square in the Town Square District. The parking garage would accommodate visitors to the campus, hotel guests, and patrons of the retail and entertainment establishments. Parking for retail uses would be provided around the Town Square District and in the garages in the Residential/Shopping District.

[18] Including private and public rights-of-way.

O-B Uses: Campus District

The approximately 32-acre Campus District component of the Proposed Project would be in the northeastern and central portions of the main Project Site, adjacent to the Dumbarton Rail Corridor and the life science buildings east of the main Project Site (Menlo Park Labs Campus). This district, which would generally not be publicly accessible, would accommodate office uses (including amenity uses), accessory uses (including a meeting and collaboration space), and two above-grade parking structures. Within the office buildings fronting Main Street, the ground floors would include publicly accessible retail spaces that would be accessed from Main Street. The office uses within the Campus District would not be accessible from the publicly accessible retail spaces.

Publicly accessible open space would wrap around this area to provide a transition between the Campus District and the adjacent Residential/Shopping District and Town Square District. Publicly accessible gardens within the integrated 2.0-acre Elevated Park in the northern area of the Campus District would connect the Belle Haven neighborhood to the main Project Site.

The office buildings (Buildings O1 through O6 [see Figure 2-6, Illustrative Building Locations on the Main Project Site]) would be organized around a secure central pedestrian promenade. Landscape-integrated elements, such as topographic features, site features, and planted areas, would be combined with multi-functional elements, such as benches or well-designed bollards, to define the secure perimeter of the Campus District. The Elevated Park, which would cross through the secure Campus District above the secure central pedestrian promenade, would be publicly accessible during operating hours, as would a Meta visitors center. On the main Project Site, access to the Elevated Park would be through stairs and elevators within the Town Square as well as at the northeastern end of the Elevated Park. At building loading docks, a combination of security booths, gate arms, and pop-up bollards would create a secure environment for the campus.

The Campus District would include up to 1.6 million sf of office and accessory space, consisting of up to 1.25 million sf of office space, with the balance (i.e., 350,000 sf of meeting and collaboration space, if office space is maximized)in multiple buildings, not including the publicly accessible retail spaces distributed along Main Street.

All proposed buildings in the Campus District are expected to be included as part of the greater Meta Campus in the Bayfront Area for use by Meta workers and visitors. Although the Willow Village Campus District would be open to all Meta workers, the amenity and accessory uses within the Campus District, such as dining and support services, would not replace existing uses within other Meta campuses and buildings in Menlo Park. The office uses would include typical office functions plus a variety of amenities for campus workers and visitors, such as food service facilities, ATMs, dry cleaners, a fitness facility, and personal services. Accessory uses could include the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitors center, product demonstration areas, a film studio, gathering terraces and private gardens, and space for other accessory uses for Meta. The accessory uses would consist of meetings and events programmed by Meta and available to Meta workers and guests. The accessory uses could be located anywhere throughout the Campus District, although it currently is anticipated that they would be located mostly in the meeting and collaboration space (described below).

Parking would be provided primarily in two above-ground parking structures in the northeastern and southeastern portions of the main Project Site (North Garage and South Garage) as well as a subterranean parking beneath Building O7 (see Figure 2-6, Illustrative Building Locations on Main Project Site). Combined, these parking structures would provide approximately 3,680 parking spaces.[19] Both above-ground parking structures would include ground-level transit stops, along with a transit hub for Meta's commuter shuttles and inter-campus trams, as discussed in more detail below.

The Campus District would include a meeting and collaboration space, consisting of buildings and private gardens located within a sun-shaded, rain-protected covered area north of the Elevated Park, as well as a Meta visitors center and an event building south of the Elevated Park. The meeting and collaboration space would include terraces and connecting pathways, stairs, and ramps for accessing the seating and gathering areas. Office uses could also be included within this area. Although the meeting and collaboration space would not be publicly accessible, the Elevated Park and the Meta visitors center would be publicly accessible. The meeting and collaboration space, which could include accessory uses (as described above) and office space, would be connected to the onsite office space via secure zones.[20]

The accessory uses proposed in the meeting and collaboration space and elsewhere in the Campus District would be used by Meta workers during the normal course of business. The Campus District would accommodate uses ranging from intimately scaled events to large gatherings, such as office functions, recreational uses, and a variety of Meta-oriented meetings or events. It is anticipated that three categories of events[21] with a majority of non-Menlo Park workers and guests would occur in the Campus District up to 55 days annually, as identified in Table 2-5, below.

Table 2-5. Event Utilization

Event Type	Attendees		Number of Days
	Low	High	
Small	100	1,000	30
Medium	1,001	2,500	15
Large	2,501	5,000	10

Source: Peninsula Innovation Partners, LLC, 2021.

In addition to Meta events, the meeting and collaboration space could be made available on weekends for community events up to two times per year, consisting of up to one small (100- to 1,000-attendee) event and one medium (1,001- to 2,500-attendee) event. These events would be limited to local community activities and would not be expected to draw significant attendance from outside the immediate community. The meeting and collaboration space would not be available for rental for private events.

[19] The 3,680 parking spaces proposed falls within CDP standards, providing a minimum of 3,200 spaces for office uses and a maximum of 3,700 spaces.

[20] Secure zones are areas that fall within the access-controlled security perimeter of the Meta-owned Campus and are not open to the public. Workers and guests within the secure zone will be able to move between the Office Campus and Meta Campus via a controlled access point beneath the Elevated Park.

[21] An *event* is defined as an activity in which the majority of attendees are non-Menlo Park Meta workers or invited guests. The conference and meeting facilities are not planned for use by the general public.

To support the Campus District and serve visitors, as well as the new residential neighborhoods in the Residential/Shopping District and the Town Square District, ground-level retail space in the Campus District along Main Street would be open to the public, providing a variety of active retail establishments, restaurants, and services. The publicly accessible ground-floor retail uses, landscaped sidewalk areas, outdoor seating areas, and urban gardens would provide a buffer between the three districts.

The Campus District would include a secure interior open space, along with smaller-scale open spaces and pathways between buildings. These pathways would connect to the primary pedestrian thoroughfare, which would link the north and south ends of the Campus District. A large, private open space would be provided in the northern portion of the Campus District, north of the Elevated Park, to accommodate large office gatherings, recreational uses, and a variety of outdoor experiences.

To provide connectivity between Adams Court, which intersects with the eastern boundary of the Campus District, and Willow Road, which abuts the northwest boundary of the Campus District, the northern segments of East Loop Road and North Loop Road would extend southward to create an intersection at Main Street and a connection to Willow Road. The proposed alignments for East Loop Road and North Loop Road would allow for a secure Office Campus. East Loop Road would align with the eastern perimeter of the Office Campus from the O'Brien Drive intersection, creating a new intersection at approximately the midway point along Adams Court. At that point, the road would transition to the west, becoming North Loop Road along the northern property boundary, and align with the West Street extension to provide direct access to the Willow Road Tunnel lanes and intersect with Main Street. East Loop Road and North Loop Road would accommodate vehicles and provide access for bicyclists and pedestrians in the adjacent proposed multi-use pathway.

The proposed office buildings, depicted in the illustrative plans as a mix of four- or five-story buildings and smaller single-story buildings, would include distinctive architectural designs that could be viewed from different vantage points in the Residential/Shopping District and the Town Square District. The maximum height for the office buildings would be 120 feet. In general, office building heights would range from 20 to 120 feet.

The Campus District would also include two central plants to distribute chilled water, which would efficiently address office cooling demands. The water-cooled, chiller-based central energy plant would consist of cooling towers, condenser water pumps, chillers, and pumps for chilled water. An energy model would be created for each building to determine the appropriate capacity of the central energy plant. To comply with Menlo Park's Reach Code requirements, which call for all-electric buildings, each office building would have its own all-electric heating plant, including heat pumps or electric boilers, as well as associated pumping systems. The meeting and collaboration space would have a centralized plant in the South Garage where all hot water would be produced by heat pumps located within the footprint of the parking garages serving the office buildings.

Hamilton Avenue Parcels North and South

In addition to the proposed changes on the main Project Site, the Proposed Project would alter Hamilton Avenue Parcels North and South, which, combined, cover approximately 3.1 acres. The proposed changes to these parcels would support realignment of the Hamilton Avenue right-of-way approximately 150 feet to the south and provide western access to the proposed Elevated Park. The alterations would require demolition and reconstruction of a service station (with a potential increase in square footage of approximately 1,000 sf) on Hamilton Avenue Parcel South and targeted demolition on Hamilton Avenue Parcel North for access to the Elevated Park and the possible addition of up to 6,700 sf of retail space in a

new building or an addition to existing shopping-center buildings. Additional details regarding the new Hamilton Avenue/Willow Road intersection and sight access are provided under *Vehicular Access and Circulation*, below.[22]

Hamilton Avenue Parcel North. Hamilton Avenue Parcel North includes two parcels and covers approximately 1.8 acres. The site is developed with approximately 15,700 sf of restaurant/retail uses at 871–883 Hamilton Avenue (Belle Haven Retail Center) and 1401 Willow Road (Jack in the Box restaurant). To accommodate the new Hamilton Avenue realignment and the new elevator and stairs to the Elevated Park, some of the existing site improvements would be demolished, including a portion of the adjacent building at 1401 Willow Road, which might be demolished, with the balance of the existing buildings remaining.

The realignment would push Hamilton Avenue to the south and provide additional land in the southeast corner of the site, thereby increasing Hamilton Avenue Parcel North to 2.2 acres. This acreage would allow the creation of a third parcel, increase the square footage of the building, and provide new parking areas. This would also enlarge the southern portion of the western building—specifically, adding up to approximately 6,700 sf of space and 27 more parking spaces. In total, retail uses on Hamilton Avenue Parcel North would encompass up to approximately 22,402 sf; the total number of parking spaces would increase to 93, resulting in a parking ratio of 4.16 spaces per 1,000 sf. Pending market conditions, the new space may attract additional tenants, including, but not limited to, a pharmacy services, personal services, specialty retailers, and up to two new drive-through establishments.

No modifications are anticipated at the northern part of the western building, the drive-through building at the center of the site, or the building at the northwest part of the site. The existing driveways to the retail center would be modified to accommodate realignment of Hamilton Avenue; however, driveways would continue to be located at both Hamilton Avenue and Willow Road.

Access to the Elevated Park would be provided in the northeast corner of Hamilton Avenue North, adjacent to the Dumbarton Rail Corridor and Willow Road. Five existing parking spaces, associated parking lot features, and a portion of the adjacent building would be demolished, then relocated elsewhere on the site. A staircase and elevator would be constructed in this area for access to the bicycle and pedestrian overcrossing at Willow Road and the proposed Elevated Park. The elevator and stair access would be approximately 50 feet in height, with a footprint of approximately 750 sf. The structure would be Americans with Disabilities Act (ADA) accessible, with both stairs and an oversized elevator designed to accommodate bicycles. The design of the structure would site the elevator within the "core," with the access stairs wrapping around the perimeter of the structure, the intended purpose of which would be to accommodate two modes of vertical transportation to the Elevated Park.

Hamilton Avenue Parcel South. Hamilton Avenue Parcel South, located at 1399 Willow Road, covers approximately 1.3 acres. It is currently developed with a service station. The existing service station has 12 gas pumps, approximately 3,270 sf of retail space, and a 1,500 sf car wash. To accommodate the Hamilton Avenue realignment, Hamilton Avenue Parcel South would be reduced in size to approximately 1 acre. In addition, the service station at Hamilton Avenue Parcel South would be demolished and reconstructed. The reconstructed service station would include a retail component with an area of approximately 4,785 sf (an increase of 1,515 sf) and a car wash with 975 sf (a decrease of 525 sf), for an overall building footprint of 5,760 sf (an increase of 990 sf). The service station would have 12 gas pumps

[22] As a Project variant, preservation of the existing alignment of the Willow Road/Hamilton Avenue intersection is proposed in the event the relocation of the service station on Hamilton Avenue Parcel South is not feasible in the time frame of the Proposed Project's Phase 2. Please refer to Chapter 5, *Project Variants*, for more information.

(same as under existing conditions). Hamilton Avenue Parcel South would include 13 parking spaces (2.26 spaces per 1,000 sf). However, site access would be reconfigured, and the retail store would be located toward the rear of the parcel. The gas pumps would be located along the Willow Road frontage. The service station would be south of the relocated Hamilton Avenue (same as under existing conditions).

Overall Site Design and Landscaping

Site Design

As described above, the Proposed Project would develop public spaces, including a network of streets, open spaces, and areas where neighbors, residents, and workers would live, work, and recreate. The main Project Site would be anchored by the Publicly Accessible Park along the southern boundary; the Town Square would provide a gathering space at the center of the main Project Site. A bicyclist- and pedestrian-friendly Main Street would bisect the main Project Site with a diagonal alignment, connecting O'Brien Drive to the south, Willow Road to the north, and all three districts. Main Street would link the northern areas of the main Project Site to the southern end by connecting the streets and paths. Main Street would support multi-modal transportation, with a shared plaza-like environment for bicyclists, pedestrians, and vehicles.

Retail establishments, residential lobbies and units, office entrances, open spaces, and other active ground-floor uses would line Main Street. At the northern portion of Main Street, bicyclists and pedestrians would be guided through the Town Square to a proposed below-grade crossing at Willow Road. Willow Road Tunnel would provide direct access to the existing Meta West Campus and a connection to the existing undercrossing below Bayfront Expressway that links with the San Francisco Bay Trail (Bay Trail) and the Meta East and West Campuses. The proposed grade-separated Willow Road Tunnel, running between the main Project Site and the West Campus, would be open to the public, providing a below-grade crossing at Willow Road for bicyclists and pedestrians. Vehicle usage would be limited to Meta trams, Meta ride-share vehicles, and smaller emergency vehicles. In addition, the Elevated Park in the northern portion of the main Project Site would connect to Hamilton Avenue Parcel North via an overcrossing at Willow Road. The Elevated Park, which would provide an alternative bicycle and pedestrian route across Willow Road from the Town Square District to the Belle Haven neighborhood, would be accessible via stairs and elevators.

Access to the Elevated Park from the Hamilton Avenue Parcel North would be provided by an elevator and stairs in the northeastern portion of the parcel. The exact location has not been determined. However, the structure might encroach into the City public utility and access easement by up 500 sf; eliminate five vehicle parking spaces, to be relocated elsewhere on the site; and require removal of a portion of the adjacent building at 1401 Willow Road. The elevator and stair structure would be approximately 50 feet in height, with an approximately 750 sf footprint. The structure would be ADA accessible, with both stairs and an oversized elevator designed to accommodate bicycles. The design of the structure would site the elevator within the "core," with the stairs wrapping around the perimeter of the structure.

The Proposed Project's interconnected pattern of streets, short blocks, activated building frontages for a variety of uses, and sidewalks would promote pedestrian activity. Stormwater treatment facilities would be located between roadways and sidewalks to separate pedestrians from vehicle traffic. Two gateways would be included at the main Project Site, one at Main Street, to the northwest, and one at O'Brien Drive, to the southeast. These gateways would feature distinctive public art, wayfinding signage, and other monuments to promote entry and connectivity to retail and recreational opportunities. The Hamilton Avenue/Willow Road/Main Street intersection would include upgraded signal crossings, extending from

Hamilton Avenue Parcels North and South to the main Project Site. This upgraded intersection would provide bicyclist and pedestrian access from the Belle Haven neighborhood to the Town Square and its uses. Public parking would be located near all new retail businesses and the Town Square, with vehicles entering from O'Brien Drive, Willow Road, and Adams Court.

Building Design and Lighting

All buildings within the main Project Site (all three districts) would be designed for Leadership in Energy and Environmental Design (LEED) Gold (Residential/Shopping District and Campus District) and Silver (Town Square District) certification. Buildings that are less than 10,000 sf in size (e.g., the south pavilion and park restroom building) would not be certified under LEED. Those buildings would comply with other zoning ordinance requirements, green and sustainability building requirements, and the California Green Building Standards (CALGreen) code, as appropriate. Other design measures would meet or exceed criteria established by the City's General Plan and zoning standards. The Proposed Project would be designed to comply with the City's Reach Code and electric-vehicle charging requirements. Building orientation would be refined to enable effective solar control. Façade design measures, such as exterior shading and glazing treatments, would be designed to provide daylight and mitigate heat gain. Glazing designs and envelope construction assemblies would consider thermal performance. Low-emitting materials would be required for interior paints, coatings, sealants, adhesives, finishes, and flooring, thereby aligning with the CALGreen code to prevent occupant exposure to chemicals. In addition, sustainable building practices that exceed CALGreen Tier 2 criteria would be incorporated into the Project design.

Project Site lighting would comply with CALGreen and City lighting guidelines for all three districts. All fixtures would be energy efficient and designed to reduce glare and unnecessary light spillage. Occupancy controls for non-emergency lighting as well as safety lighting for vehicles and pedestrians would be provided in accordance with Title 24. Light fixtures throughout the main Project Site would be designed for bicyclists, pedestrians, and vehicles. Bird-friendly glazing strategies, such as fritting[23] on the glass, would be included throughout the development to minimize negative impacts on local and migrating bird populations, in accordance with Menlo Park Municipal Code Sections 16.43.140(6) and 16.45.1330(6). Refer to Section 3.9, *Biological Resources*, of this Draft EIR for more information regarding bird-friendly design strategies.

Design specifications for the buildings at Hamilton Avenue Parcels North and South would adhere to the requirements set forth for the C-2-S zoning district.

Landscaping

Landscaping at the Project Site would include a combination of native, drought-tolerant, and adapted species and comply with the Menlo Park Water-Efficient Landscaping Ordinance. Gardens would be placed throughout the main Project Site with a variety of textures and colors, while lawns would be limited to functional areas where recreational programs would support active use. The natural areas would be planted using a wide variety of native species, with a focus on habitat and stormwater treatment functions. Native and adapted plants with low irrigation demands would compose the landscape vegetation palette. Pervious paving, stormwater gardens, bioretention areas, flow-through planters, and other features would be integrated within the design of the streets and parks to create

[23] Per Menlo Park Municipal Code Sections 16.43.140(6) and 16.45.130(6), bird-friendly techniques, such as fritting, involve the application of patterns to glass by fabricators to help direct birds away from glass.

functional facilities and visual interest. These treatment areas would receive stormwater runoff that would be diverted from impervious surfaces associated with public and private streets within the main Project Site, roofs, and other hardscapes.

The main Project Site currently includes 784 trees, which are planted mainly in parkways and pavement cutouts adjacent to buildings, parking lots, and streets. Of the existing trees, 274 qualify as "heritage trees," per the City's Heritage Tree Ordinance. Per the most recent Project plans, Project arborist report, and heritage tree removal permits, 760 existing trees (266 heritage trees and 494 non-heritage trees would be removed for construction of the Proposed Project, including the grading required to raise the main Project Site above the floodplain elevation. Eight heritage trees and 16 non-heritage trees would remain in place. Current site plans include planting approximately 822 new trees. Heritage tree replacements would meet the City's replacement value requirements, based on the valuation of the existing heritage trees proposed to be removed. The main Project Site would include both native and adapted trees.

Hamilton Avenue Parcels North and South contain 141 trees, with 18 qualifying as heritage trees. The 18 heritage trees comprise two species: 13 coast redwoods and five coast live oaks. The most numerous tree species on Hamilton Avenue Parcels North and South are Chinese pistache (*Pistacia chinensis*) (32 trees, including 16 City street trees) and red maple (*Acer rubrum*) (19 trees).[24] At Hamilton Avenue Parcels North and South, approximately 61 trees, including street trees and three heritage trees, would be removed to accommodate proposed changes; new landscaping would be provided along street frontages.

Hamilton Avenue Parcels North and South are currently developed and have approximately 71.0 percent impervious surfaces, consisting of buildings and hardscapes such as parking lots, paved paths, and drive aisles. Approximately 29.0 percent of the two parcels consist of pervious surfaces, including decorative landscaping and flow-through planters. Implementation of the Proposed Project on Hamilton Avenue Parcels North and South would result in an increase in impervious surface area compared with existing conditions (increasing to approximately 75.6 percent). To address runoff associated with the increase in impervious cover, onsite stormwater best management practices and treatment features would be implemented.

Site Access

The main Project Site would include a new circulation network, consisting of approximately 5.64 acres of public rights-of-way and approximately 7.18 acres of private streets, generally aligned in an east-to-west or north-to-south grid. The internal street network at the main Project Site would include safety and multi-modal mobility features. In addition to accommodating vehicular and transit access, proposed streets would be bicyclist and pedestrian oriented. Passenger loading and building servicing would be designed to minimize conflicts between pedestrians and vehicles. Transit connections, traffic-calming measures, and both structured and below-grade parking facilities would encourage bicyclist and pedestrian use throughout the site. Site access for all modes of transportation, as well as parking, is described in more detail below.

Vehicular Access

The main Project Site is currently accessible from a traffic signal-controlled intersection at Willow Road via Hamilton Avenue/Hamilton Court and two driveways off northbound Willow Road. Multiple curb-cut entrances off Hamilton Avenue/Hamilton Court lead into the primary parking area for each building.

[24] SBCA Tree Consulting. 2021. *Tree Survey.* April 1.

Hamilton Avenue Parcels North and South are both accessible via one driveway from southbound Willow Road and one driveway along Hamilton Avenue. To accommodate access to the main Project Site, the Proposed Project would include offsite improvements to Willow Road, Hamilton Avenue, O'Brien Drive, and Adams Court. The conceptual vehicular circulation plan and offsite improvements for the Project Site are shown in Figure 2-8, Conceptual Vehicular Circulation Plan on Project Site.

Willow Road

In order to provide adequate access to the main Project Site, improvements to Willow Road are proposed:

- Right-of-way widening to accommodate additional left-turn pockets.
- Creation of one new signalized intersection (Park Avenue).
- Relocation of one signalized intersection (Hamilton Avenue).
- Construction of a portion of the Elevated Park from the Hamilton Avenue Parcel North over Willow Road to the main Project Site.
- Construction of Willow Road Tunnel from the main Project Site to the West Campus.
- Construction of utilities and connection points for utilities.
- Sidewalk and landscape improvements.
- Bicycle and pedestrian improvements along the Project frontage and crossing improvements at the new intersections.

Hamilton Avenue

In conjunction with Project Site access, to improve traffic operations on Willow Road, the Hamilton Avenue/Willow Road intersection would be relocated approximately 150 feet south of the existing intersection. Both the relocated Hamilton Avenue and new Park Street intersections would include dual left-turn lanes from southbound Willow Road into the main Project Site to provide increased left-turn capacity and improve operations on Willow Road. To accommodate the realignment of Hamilton Avenue at Willow Road, which would connect to Main Street to the east, the existing development on Hamilton Avenue Parcel South would be demolished, as explained in more detail above.

O'Brien Drive

At the southeast corner of the main Project Site, the Proposed Project would create a new four-legged roundabout at O'Brien Drive to accommodate site access and area circulation.[25] This intersection would require realignment of O'Brien Drive where it passes through the roundabout. The southern half of the roundabout would then overlay the Hetch Hetchy right-of-way. The new roundabout would provide direct access to Main Street and East Loop Road.

[25] Note that the intersection design is still being developed; it may include a four-way signal-controlled intersection. The design of the intersection would be subject to review and approval by the City and the San Francisco Public Utilities Commission.

LEGEND

	Vehicular Route
	Restricted Vehicular Route
	Sub-grade Vehicular Route
R	Passenger Loading / Drop-off (Metered Parking at Off-Peak Hours)
R	Passenger Loading / Drop-off
	Garage Access
	FB Commuter Shuttle and Tram Only Approach

Note: Proposed primary vehicle route is conceptual and may be subject to change.

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-8

Conceptual Vehicular Circulation Plan on Project Site

Adams Court and East Loop Road

On the east side of the main Project Site, East Loop Road would facilitate north and south circulation for the length of the main Project Site and create a new intersection at Adams Court. Currently, Adams Drive provides a connection to University Avenue east of the main Project Site. A traffic signal would be installed at the new intersection to accommodate northbound and southbound vehicular travel via East Loop Road and westbound and eastbound vehicular travel via Adams Court. The west approach of the intersection would be a transit-only exit from the transit hub in the north parking structure. The East Loop Road network would accommodate multi-modal transportation options, including private vehicle access for office workers as well as shuttles and trams for workers traveling to the proposed Willow Road Tunnel in the northwest portion of the main Project Site. In addition, East Loop Road would connect to the new roundabout at O'Brien Drive in the southeast portion of the main Project Site.

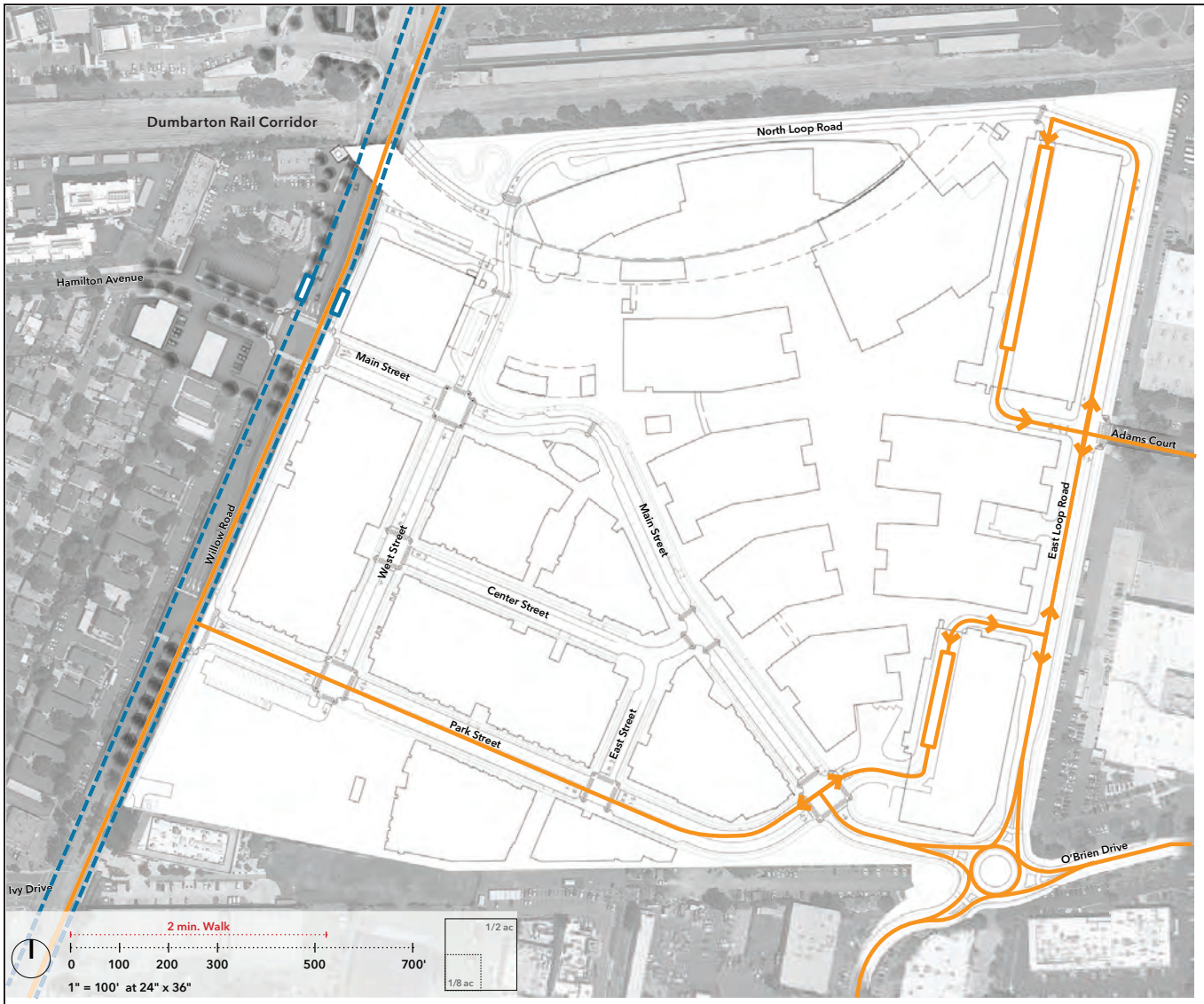
Transit and Tram Access

The two parking structures in the Campus District would include ground-level transit stops, providing a transit hub for Meta commuter shuttles and trams. Access to the transit hubs would be provided via East Loop Road and Park Street. It is currently anticipated that no buses would be permitted to access the Campus District from Main Street, which would be intended for users of the Residential/Shopping District and Town Square District, on typical business days. The conceptual shuttle and public bus routes are shown in Figure 2-9, Conceptual Shuttle and Public Bus Route on Main Project Site. The transit stops would be sited to allow shuttles to approach from Willow Road via Park Street or O'Brien Drive or from University Avenue via Adams Court. Within the Campus District, shuttles would operate mainly on the Park Street and East Loop Road network, with additional tram service on Main Street.

Planning for the Campus District considers connectivity to potential future regional transit improvements, such as potential improvements on the Dumbarton Rail Corridor. The Elevated Park could provide pedestrians with a direct connection from Town Square and Belle Haven to a future elevated Dumbarton transit station without vehicular conflicts. Pedestrians would have an elevator and stairs near the corner of the hotel to access the publicly accessible open space and Residential/Shopping District from the Elevated Park. In addition, pedestrians could leave a potential future Dumbarton transit station and follow the new sidewalks along Willow Road and enter the main Project Site along Main Street.

As shown in Figure 2-10, Conceptual Inter-Campus Tram Route, the existing inter-campus tram system connects the main Project Site to Meta's East Campus and West Campus as well as the Menlo Gateway Campus, Jefferson Place Campus, and Commonwealth Corporate Center. The East and West Campuses are connected via a grade-separated crossing under Bayfront Expressway. The remaining campuses are connected using public roadways, including Bayfront Expressway, Willow Road, and local city streets. Utilization of the tram system currently allows efficient movement of workers, minimizing vehicular traffic on local roadways. The trams operate at a maximum speed of 25 miles per hour within the existing campuses.

The main Project Site would include approximately six stops within the Campus District for the inter-campus tram. As shown in the conceptual tram routes in Figure 2-11, Conceptual Tram Route and Stops on Main Project Site, tram access to the main Project Site would be provided from the West Campus via a tunnel under Willow Road. The tram is anticipated to access the main Project Site via the Willow Road Tunnel, with a proposed stop in the vicinity of the intersection at North Loop Road, and travel east on



LEGEND

	Commuter Shuttle Route
	Shuttle Passenger Loading
	Existing Public Bus Route
	Relocated Public Bus Stop

Note: Proposed primary tram route is conceptual and may be subject to change.

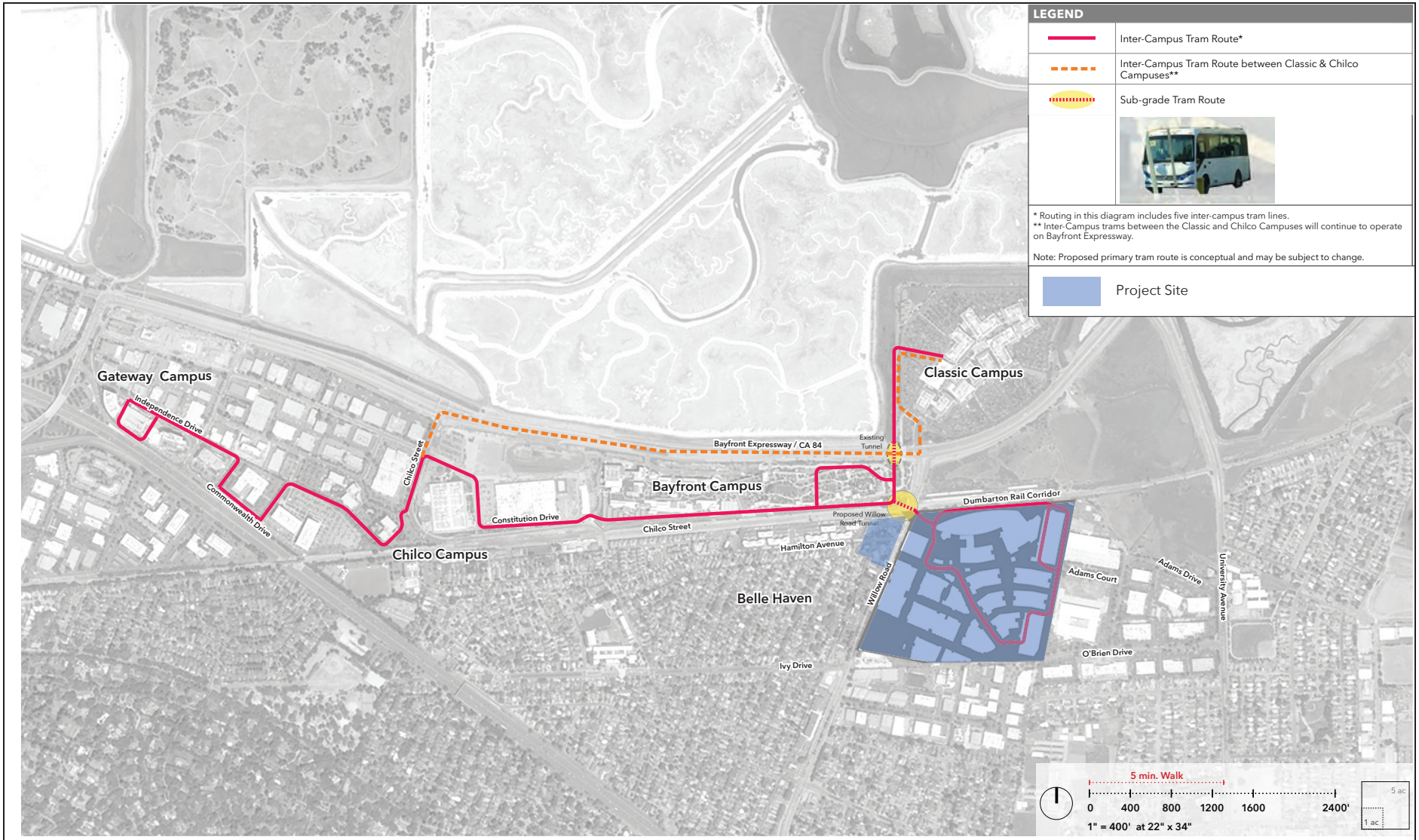
Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-9

Conceptual Shuttle and Public Bus Route on Main Project Site

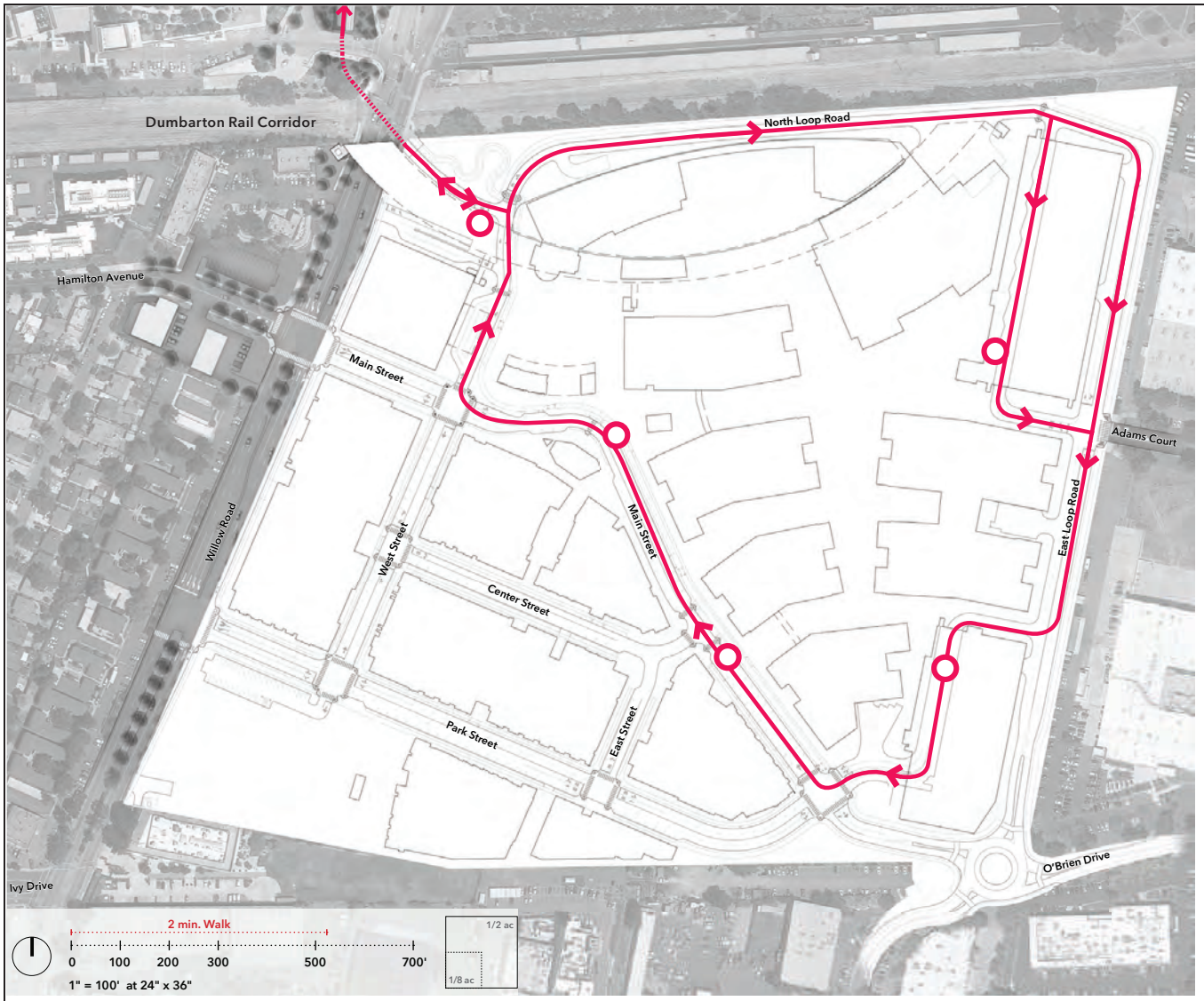


Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-10
Conceptual Inter-Campus Tram Route



LEGEND

———	Inter-Campus Tram Route
·····	Sub-grade Tram Route
O	Tram Stop

Note: Proposed primary tram route is conceptual and may be subject to change.

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-11

Conceptual Tram Route and Stops on Main Project Site

North Loop Road, with a stop near the Elevated Park to access the meeting and collaboration space. The tram would continue east on North Loop Road and transition into the transit hub within the northern parking structure, providing Office Campus access for workers. It would also travel south on East Loop Road to the southern parking structure, with a stop at the transit hub. The tram would then travel north on Main Street to access two anticipated stops on Main Street. The tram would turn right on West Street and return to the Willow Road Tunnel access lanes.

Willow Road Tunnel

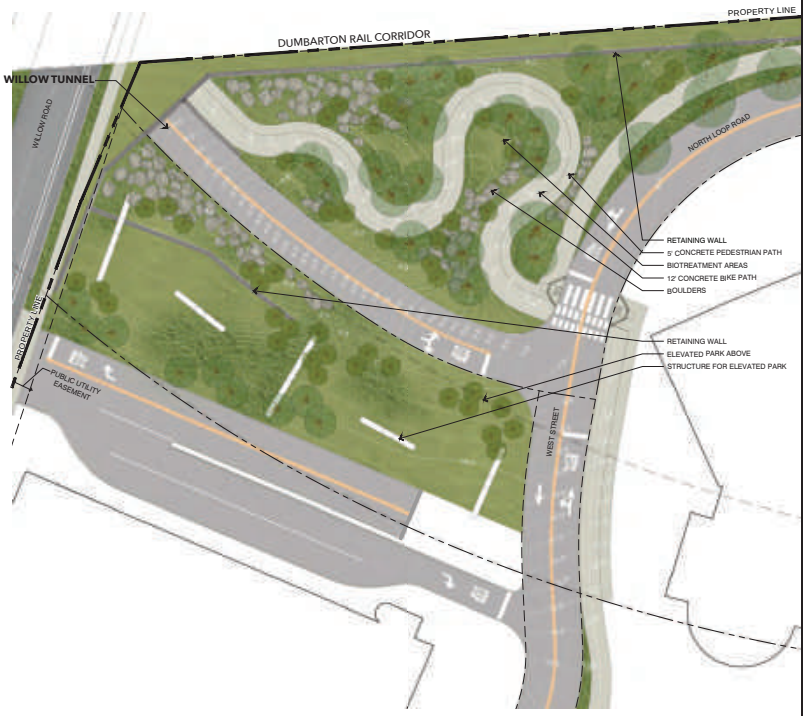
Willow Road Tunnel would be an approximately 18-foot-tall by 42-foot-wide tunnel, running under the existing Dumbarton Cutoff at Willow Road, to facilitate tram, service vehicle, bicycle, and pedestrian traffic between the main Project Site and the West Campus. As shown in Figure 2-12, Conceptual Willow Road Tunnel, the new Willow Road Tunnel would include two vehicular travel lanes (approximately 22 feet wide) for Meta trams and service vehicles and a separated path for bicyclists and pedestrians (approximately 15 feet wide). On the north side of the undercrossing, access improvements to the West Campus would include five new roadways and bicycle/pedestrian paths that would realign traffic to conform with the undercrossing and its north ramp, as follows:

- Service road and bicycle/pedestrian path parallel to and west of the north ramp that links Facebook Way to the West Campus (MPK 20) on the Bayfront Expressway side.
- Connector road for tram connections to/from the service road to/from the north ramp.
- Bicycle/pedestrian path to connect the north ramp to the West Campus (MPK 20) near Bayfront Expressway.
- Facebook Way bicycle path over the Willow Road Tunnel to connect Willow Road to Facebook Way and the service road.
- Two paths east of the north ramp for a bicycle/pedestrian connection from Willow Road to the north ramp from Facebook Way and Bayfront Expressway; one path would run parallel to Willow Road for bicycle and pedestrian travel from Bayfront Expressway to Facebook Way and be connected to two other paths that would connect to the north ramp.

To allow the north ramp and other connecting roadways to enter the Willow Road Tunnel north portal, new retaining walls would be constructed along the north ramp, with heights ranging from approximately 2 to 13 feet. The longest of these walls would extend approximately 180 feet on the east side of the ramp, starting from the tunnel portal. On the west side of the north ramp, the walls would extend from the tunnel portal approximately 150 feet to a point where it would meet the West Campus Connector Road wall. In addition, approximately 100 feet of wall on the north and south sides of the West Campus Connector Road would be required, along with approximately 70 feet of wall on the west side of the North Ramp between the West Campus Connector Road and the West Campus bicycle/pedestrian path. Approximately 140 feet of retaining wall would be constructed on both sides of the West Campus bicycle/pedestrian path, which would allow the path to slope down at an approximately 5 percent grade below the existing ground surface and connect to the north ramp.

Willow Road Tunnel is proposed to be constructed using cut-and-cover methods. Construction work would occur in two phases to allow traffic on Willow Road to flow on detours achieved by locally widening the roadway. The first phase would involve removing a section of Willow Road pavement as well as the railroad tracks belonging to the Dumbarton Corridor, an inactive spur line of the Southern Pacific Railroad that traversed San Francisco Bay between Menlo Park and Fremont, within the Willow Road right-of-way.

Willow Road Tunnel North Portal - West Campus



Conceptual Willow Road Tunnel/Willow Portal (Onsite)

Main Project Site

Main Project Site

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-12
Conceptual Willow Road Tunnel

It is anticipated that no more than 100 feet of the Dumbarton Corridor, the approximate length of the segment of track within the Willow Road right-of-way, would be temporarily removed during construction. The Dumbarton railroad tracks would be stored and subsequently reinstalled at their original location following the conclusion of tunnel construction. The Proposed Project would not physically alter the tracks, ties, ballast, or berm surrounding Willow Road. This phase of the tunnel construction would alter an existing 78-inch (inside diameter) underground storm drainpipe along the middle of Willow Road. To maintain gravity flow in the storm drain, a siphon structure would be installed under the tunnel, with connections to the pipe on both sides of the tunnel.

The second phase of tunnel construction would require temporary relocation of Facebook Way and its intersection with Willow Road to the north to allow completion of the cut-and-cover tunnel and north portal under Facebook Way.

With respect to utilities, the Willow Road Tunnel north portal and north ramp would be located to allow an existing 48-inch-diameter storm drain to remain in place. This storm drain runs perpendicular to the north ramp, just north of the portal. The layout of the tunnel and north ramp would be located to avoid impacts on a 12-inch-diameter water main that runs parallel to the north ramp and provides water to the East Campus. All other shallow utilities currently crossing the north ramp would be rerouted around the ramp or lowered. All utilities crossing Willow Road Tunnel are expected to be protected in place and supported during the cut-and-cover construction.

Truck Access

Based on the conceptual and illustrative plans, it is anticipated that the Campus District would include five primary loading docks at office buildings with major food service facilities (Buildings O1, O5, and O6 in the Conceptual District Plan). These loading docks would be accessed from East Loop Road and Park Street, near the South Garage. As depicted in the Conceptual District Plan, it is currently anticipated that Buildings O2, O3, and O4 would be serviced from on-street loading zones or connected to the primary Type A loading docks in adjacent buildings. It is currently anticipated that the Campus District would generate an average of 60 deliveries per day (approximately 1,800 per month). Deliveries would arrive at a centralized shipping/receiving hub on Gateway Boulevard in Newark and then continue to the Campus District. Deliveries for the grocery store are anticipated to range from 15 to 20 per day. Trucks of various sizes would be used; typically, no more than one or two full-size delivery trucks would be expected per day, with the balance being small delivery vans. Restaurants would anticipate deliveries twice a week for major supplies, except for baked goods, which would arrive daily in small van-type vehicles.

Emergency Vehicle Access

In the Residential/Shopping District and the Town Square District, emergency vehicle access would be provided:

- Along Willow Road via Main Street, Park Street, West Street, Center Street, and East Street.
- Along O'Brien Drive, extending to Main Street.
- From Adams Court, from the east intersection with East Loop Road.

Center Street and interior streets in the Residential/Shopping District and Town Square District would be privately owned and maintained. An Emergency Vehicle Access Easement (EVAE) would be in place to provide emergency vehicle access along the full perimeter of the Campus District as well as Main Street, East Loop Road, and North Loop Road. Emergency vehicles would be able to access the internal secure area of the Campus District via a clear throughway, which would be configured with a north–south alignment through the Campus District. Access to this internal circulation route would be provided from East Loop Road, immediately north of the South Garage, as well as from Town Square Plaza and North Loop Road. The final locations of the EVAEs would be subject to review and approval of the Menlo Park Fire Protection District and the City of Menlo Park.

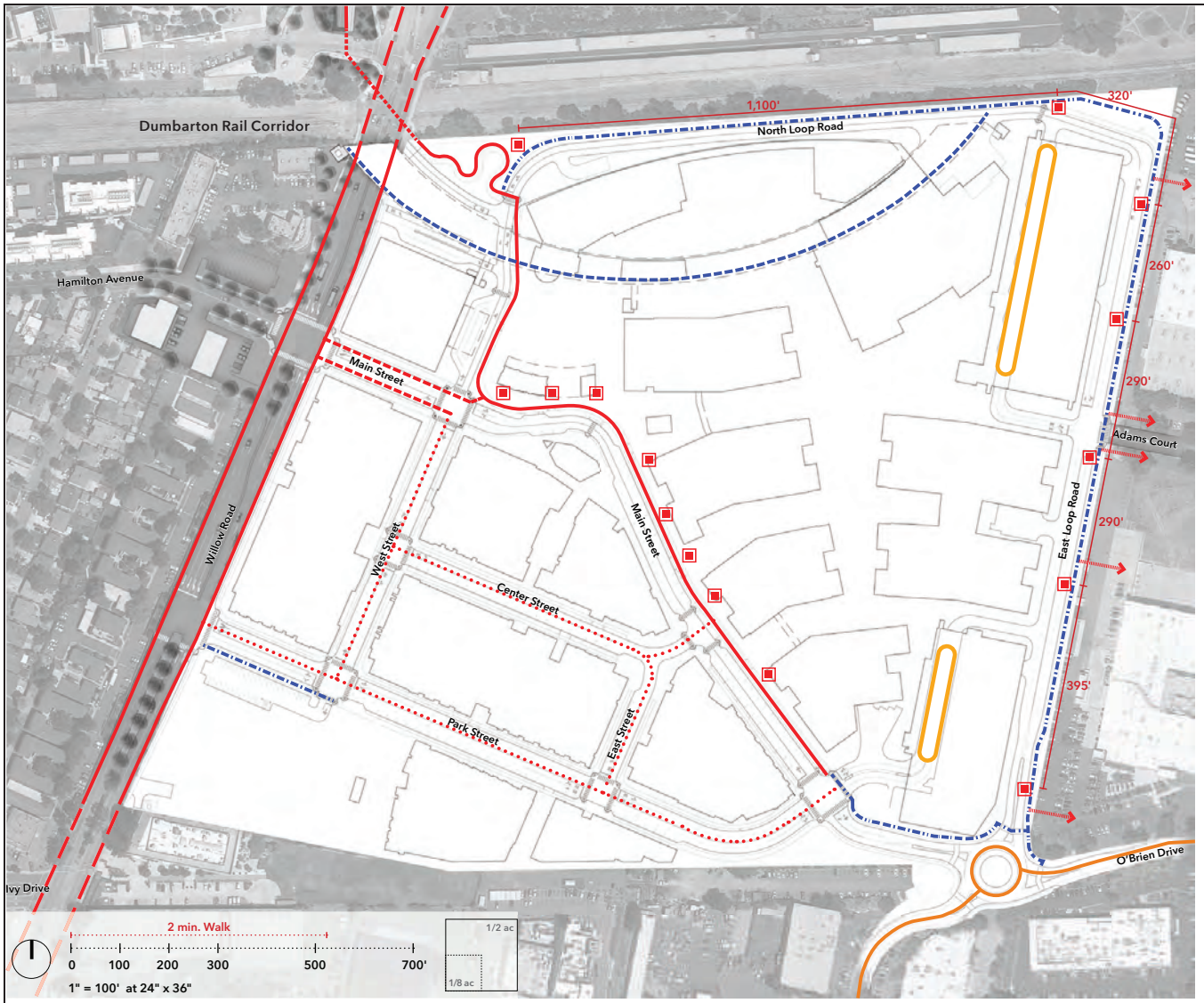
Bicycle/Pedestrian Circulation

The main Project Site would include multiple bicycle and pedestrian linkages and connections, as shown conceptually in Figure 2-13, Conceptual Bicycle Circulation Plan on the Project Site. The Proposed Project would include a network of new paths for pedestrian access throughout all three districts, including sidewalks, plazas, and internal intersection crosswalks. Crosswalks at the proposed signalized intersections on Willow Road at Main Street, Park Street, and Hamilton Avenue would connect the main Project Site to the Belle Haven neighborhood. Main Street would include a Class I bike path and sidewalks, allowing bicycle and pedestrian connections to and from all districts on the main Project Site as well as adjacent uses. In the Town Square District, bicyclists and pedestrians would be guided from Main Street through the Town Square District to the Willow Road Tunnel, which would connect the main Project Site to the Bay Trail and Meta's East and West Campuses. This connection would be provided at a grade-separated crossing under Willow Road and the Dumbarton Rail Corridor. In addition, the Elevated Park would provide an alternate bicycle and pedestrian connection across Willow Road from the Town Square District to the Belle Haven neighborhood.

The Elevated Park would be accessed via stairs and an elevator on Hamilton Avenue Parcel North, an existing retail site on the northwest corner of Willow Road and Hamilton Avenue. In the Town Square District, the Elevated Park would be accessed via stairs and elevators in the plaza and at the east end of the Elevated Park (near North Loop Road).

In the Residential/Shopping District and the Town Square District, on-street bicycle access and sidewalks would be provided on Main Street, West Street, Center Street, East Street, and Park Street. Bicycle parking would be included in these districts for both residential and retail/non-office commercial uses. For the residential units, all parcels will provide bicycle parking in compliance with the City Zoning Ordinance, except the senior affordable residential parcel (Parcel 7). This modification from the City Zoning Ordinance would be subject to review and approval of the City through the CDP as part of the Proposed Project. For retail uses, approximately 63 bicycle parking spaces would be provided within the streetscape along Main Street and in the Town Square District. In addition, bicycle parking for the Campus District would be provided at each of the three secure office entry areas and locations adjacent to the North Garage and South Garage.

The Campus District would be organized around a secure central pedestrian promenade, connecting the office buildings and the onsite open spaces. The Campus District would be designed to promote biking and walking interconnectivity, not only to the other portions of the main Project Site and the East and West Campuses but also to the greater bicycle and pedestrian network of the region. The conceptual pedestrian circulation plan is shown in Figure 2-14, Conceptual Pedestrian Circulation Plan on Project Site.



LEGEND

	Multi-Use Pathway
	Elevated Park Multi-Use Pathway
	Existing Class II Bikeway
	Class IV Bikeway
	Subgrade Class IV Bikeway
	Class III Bikeway
	On-Street Bike Circulation
	Suggested Bike Routes*
	Potential Future Connection
	Furnishing Zone
	Transit Hub

* Information Source:
- Menlo Park Comprehensive Bicycle Development Plan, City of Menlo Park, 2005
- San Mateo Bike Map Southeast Booklet, City/County Association of Governments of San Mateo County

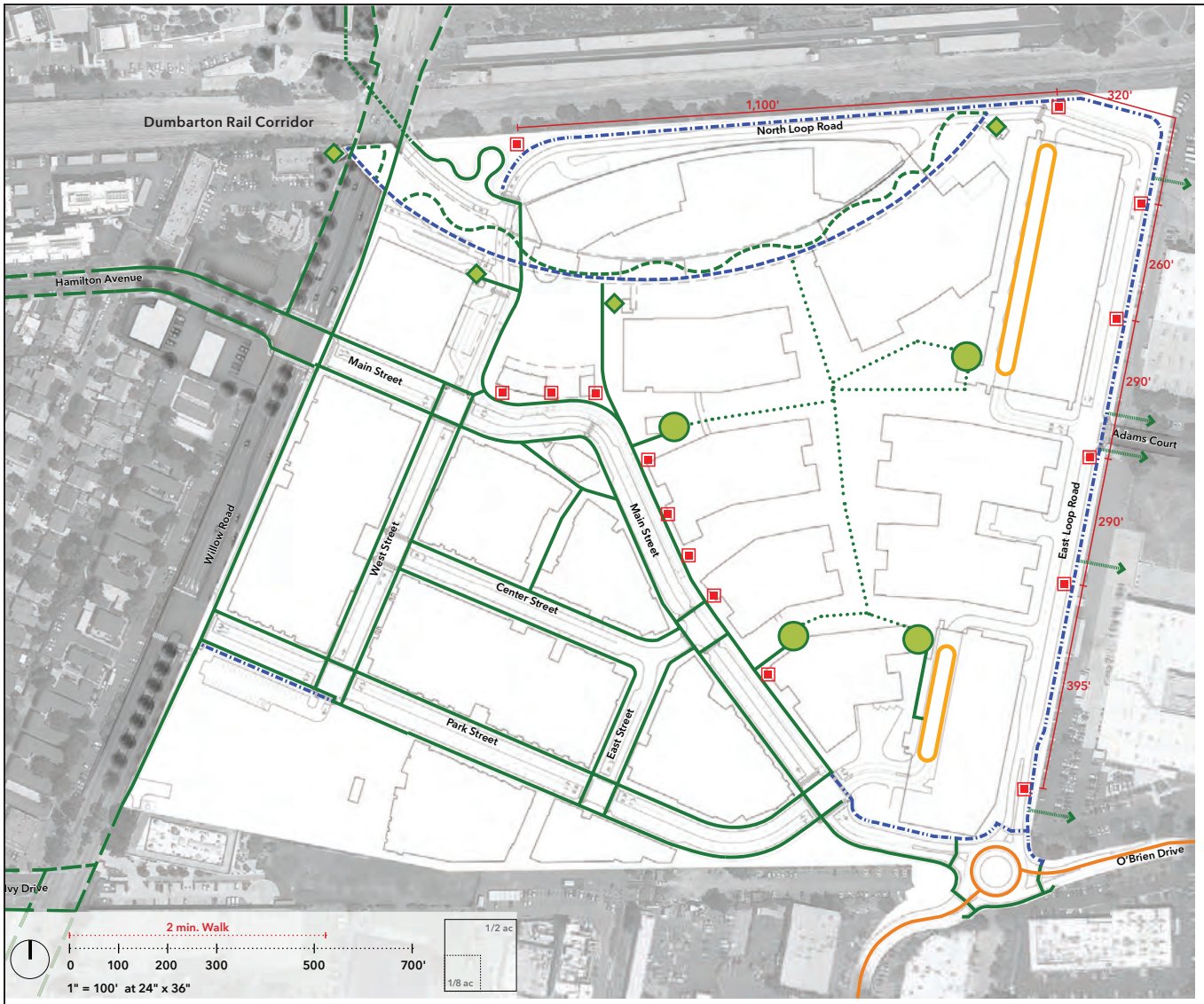
- Proposed primary bike route is conceptual and may be subject to change.
- Refer to Appendix 4 for parcel-by-parcel details on short and long term bike parking.

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-13
Conceptual Bicycle Circulation Plan on Project Site



LEGEND	
	Existing Pedestrian Circulation
	Pedestrian Circulation
	Subgrade Pedestrian Circulation
	Elevated Park Pedestrian Circulation
	Internal Campus Pedestrian Circulation
	Potential Future Connection
	Multi-Use Pathway
	Elevated Park Multi-Use Pathway
	Furnishing Zone
	Elevated Park Access
	Secure Campus Entry
	Transit Hub

Note:
- Proposed primary pedestrian is conceptual and may be subject to change.
- Refer to Appendix 4 for parcel-by-parcel details on short and long term bike parking.

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-14
Conceptual Pedestrian Circulation Plan on Project Site

Along Main Street and the western edge of the Campus District, sidewalks and gathering areas, as well as bicycle storage areas, would encourage bicycle and pedestrian activity. Additional bicycle storage areas for workers would be located in the North Garage and the South Garage, facilitating bicycle access between Campus District transit stops and the multi-use pathway adjacent to East Loop Road. Bicycles would not be permitted inside the secure area of the Campus District.

A 10-foot-wide multi-use pathway would be included along East Loop Road and North Loop Road, which is consistent with the location for the north/south paseo identified in the City General Plan Circulation Map. Located along the eastern edge of the main Project Site, the multi-use pathway would be accessible to the adjacent LS-zoned parcels and facilitate pedestrian and bicycle circulation along the eastern and northern portions of the Campus District. The adopted zoning map identifies the proposed multi-use pathway as a paseo, split equally between the main Project Site and the neighboring parcels to the east. The Project Sponsor is exploring construction of the entire width of the proposed multi-use pathway on the main Project Site, which could deliver the multi-use pathway at an earlier date and with a more cohesive design than it would have had if coordinated with redevelopment of the neighboring properties.

Parking

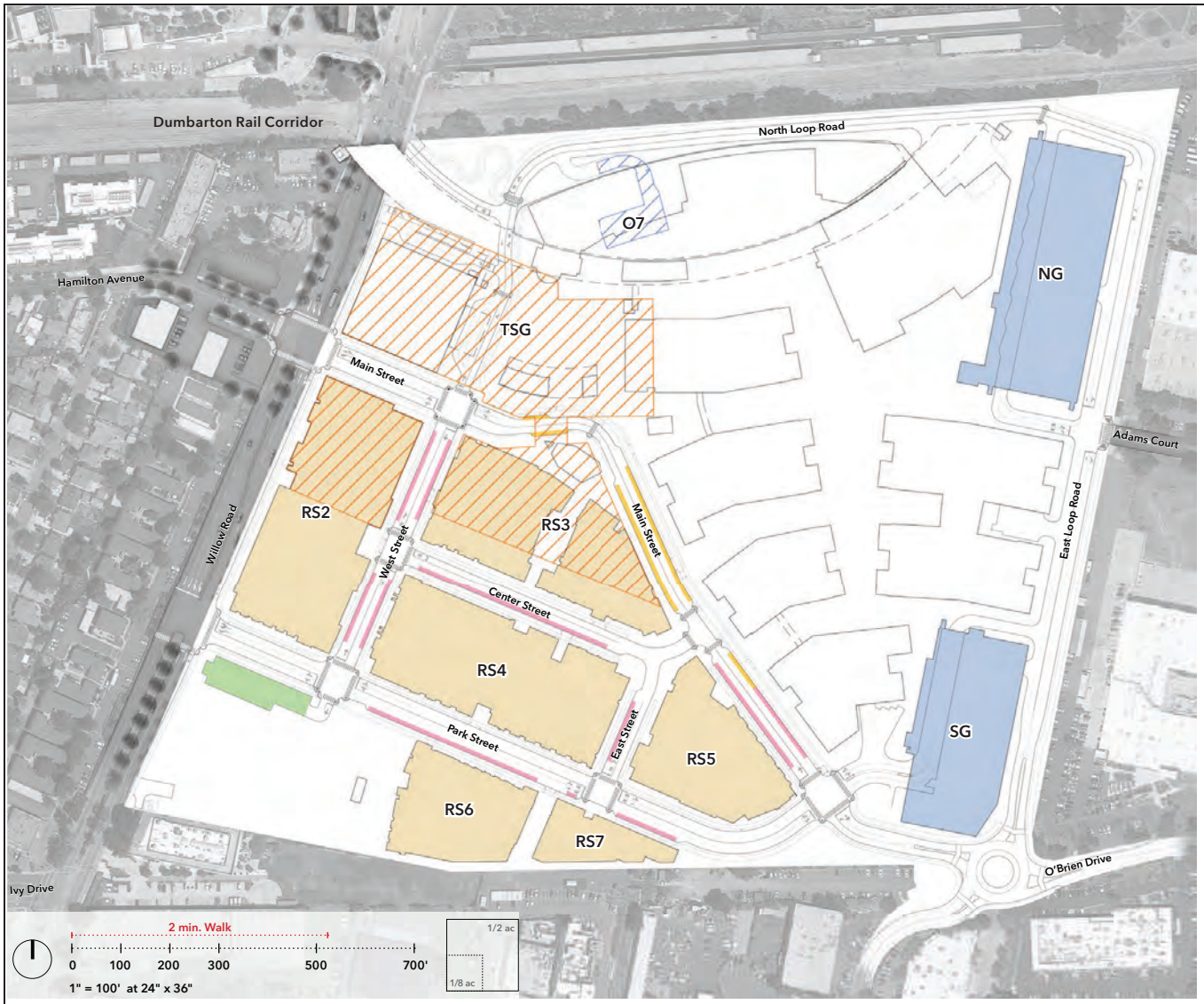
Parking throughout the main Project Site would be provided on streets and within a surface lot on Park Street, in aboveground parking structures, and in podiums or underground parking garages. The conceptual parking plan is shown in Figure 2-15, Conceptual Parking Plan on Main Project Site. The illustrative parking plan includes 6,476 parking spaces. The CDP standards require a minimum of 5,960 parking spaces and up to a maximum of 6,516 parking spaces. Proposed parking would require review by the City's transportation manager and approval by the City Council as part of the requested land use entitlements.

Parking ratios, by use, are proposed at the main Project Site as follows:

- Shared Parking (for retail, hotel, office visitors, and residential visitors): currently anticipated to be between 1,052 to 1,080 spaces
- Residential: 1.0 to 1.5 stalls per unit (housing) and 0.5 stall per unit (for senior housing)
- Publicly Accessible Park: 10.0 stalls per acre, with approximately 38 to 41 stalls currently proposed
- Office and Accessory: up to 2.3 stalls per 1,000 sf

The illustrative plan indicates that the Residential/Shopping District and Town Square District would include approximately 2,755 parking spaces for residential and retail uses. This parking would be below grade or in podiums. In addition, on-street parking for mixed uses would be provided on West Street, Center Street, East Street, Park Street, and Main Street and in areas surrounding the Town Square. The Town Square District's subgrade parking would provide parking for Meta visitors, hotel guests, retail patrons, and participants attending special events in the Campus District, as needed. In addition, one publicly accessible surface parking lot with up to 41 stalls would be provided north of the Publicly Accessible Park, off Park Street, in the southwest portion of the main Project Site.

The illustrative plan indicates that the Campus District would include worker parking within parking structures in the northeast and southeast corners of the main Project Site (North Garage and South Garage) and below Building O7. The structures are proposed to provide 3,680 parking spaces (a minimum



LEGEND	
	Office Parking Structure
	Office Parking (Subgrade)
	Off-street Residential
	Shared Parking (Subgrade)
	Park Parking
	On-Street Parking
	Passenger Loading / Service

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-15
Conceptual Parking Plan on Main Project Site

of 3,200 parking spaces and a maximum of 3,700 spaces). This includes approximately 486 stalls for electric vehicles. The electric-vehicle charging stations would be required to comply with Menlo Park Municipal Code requirements. Both structures would include a ground-level transit hub for commuter shuttles and inter-campus trams. No surface parking would be provided in the Campus District.

Hamilton Avenue Parcel North currently has 66 parking spaces, provided at a ratio of 4.20 spaces per 1,000 sf. Hamilton Avenue Parcel South currently has 24 parking spaces, provided at a ratio of 5.03 spaces per 1,000 sf. Upon implementation of the Proposed Project, 93 parking spaces would be provided at Hamilton Avenue Parcel North (4.16 spaces per 1,000 sf) and 13 spaces at Hamilton Avenue Parcel South (2.26 spaces per 1,000 sf).

Onsite Workers

Currently, the existing Bayfront Area Meta-owned Campuses can accommodate approximately 20,910 seated workers (i.e., the number of physical seats in a building or on a campus), as follows:

- East Campus (not part of Project Site): approximately 6,600 seated workers
- West Campus (not part of Project Site): approximately 10,740 seated workers[26]
- Menlo Science and Technology Park (main Project Site): approximately 3,570 seated workers (including tenant workers)

In 2015, a Meta affiliate purchased the main Project Site. Meta occupied several of the buildings for a variety of uses, including office space, R&D space, worker amenities, and a health clinic. In total, the main Project Site currently accommodates approximately 3,570 workers, consisting of approximately 3,500 Meta seated workers plus approximately 70 workers from the other onsite tenants. During development of the main Project Site, existing Meta workers would be temporarily relocated to other locations within Menlo Park and other Bayfront Area Meta Campuses. Any remaining third-party tenants would relocate off the main Project Site.

At full buildout, the Proposed Project would accommodate approximately 7,964 employees at the main Project Site, 6,950 of whom would be seated workers within the Office Campus. The 7,964 employees, inclusive of seated workers, would represent a net increase in the number of employees (4,298) compared with the current number of onsite employees (3,666). For purposes of this analysis, seated workers and employees are referred to as employees (whether direct or indirect Meta employees, support staff, retail workers, etc.). In addition, upon full buildout at Hamilton Avenue Parcels North and South, approximately 164 employees would work at the retail and commercial uses, a net increase in the number of employees (increase of approximately 34). In total, at full buildout, the entire Project Site would have 8,128 employees, for a net increase of 4,332 compared to existing conditions. Table 2-6 presents existing and proposed employment as well as the number of residents at the Project Site at full buildout.

[26] Although Building 22 has received a temporary occupancy permit for a capacity of 3,000, it is not currently occupied because of COVID-19.

Table 2-6. Project Activity and Employment by Use

	Area/Quantity	Employees	Residents
Main Project Site			
Residential	1,730 units	35	3,520
Dining	23,000 sf	160	—
Grocery	36,000 sf	75	—
Hotel	193 rooms	210	—
Shops	141,000 sf	130	—
Office and Accessory	1,600,000 sf	7,354[a]	—
Total Main Project Site	—	***7,964***	***3,520***
Existing	—	***3,666***	—
(Net New Employees)		***(4,298)[b]***	
Hamilton Avenue Parcels			
Hamilton Avenue Parcel North	22,400 sf	160	—
Hamilton Avenue Parcel South	5,760 sf	4	—
Total (Hamilton Avenue Parcels)	—	164	—
Existing		***130***	—
(Net New Employees)		***(34)[b]***	
Total Project Site		**8,128**	**3,520**
Net New Employees and Residents		**(4,332)**	**(3,520)**

Source: Peninsula Innovation Partners, LLC, 2020.

a. Seated workers account for 6,950 of the 7,354 office and accessory employees. Seated workers are employees with assigned physical seats (desks). Seated workers include both Meta employees (i.e., workers employed by a Meta entity) and contract workers (i.e., workers employed by a third party who provides workers to perform services pursuant to a contract with a Meta entity). A portion of the seated workers may be seated within the area for accessory uses.

b. ( ) denotes net increase compared with existing conditions.

Transportation Strategy

The Proposed Project would include TDM programs[27] to discourage single-occupancy vehicle trips and encourage alternative modes of transportation, such as carpooling, transit, walking, and biking, for the Residential/Shopping District and Town Square District as well as the Campus District. Strategies included in most TDM programs address a wide range of transportation issues, including parking, transit access, shared mobility, bicycle infrastructure, site design, education and encouragement, and management. These strategies are intended to help alleviate some traffic congestion, reduce greenhouse gas emissions and other air pollution, and reduce demand for parking. In addition, as part of the Proposed Project, the Project Sponsor would implement a trip cap[28] and monitoring program for the Campus District (excluding the retail space on Main Street). A trip cap is not proposed for the residential, retail, and hotel components of the Proposed Project. In addition, the portion of the publicly accessible retail within the Campus District would not be subject to the Campus District trip cap.

[27] Fehr and Peers. 2021. *Willow Village TDM Plan*. Prepared for Peninsula Innovation Partners. July.

[28] Fehr and Peers. 2020. *Willow Village – Trip Cap Proposal Memorandum*. Prepared for Eric Harrison, Signature Development Group. August 15.

Residential/Shopping District and Town Square District

The TDM program for the Residential/Shopping District and the Town Square District[29] would be delivered by multiple entities, including property management companies for residential uses and individual businesses for the retail, restaurant, and entertainment uses. The TDM program would be required to reduce the number of vehicle trips from the districts to a minimum of 20 percent below the standard trip generation rates for the uses within the Residential/Shopping District and Town Square District, per the City Zoning Ordinance. For the Residential/Shopping District and the Town Square District, the applicant is requesting a modification to the City's application of the 20 percent reduction to apply to gross trips instead of net trips. The City applies the 20 percent reduction from standard trip generation rates that account for reductions to trips based on project components (e.g., mix of uses) and location (e.g., proximity to transit, other complementary uses). The City then applies the 20 percent reduction to the net trips generated from the project. The applicant is requesting a modification through the CDP to apply the 20 percent trip reduction to the gross trips from the site before accounting for trip reductions due to the mix of land uses and site location. The 20 percent reduction would be accomplished through both design features of the Proposed Project, which would make it easier to travel without a vehicle, and specific programs or incentives to reduce the number of drive-alone vehicle trips.

A Transportation Management Association (TMA) or owners association would coordinate delivery of the TDM program for the Residential/Shopping District and Town Square District. The TMA or owners association would improve the effectiveness of programs and, potentially, reduce the overall costs associated with delivering the TDM programs. The TMA or owners association would establish a funding mechanism for common services provided by the TMA or owners association.

TDM program measures for the Residential/Shopping District and Town Square District would include features such as the following:

- Proposed Project design features related to increasing the diversity of land uses that provide complementary but uncommon/nonexistent uses in the surrounding neighborhood, building housing near jobs centers, integrating the main Project Site bicycle network into the City's bicycle network, and providing wayfinding signage and lighting.
- Coordination with the San Mateo County Transit District (SamTrans) on public transit service to the districts.
- Bicycle amenities such as lockers, showers, secure parking, bicycle repair stations, and bicycle sharing stations.
- A vanpool program that allows groups of people to share rides to and from work.
- Carpool matching using public and/or private services.
- Dedicated carpool/vanpool parking.
- Shared parking for the mixed-use development.
- Emergency ride-home program.
- Car sharing in public parking areas.

[29] Fehr and Peers. 2021. *Willow Village TDM Plan*. Prepared for Peninsula Innovation Partners. July.

- A Commute Assistance Center that provides information to new residents.
- Unbundled residential parking for market-rate units for a separate lease of a parking space.
- Metered on-street parking and off-street parking fees.

Campus District

The existing East Campus and West Campus are currently subject to trip caps, with a monitoring and enforcement policy that limits the number of morning and evening peak-period and daily trips to and from each of these respective sites. The City continuously monitors compliance with the existing trip caps to ensure conformance, as outlined in the respective approvals for each campus.

For the Campus District of the Proposed Project, a similar trip cap would be implemented, consistent with the trip caps currently in place at the other Meta Campuses. The trip generation rates for the Campus District account not only for trips generated by seated workers but also trips generated by visitors, ride-hailing services, and other non-Meta workers (e.g., security, dining/food service, and other support service personnel). The proposed peak-hour and daily trip caps for the Proposed Project are as follows:[30]

- a.m. peak-hour trip caps:
  - hour between 7:00 a.m. and 8:00 a.m. = 1,670 trips
  - hour between 8:00 a.m. and 9:00 a.m. = 1,670 trips
- p.m. peak-hour trip caps:
  - hour between 4:00 p.m. and 5:00 p.m. = 1,670 trips
  - hour between 5:00 p.m. and 6:00 p.m. = 1,670 trips
- daily trip cap = 19,280 trips

Two exceptions would be allowed under the trip-cap proposal: special events and non-event exclusions. The Campus District would accommodate events ranging from intimately scaled events to large gatherings, such as office functions, recreational uses, and a variety of Meta-oriented meetings. Special events with a majority of non-Menlo Park workers and guests could result in exceedances of the trip cap; therefore, an allowance of up to 25 exceptions for days when there are medium-size or large events is proposed (refer to Table 2-5, which provides details on potential special events). To reduce the number of vehicle trips on event days with medium and large special events with a majority of non-Menlo Park workers and guests, the Project Sponsor would prepare an event transportation plan that would be subject to review and approval of the City's transportation manager. The Project Sponsor's proposal for trip-cap exemptions for special events would be subject to further review and evaluation by the City. In addition to the 25 event days, the trip cap would also include 10 non-event exclusions. The trip caps for the East and West Campuses allow three non-event exclusions.

To meet the trip cap, the Campus District would be subject to a TDM program[31] that would be implemented in conjunction with the TDM program for the East and West Campuses. The proposed Campus District trip cap would comply with the TDM requirement of the zoning ordinance (20 percent reduction in trips from typical trip generation rates) for the a.m. and p.m. peak periods and incorporate

[30] Fehr and Peers. 2020. *Willow Village – Trip Cap Proposal Memorandum*. Prepared for Eric Harrison, Signature Development Group. August 15.

[31] Fehr and Peers. 2021. *Willow Village TDM Plan*. Prepared for Peninsula Innovation Partners. July.

an adjustment to the City's application of the TDM requirement of the zoning ordinance for the daily trips from the Campus District (e.g., reduce daily trips by 20 percent from the gross trips instead of net trips).

The Campus District TDM program would be designed to provide alternatives to single-occupancy automobile travel to and from the Campus District as well as between the Campus District and the other Meta Campuses in Menlo Park. Meta currently implements an extensive TDM program to meet the trip caps at its East and West Campuses.[32] Some of the key TDM programs Meta could implement to enhance or increase its investment and achieve a reduction in the drive-alone rate and reduce the parking demand are listed below.

- Employee shuttle service – expanded service areas or frequency of service.
- Bicycle commute incentives – amenities such as showers, lockers, fix-it stations, bike rentals, and bike sales to employees.
- Carpool matching – service to match Meta employees to form carpools or vanpools.
- Vanpools – provision of a van for groups of five or more employees.
- Public transit incentives – subsidized transit passes and station parking costs.
- Implement flexible work schedules and work-from-home policies that will reduce the number of workers on-campus during the work week.

In addition to these existing TDM programs, Meta would consider new TDM programs and activities to promote other modes of travel for commuters, including bicycle facility improvements and parking management options.

Sustainability Features and Utilities

Sustainability Features

The Project Sponsor would design the buildings associated with the Residential/Shopping District and the Campus District that are 10,000 square feet or larger to LEED Gold standards. Buildings on the Project Site of less than 10,000 sf (e.g., the south pavilion building and park restroom building) would not be certified under LEED. The LEED approach to the Proposed Project would meet or exceed City Zoning Ordinance requirements. The Proposed Project would also comply with the City's applicable Reach Codes[33] and include strategies to optimize energy performance as well as environmental and health benefits for building inhabitants.

Residential/Shopping District and Town Square District

The Residential/Shopping District and the Town Square District would be designed per the City's Reach Code, General Plan, Zoning Ordinance, and LEED Gold (Residential/Shopping District) and Silver (Town Square District) requirements. Smaller buildings of less than 10,000 sf (e.g., south pavilion and park

[32] For the East Campus, there have been exceedances that have resulted in penalties being applied to the East Campus. However, Meta has worked to bring the trips within the cap, and the Planning Commission has found Meta to be in good-faith compliance with its Development Agreement obligations, including the trip-cap provisions.

[33] In 2019, the City adopted local amendments to the California Building Standards Code that require electricity to be the only fuel source for new buildings (not natural gas). This ordinance (Menlo Park Municipal Code Chapter 12.16) applies only to newly constructed buildings (i.e., from the ground up) and does not include additions or remodels.

building) would not be LEED certified. Although the specific sustainability measures for the two districts have yet to be finalized, they would include a range of measures and initiatives from City ordinances, including the items listed below.

- For all new construction, the Proposed Project would supply 100 percent of its energy demand (electricity and natural gas) through any combination of the following measures: (i) onsite energy generation, (ii) purchase of 100 percent renewable electricity through Peninsula Clean Energy or PG&E in an amount equal to the annual energy demand of the Project, (iii) purchase and installation of local renewable energy generation within Menlo Park in an amount equal to the annual energy demand of the Project, and/or (iv) purchase of certified renewable energy credits and/or certified renewable energy offsets annually in an amount equal to the annual energy demand of the Project.
- Electric-vehicle charging stations would be provided in garages for 10 percent of all parking spaces as well as the infrastructure for additional electric-vehicle parking spaces.
- The Proposed Project would enroll in and use the Energy Star Portfolio Manager for all buildings.
- A zero-waste management plan would be prepared to achieve a 90 percent diversion rate for the waste stream generated during the demolition, construction, and occupancy phases of the Proposed Project. The plan would include an assessment of the types of waste to be generated during demolition, construction, and occupancy and methods for collecting, sorting, and transporting materials for uses other than landfill operations.
- Potable water would not be used for decorative features, unless the water recirculates, or dust control on construction sites.
- All buildings would be dual plumbed to use recycled water for City-approved applications, subject to the availability of a recycled water source.
- Single-pass cooling systems or well water would not be used.
- For buildings with a gross floor area of 100,000 sf or more, the applicant would prepare and submit a proposed water budget, along with calculations, following the methodology approved by the City.
- For all new buildings of 250,000 sf or more, the applicant would prepare and submit a proposed water budget, which would account for the potable water demand reduction resulting from the use of an alternative water source, for all City-approved non-potable applications.
- After certification of occupancy, the building owner would submit the data and information necessary to allow the City to compare actual water use to the allocation in the approved water budget. If actual water consumption exceeds the water budget, a water conservation program, as approved by the City's public works director, would be implemented.
- The first-floor elevation of all new buildings would be a minimum of 24 inches above FEMA's BFE to account for sea-level rise.
- Bird-friendly designs would be incorporated into buildings.

Campus District

The sustainability measures for the Campus District include, but are not limited to, the items listed below.

- For all new construction (with the exception of commercial grade kitchens), the Proposed Project would supply 100 percent of its energy demand (electricity and natural gas) through any combination of the following measures: (i) onsite energy generation, (ii) purchase of 100 percent renewable electricity through Peninsula Clean Energy or PG&E in an amount equal to the annual energy demand

of the Project, (iii) purchase and installation of local renewable energy generation within Menlo Park in an amount equal to the annual energy demand of the Project, and/or (iv) purchase of certified renewable energy credits and/or certified renewable energy offsets annually in an amount equal to the annual energy demand of the project. If commercial kitchens using natural gas cooking ranges or other equipment using natural gas are proposed, the energy use associated with the natural gas would be required to be offset through one of the four pathways listed in the preceding sentence.

- Photovoltaic panels would be installed on the rooftops of both garages as well as each office building and the event building to generate solar energy.
- A zero-waste management plan would be prepared to achieve a 90 percent diversion rate for the waste stream generated during the demolition, construction, and occupancy phases of the Proposed Project. The plan would include an assessment of the types of waste to be generated during demolition, construction, and occupancy and methods for collecting, sorting, and transporting materials for uses other than landfill operations.
- Bicycle parking would be provided.
- Bird-friendly designs would be incorporated into buildings and into the atrium structure.
- A Campus District trip cap would be achieved through implementation of a robust TDM program.
- A central plant would be constructed to distribute chilled water, which would optimize efficiency and reduce peak demand for electricity.
- The all-electric heating plants would be decentralized (i.e., each individual building would have its own heating plant), allowing the buildings to operate more efficiently by eliminating the large losses associated with piping from a centralized heating plant.
- Low-impact development and green infrastructure strategies would be implemented to manage rainwater onsite.
- Plumbing fixtures would meet or exceed CALGreen water consumption requirements.
- External water consumption (e.g., for landscaping) would be reduced by planting adapted species, implementing irrigation system efficiency measures, and developing water reuse strategies.
- Ultra-low-flow fixtures and metered/sensor faucets would be installed to reduce water consumption.
- Electric-vehicle charging stations would be provided in parking garages per the minimum requirement of the City's Zoning Ordinance and Electric Vehicle Charging Ordinance.
- Emergency power would be provided by a central generator plant in each of the parking structures.
- All buildings would be dual plumbed to use recycled water for City-approved applications, subject to the availability of a recycled water source.

Other reduction strategies considered for the Campus District, in the event West Bay Sanitary District is unable to provide a source of recycled water, involve district-wide greywater recapture and reuse for toilet flushing and irrigation as well as the use of hybrid cooling towers, including the use of recycled water in cooling towers.

Utilities

To provide utility services to each parcel, the Proposed Project would connect to adjacent public domestic water infrastructure, sewers, storm drains, communication cables and wiring, and PG&E gas and electrical lines. Connecting infrastructure would be routed within public roadways as well as public utility easements on private streets within the main Project Site, where necessary, subject to review and acceptance by the City's Public Works Department. The Campus District would include looped systems

for domestic water, fire water, and communications. Each utility would connect to existing mains in Willow Road. All electrical, communication, and pressurized waterlines would be looped to maintain system redundancy.

Water and Wastewater

A 10-inch Menlo Park Municipal Water District main currently loops within the main Project Site, providing domestic water as well as fire water service to all buildings. Water connections are located on Willow Road and Adams Court as well as across from SFPUC's Hetch Hetchy parcel on the southeast corner of the main Project Site. The Proposed Project would remove or abandon in place existing water mains on the main Project Site. The existing sewer system conveys sewage from buildings with the use of ejector pumps and a local lift station that connects to the West Bay Sanitary District's sewer main in Hamilton Avenue. The district's Hamilton Henderson Pump Station (HHPS) is near the intersection of Hamilton Avenue and Henderson Avenue. Wastewater from the main Project Site is currently sent to the newly improved sewer reach within Chilco Street, which is past the HHPS. The HHPS discharges from a 12-inch force main to a 30-inch cured-in-place line, which drains to the new 36-inch main in Chilco Street. The newly constructed Chilco Street improvements continue to an existing 30-inch cured-in-place line that transitions to a 36-inch sewer for eventual discharge to the Menlo Park pump station.[34]

To meet the onsite fire flow requirements, the Proposed Project would construct a 16-inch diameter pipeline within proposed Park Street, Main Street, and East Loop Road and a 12-inch diameter pipeline connection to the existing 12-inch diameter pipeline within O'Brien Drive, north of the SFPUC easement.

The Proposed Project would implement water (both potable and recycled) and sewer system improvements within public roadways as well as public utility easements on private streets, where necessary.[35] The proposed system would connect to existing mains along Willow Road, which connect to mains on Hamilton Avenue. The Proposed Project's water demand would be partially met through improvements related to recycled or reused water, which would come from a newly constructed offsite wastewater facility owned and operated by the West Bay Sanitary District for wastewater treatment and non-potable water production. Under this system, wastewater from the Campus District would be collected in sloped gravity lines; it would then flow to two private pump stations that would connect to district mains.

Sewer laterals from the Residential/Shopping District and Town Square District would connect directly to a new West Bay Sanitary District collection system. Recycled water would be distributed to the main Project Site by a proposed distribution main, which would extend approximately 2.7 miles from the proposed treatment facility at the West Bay Sanitary District's former treatment plant adjacent to Bedwell Bayfront Park and then to the intersection of Willow Road and Ivy Drive. A portion of this future distribution line was installed within Chilco Street, adjacent to the West Campus, as part of a prior streetscape and utility improvement project in anticipation of a future recycled water facility. The Proposed Project includes construction of a recycled water line in the Hamilton Avenue right-of-way.

Construction of the wastewater facility is outside the purview of the City and the Project Sponsor. If the West Bay Sanitary District's expansion project is not constructed within the time frame for the Proposed Project, the Proposed Project would include a design variant that would allow a portion of the water demand to be met through an onsite water reuse facility. Please refer to Chapter 5, *Project Variants*, of this Draft EIR for more information.

[34] Sherwood Design Engineers. 2020. *Offsite Sanitary Sewer System Study – Willow Village*. December 18.

[35] Recycled water is not currently available but anticipated to be available through the West Bay Sanitary District or an onsite system.

The Proposed Project's wastewater improvements would include one new West Bay Sanitary District onsite pump station in the Residential/Shopping District, south of the proposed Park Street, and one new private station in the Campus District. Most new sewer lines would either be gravity lines or sewer force mains. To support increased wastewater flows from the main Project Site, the Proposed Project would install a sanitary sewer force main from the Main Project Site to the existing wastewater pipeline in Chilco Street. This improvement would use the Hamilton Avenue right-of-way.

Stormwater

The existing storm drain system drains the main Project Site by gravity to a City main in Willow Road. As part of the Proposed Project, a private onsite storm drain system would be built to convey runoff by gravity from all buildings and other areas to the existing City main in Willow Road. The Proposed Project would comply with San Mateo County C.3 requirements, as required by the City's National Pollutant Discharge Elimination System (NPDES) municipal permit. Project Site runoff would be managed by a combination of low-impact development strategies, which could include bioretention areas, flow-through planters, permeable paving, rain gardens, and/or vegetated swales. Along the southern property line of the main Project Site, an existing open channel directs stormwater flows to the existing storm drain located along the eastern property line of the main Project Site. To accommodate main Project Site improvements, drainage flows within this offsite channel would be sent underground and the channel would be filled.

As part of an integrated approach to stormwater management, consistent with City and San Mateo County requirements, streetscapes, parks, and open spaces would employ best management practices to reduce and treat stormwater runoff and significantly increase the amount of pervious landscaped area compared with existing conditions. The Proposed Project improvements on the individual parcels, as well as the design of private streets and public rights-of-way through the main Project Site, would incorporate green infrastructure, per the requirements of the City's adopted Green Infrastructure Plan. Proposed treatment areas would receive diverted stormwater runoff from impervious surfaces associated with streets, building roofs, and level surfaces on the main Project Site prior to discharge to the storm drain system.

Energy

Although PG&E delivers power, maintains the electrical grid and other infrastructure, and handles customer billing, energy in Menlo Park is purchased through Peninsula Clean Energy, a Community Choice Energy (CCE) program, from renewable energy sources, such as solar, wind, hydroelectric, geothermal, and biomass. CCE programs allow local governments to pool the electricity demands of their communities, purchase power with higher renewable content, and reinvest in local infrastructure.[36]

In 2019, the City adopted local amendments to the 2019 California Building Standards Code and the California Code of Regulations that required electricity to be the only fuel source for new buildings, thereby limiting the use of natural gas. However, the Reach Code provides Conditional Exception 4, as follows: "non-residential buildings containing a for-profit restaurant open to the public or an employee kitchen may apply to a City Council–appointed body, which would be designated from time to time by the City Council, for an exception to install gas-fueled cooking appliances. This request must be based

[36] Peninsula Clean Energy. 2015. *Community Guide*. Available: www.peninsulacleanenergy.com/wp-content/uploads/2015/10/PCE_community_guide_v2_web.pdf. Accessed: December 2, 2021.

on a business-related reason to cook with a flame that cannot be reasonably achieved with an electric fuel source." In addition, for exceptions that are granted, natural gas appliance locations must be pre-wired for future electric appliance installations. Electrifying buildings maximizes the use of the community's renewable power and reduces greenhouse gas emissions by slowly phasing out the use of natural gas. This ordinance applies to only newly constructed buildings (i.e., those constructed from the ground up, such as the Proposed Project).[37] Per the City's adopted Reach Code, the installation of solar photovoltaic systems would be required. Therefore, each proposed building, as well as each garage, would have a photovoltaic system installed on the roof. Each residential building would install solar hot water systems as well. The Proposed Project may apply for exceptions to install natural gas for restaurants and/or employee kitchens.

At the northeast corner of the main Project Site, an existing PG&E transmission tower would be replaced with a monopole, providing a similar function but with a smaller footprint to accommodate the change in site grades and elevate the site above the flood hazard zone. The monopole is anticipated to have a diameter of approximately 72 inches, with a height similar to that of the existing transmission tower. The existing overhead power lines would be relocated underground to maintain service to adjacent properties. Each office building and the South Garage would have a secondary electrical service that would be fed from PG&E pad-mounted service transformers. The meeting and collaboration spaces would be serviced through a medium-voltage electrical service with localized unit substations in the North Garage and the individual buildings.

Although the Proposed Project is currently served by the PG&E Belle Haven substation, PG&E would upgrade the Ravenswood substation[38] and provide improvements to support distribution-level electrical service to the Project Site from this substation. The upgrades to the Ravenswood substation would be required to meet the needs of the Proposed Project, given the increased electrical demand from compliance with the City's Reach Code, which limits the amount of natural gas at the Project Site. Although onsite renewable energy generation would also be required, per the City's Reach Code, the increased electrical demand would still be anticipated to require upgrades to the substation. All improvements would be accommodated within the existing footprint of the Ravenswood substation. The distribution improvements at the substation would include a new 115-kilovolt (kV) bus section, a pair of bus sectionalizing breakers, two energy banks with high-voltage circuit breakers, two sets of double-breaker switchgears with six feeder outlets, one control building, a perimeter security wall, and an upgrade to provide the substation with 230 kV breaker-and-a-half (BAAH) redundant relays. To provide electrical service at the Project Site, up to four new distribution feeders (conduits) are anticipated. The path for the distribution feeders would extend about 1.5 miles along Bayfront Expressway and Willow Road or University Avenue to reach Willow Village (see Figure 2-16, PG&E Substation Electrical Feeder Route).

The Campus District would have four emergency backup generators, two serving the meeting and collaboration space and two serving the office buildings. The Town Square District would have one emergency backup generator that would service the hotel and Town Square. Each of the residential buildings would have an emergency backup generator, for a total of six generators in the Residential/Shopping District. The diesel generators would be standby units, operating only during utility interruptions to maintain critical building operations, as determined by the tenant, or on a monthly basis for testing purposes. Emergency generators would be individually tested bi-weekly during off hours

[37] City of Menlo Park. 2019. *Reach Codes.* Approved by City Council on September 24. Available: https://www.menlopark.org/1583/Reach-codes. Accessed: December 2, 2021.

[38] The current Ravenswood substation operates as an existing transmission substation and is not equipped with distribution system infrastructure.

under a partial load for 30 minutes. Each generator would also be individually tested annually for 2 hours under full load.

Solid Waste

The Project Sponsor would develop a zero-waste management plan to divert 90 percent of the waste stream generated from demolition, construction, and occupancy buildings on the main Project Site. The plan would include an assessment of the types of waste to be generated during demolition, construction, and occupancy and methods for collecting, sorting, and transporting materials for uses other than landfill operations.

Consistent with City requirements, the Project Sponsor would submit required documentation to the City describing the Proposed Project's approach to maximizing waste diversion during demolition, construction, and occupancy at the residential, hotel, and commercial uses. Each component of the Proposed Project would be subject to the City's zero-waste management plan requirements during both construction and operation. For the Campus District, existing standards at Meta Campuses require recycling and compost collection as well as monthly tracking of waste generation and diversion. These programs would be implemented during operation and maintenance of all proposed buildings as part of the zero-waste management plan.

2.4 Proposed Project Construction and Phasing

Construction Schedule and Phasing

The Project Sponsor's proposed demolition and construction phasing is intended to ensure the onsite residential density needed to support the Town Square District's retail establishments and avoid disruptive later-phase construction impacts on the establishments. The Proposed Project would consist of two primary phases, during which building construction could overlap. Each phase would consist of the following site improvements: demolition, grading, utility work, and landscaping improvements; building improvements would consist of excavation, foundation, core and shell, and/or tenant improvements as

Source: Peninsula Innovation Partners, 2022.

Graphics ... 104393 (3-11-2022) JC

ICF

Figure 2-16
PG&E Substation Electrical Feeder Route

well as interior improvements. Phase 1 is expected to be completed by the fourth quarter of 2025, with landscaping completed in the first quarter of 2026. Phase 2 is expected to be completed by the third quarter of 2026, with landscaping completed in the fourth quarter of 2026. A description of each phase is provided below. Table 2-7 provides an overview of each phase, the timing, and the features. Conceptual construction development phases are shown in Figure 2-17, Conceptual Construction Development Phases.

Table 2-7. Main Project Site Conceptual Construction Development Phases

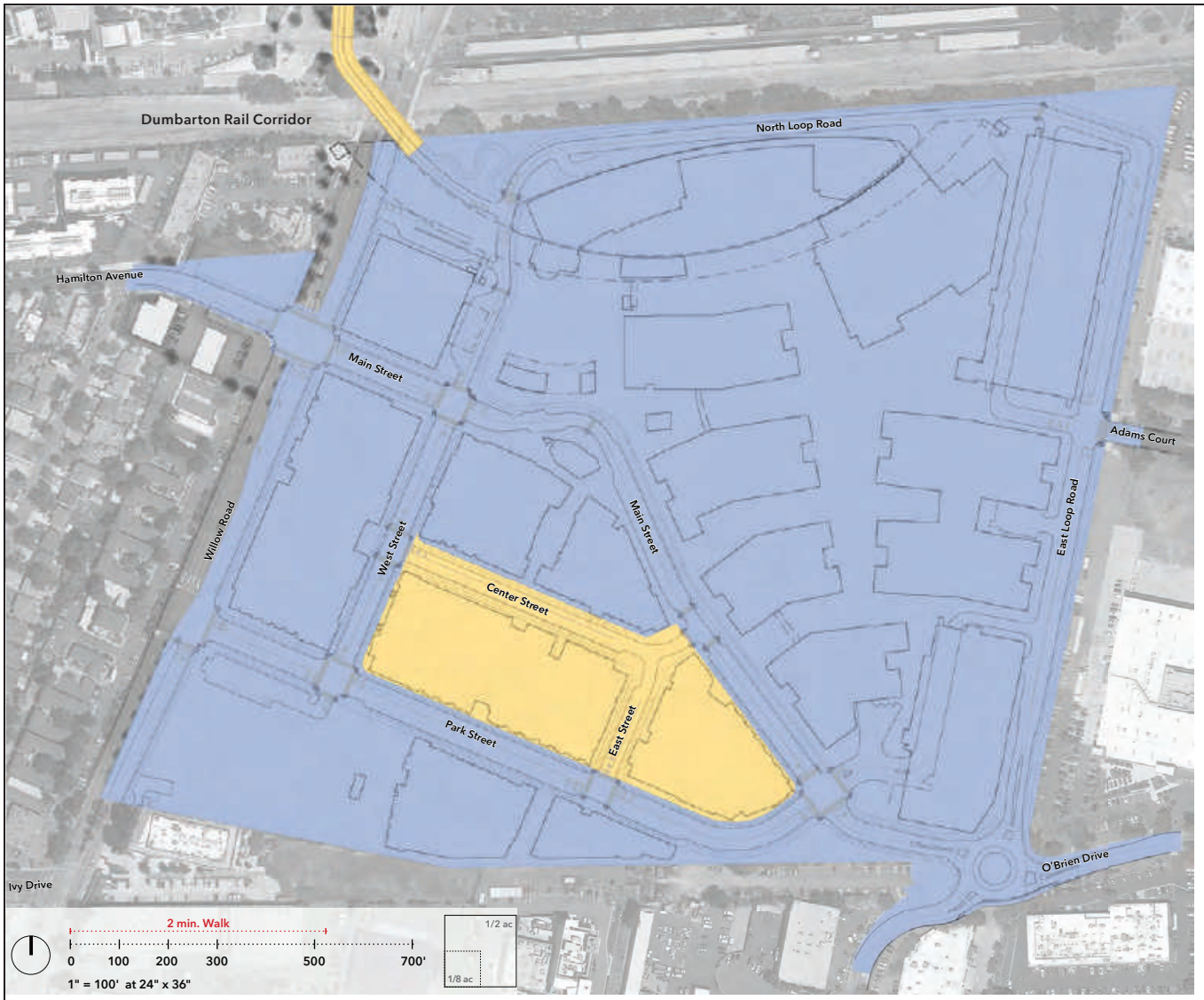
Phase	Duration (months)	Office and Accessory (sf)	Residential (units)	Retail (sf)	Hotel (sf)	Improvements
1	44	1,600,000	1,044	200,000	172,000	Town Square, North and South Garage, Town Square Parking Garage, Elevated Park, Publicly Accessible Park, Dog Park, North Garage, hotel, grocery store, residential units, retail, office, and accessory uses
2	36	—	686	—	—	Residential units, Hamilton Avenue Parcels North and South, retail
Total		***1,600,000***	***1,730***	***200,000***	***172,000***	

Source: Peninsula Innovation Partners, LLC, 2021.

Phase 1

Project Site improvements under Phase 1 encompass structure demolition, surface improvements, and utility improvements within the Phase 1 and Phase 2 areas on the main Project Site. In addition, Phase 1 would include the demolition of structures on Hamilton Avenue Parcels North and South to support the realignment west of Willow Road and the new intersection at Willow Road. To raise the Project Site out of the flood hazard designation and ensure sea-level rise resiliency, grading would be necessary as well as the construction of primary circulation improvements (i.e., the streets and infrastructure necessary to serve Phase 1). Improvements would include realignment of the Hamilton Avenue and Willow Road intersection, Park Street, West Street, Main Street from O'Brien Drive to Hamilton Avenue, North Loop Road, and East Loop Road, each with a full complement of utilities to serve the Proposed Project and Willow Road Tunnel.

Phase 1 would include construction of components associated with the Town Square District and the Campus District in the northern portion of the Project Site, including 172,000 sf of hotel space (193 rooms); construction of the entirety of the office and accessory uses, the Elevated Park, and up to 2000,000 sf of retail uses, including the grocery store; construction of the Town Square and the Town Square parking garage; construction of the North Garage and South Garage as part of the Campus District; and construction of 1,044 residential units, the Publicly Accessible Park, and the Dog Park.



Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-17
Conceptual Construction Development Phases

It is anticipated that Phase 1 would start with demolition in mid-2022. Grading and utility work would start shortly thereafter. Foundation work for buildings within the Campus District would start in early 2023, construction of the core and shell would start in early 2024, and tenant/interior improvements would start in fall 2024. Phase 1 would continue over approximately 52 months, with completion in early 2026.

An existing dialysis clinic would remain operational during construction. The dialysis clinic would either remain in its current location or be relocated to six or seven temporary modular trailers in the southwest portion of the Project Site for a duration of approximately 6 to 9 months after the start of construction. If relocation is needed, the temporary improvements are intended to provide a level of service equal to the level currently offered. Vehicle ingress and egress to the temporary dialysis clinic would be provided from the driveway on Willow Road that currently provides access to 1350 Willow Road (MPK 57). Worker and patient parking would be accommodated with the parking spaces in the southwest portion of the Project Site.

The modular improvements would be constructed offsite and trucked to the Project Site. Setup would consist of siting the modular units in a predetermined location, leveling the trailers once placed in the intended locations, and connecting utility services (e.g., electric, data, potable water, sanitary sewer services). Utility services would be provided through the temporary utilities provided to support onsite construction activities.

Phase 2

Phase 2 construction would encompass the balance of the Residential/Shopping District, provide 686 residential units, and construct Willow Road Tunnel. Phase 2 site improvements would include construction of Center Street and East Street, along with the installation of the infrastructure necessary to serve Phase 2. During Phase 2 buildout, the service station and any retail uses on Hamilton Avenue Parcels North and South that were demolished in Phase 1 would be reconstructed. This new site configuration could include up to 26,000 sf of retail uses with the addition of 6,700 sf on Hamilton Avenue Parcel North, inclusive of the reconstructed service station and convenience store on Hamilton Avenue Parcel South, with an additional 990 sf. All new construction would comply with the City's sea-level rise resiliency requirements.

It is anticipated that Phase 2 would start with grading and utility work in early 2023; foundation work for new construction would begin in late 2024. Construction of the core and shell would follow the foundation work in mid-2025, with tenant improvements by late 2025. Phase 2 buildout would occur over approximately 44 months, with completion by late 2026.

Construction Equipment and Staging

Typical equipment would be used during construction. This could include, but would not be limited to, excavators, semi-trucks, generators, tire washers, pressure washers, air compressors, concrete crushers, work trucks, water trucks, bobcats, blades, semi-type dump trucks, scrapers, loaders, backhoes, gradalls, concrete trucks, compactors, pavers, pile rigs, dump trucks, cranes, boom lifts, manlifts, and scissor lifts. In addition, pile driving could be required.

Construction vehicles, equipment, and materials would be staged primarily onsite in three key locations, including one offsite location (as shown in Figure 2-18, Conceptual Construction Staging). Staging Location 1, at 1520 Willow Road, is north of the SamTrans corridor and adjacent to the main Project Site. This location would provide extra storage space (e.g., a temporary laydown space and a storage area for field trailers, conex boxes, forms, miscellaneous materials, and equipment required primarily for construction at the main Project Site and Willow Road Tunnel). Staging Location 2 is composed of Parcels 4, 5, and C. Staging Location 3 is the 3.5-acre Publicly Accessible Park on Parcel A. Staging Locations 2 and 3 would be used to stockpile recycled aggregate base and crushed concrete; they would also be used for overflow storage involving miscellaneous materials and equipment. Once completed, the North Garage and South Garage would be used to accommodate parking for construction workers. Staging for Hamilton Avenue Parcel South and road realignment would be located within the proposed new right-of-way (west of Willow Road) and Hamilton Avenue Parcel South. In addition, building MPK 57, at 1350 Willow Road, may be used for as construction office use prior to demolition of the structure.

Construction Employment

Construction of the Proposed Project would require between 15 and 1,531 construction workers per day. The minimum number of construction workers onsite would be 15 during the demolition and grading/utility work required for each phase as well as the landscaping for Phase 2. The maximum number of construction workers onsite would be between 1,125 and 1,837 in 2024 and 2025 when Residential/Shopping District and Campus District construction in Phase 2 would overlap. It is anticipated that construction workers would be hired from Bay Area sources. Parking for construction workers' vehicles would be provided onsite; alternatively, workers could be shuttled from offsite.

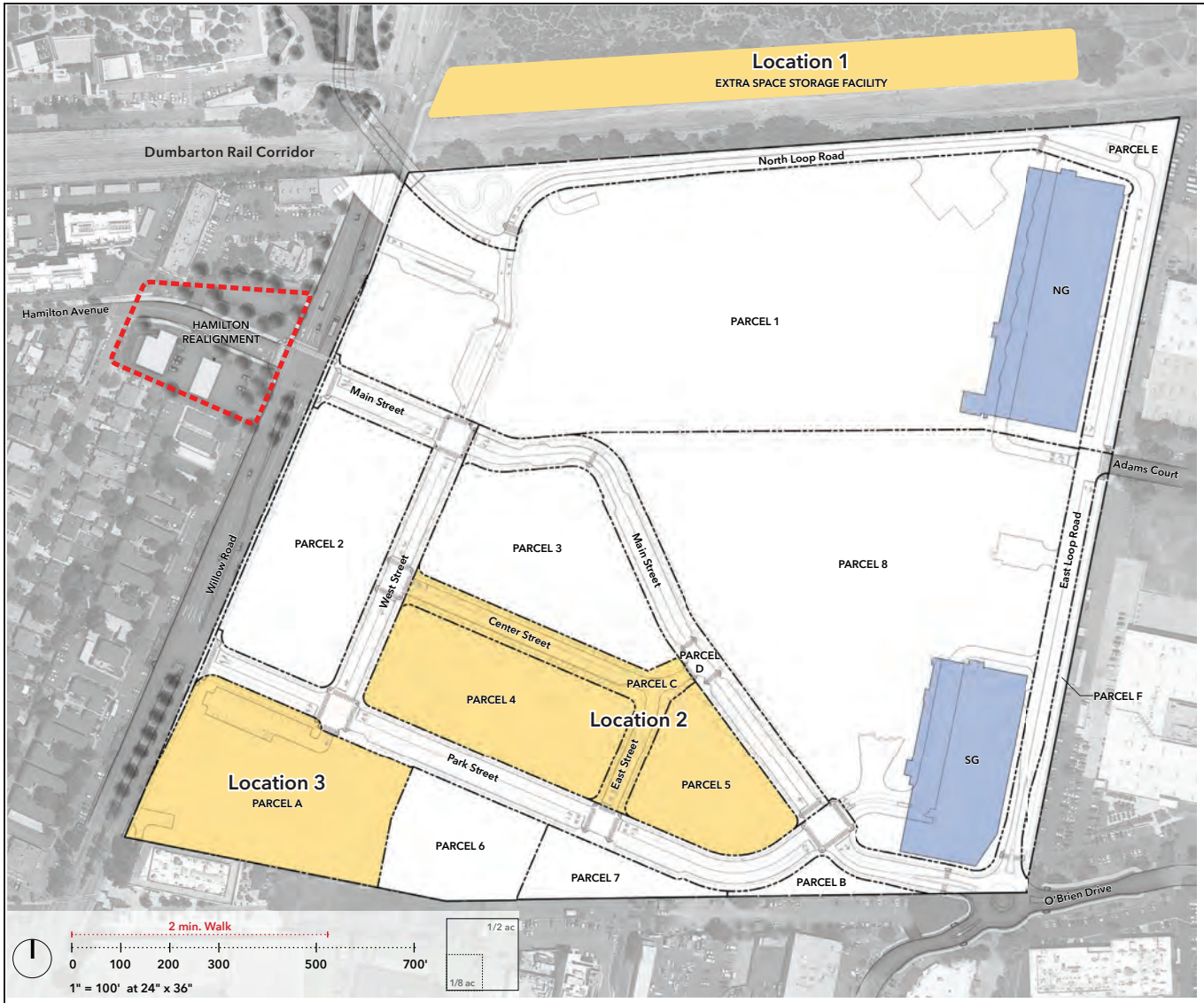
Construction Hours

To accommodate buildout of the Proposed Project, onsite construction work hours are proposed from 7:00 a.m. to 10:00 p.m. Monday through Saturday. In addition, construction work is proposed on Sunday, with work hours occurring between 8:00 a.m. and 6:00 p.m. It is anticipated that offsite improvements (e.g., transportation-related improvements and utility improvements) may necessitate evening and weekend construction hours to minimize impacts on traffic and circulation. Work conducted during evenings and on weekends would be limited to reduce potential disruptions to the broader neighborhood. Construction activities occurring outside the typical construction hours of 8:00 a.m. to 6:00 p.m. Monday through Friday would be required to comply with the City's Noise Ordinance, whereas construction activities taking place during typical construction hours would be allowed exceptions to this ordinance, per the Menlo Park Municipal Code.

Construction Grading

The existing main Project Site is relatively flat (approximately 0.5 percent slope south–north across the site), with elevations ranging from approximately 6 to 11 feet above NAVD88. Approximately 90 percent of the site is within FEMA flood hazard zone AE, which is subject to inundation by 100-year storm events. The site has a BFE of 11 feet NAVD88.[39] All occupiable buildings would have a minimum finished floor

[39] Federal Emergency Management Agency. 2019. *National Flood Hazard Layer Viewer.* Panel 307 of 510. FIRM 06081C0306F. April 5. Available: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed: March 10, 2021.



LEGEND

Potential Staging Areas:

- **Location 1**
  1520 Willow Road (Extra Space Storage Facility)
  Primary use will be for Willow Village onsite construction and tunnel work. Temporary laydown and storage of field trailers, conex boxes, forms, miscellaneous materials and equipment.
- **Location 2**
  Phase 2 Residential/Shopping District Development Area (Parcels 4, 5, C)
  Primary storage will be for stockpile of recycled aggregate base (AB) and crushed concrete. Overflow storage of miscellaneous materials and equipment (as applicable).
- **Location 3**
  3.5 Acre Publicly Accessible Park (Parcel A)
  Primary storage will be for stockpile of recycled aggregate base (AB) and crushed concrete. Overflow storage of miscellaneous materials and equipment (as applicable).

Garages (NG, SG) to accomodate construction working parking when completed.

Staging for the efforts associated with Hamilton Avenue realignment is acnticipated within the zone of construction activity.

Source: Peninsula Innovation Partners, 2021.

Graphics ... 104393 (2-16-2022) JC

ICF

Figure 2-18
Conceptual Construction Staging

elevation of 13 feet NAVD88 (minimum), which would be consistent with the City's Zoning Ordinance requirement of 2 feet above the BFE to accommodate future sea-level rise. Garage entrances would be graded to be above the 11-foot BFE. Temporary construction dewatering and shoring along utility trenches may be required in some isolated areas of the main Project Site to mitigate the effects of shallow groundwater.

With respect to Hamilton Avenue Parcels North and South, minor grading is anticipated with reconstruction of the Chevron service station and the construction activities associated with realigning Hamilton Avenue. These parcels are nearly flat, with grades ranging from about 6 to 12 feet NAVD 88.[40,41,42] To comply with City FEMA requirements, new habitable structures within the subject site would need to be set to an elevation of 12 feet (BFE 11 feet plus 1 foot). This requirement applies specifically to the new convenience mart building, which would have a finish floor elevation roughly 1.2 feet higher than the existing building. The new car wash and gas pump areas are non-habitable and thus would not have to adhere to the FEMA requirement. The gas pump area and connecting driveway grades would be graded to tie in with the realigned Hamilton Avenue and existing Willow Road. The new Chevron service station parcel would require approximately 500 cubic yards of soil import, which is anticipated to be soil generated from excavation and construction of the realigned Hamilton Avenue and associated utilities.

Construction Spoils, Debris, and Materials

Earthwork would reuse site soils and basement excavation spoils as onsite fill, where feasible. Although there are localized areas of undocumented fill, it is anticipated that all suitable soils would be reused onsite. Refer to Section 3.12, *Hazards and Hazardous Materials*, regarding soil suitability. Earthwork operations would be phased to optimize excavation, fill relocation, and construction processes. In addition, it is anticipated that concrete and asphaltic concrete would be crushed and recycled for later use onsite. However, the Project Site contains soil that is not suitable for reuse because of prior releases of chemicals of concern. Excavated soil would need to be disposed of at an appropriately permitted offsite facility, as needed or as approved by the California Department of Toxic Substances Control (DTSC). In accordance with the 1996 Covenant and Environmental Restrictions, a Removal Action Work (RAW) Plan would be prepared and implemented to identify appropriate soil removal action alternatives to protect construction personnel and future onsite occupants. Refer to Section 3.12, *Hazards and Hazardous Materials*, of this Draft EIR for more information regarding onsite contamination and cleanup.

In total, the Proposed Project would generate approximately 125,000 cubic yards of debris from structure demolition, of which approximately 101,000 cubic yards would be generated during Phase 1 and 24,000 cubic yards during Phase 2. Project Site excavation and grading activities are anticipated to generate approximately 175,000 cubic yards of excess soil, which would require offsite disposal. Construction soil and debris, including contaminated soil, would be sent to Ox Mountain Landfill (approximately 22.3 miles from the Project Site). If needed, soil would be sent to other landfills that serve Menlo Park, including the Zanker Landfill or Kirby Canyon Landfill.

---

40 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871-899 Hamilton Avenue, Menlo Park, California*. (Project Number 254-11-21.) June 10. Prepared for Meta, Inc., Menlo Park, CA. Sunnyvale, CA.

41 Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. (Project Number 254-11-15.) April 23. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

42 Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. (Project Number 254-45-1.) October 13. Prepared for Meta, Inc., Menlo Park, CA. Sunnyvale, CA.

2.5 Proposed Project Approvals and Analyses

City Analyses and Approvals

The following analyses and discretionary approvals by the City would be required prior to development at the Project Site:

- **Environmental Review.** Certification of the EIR**,** approval of a Mitigation Monitoring and Reporting Program, and consideration of CEQA findings to address potentially significant impacts and alternatives, including a Statement of Overriding Considerations to the extent that the EIR discloses potentially significant impacts that cannot be mitigated to less-than-significant levels.
- **City General Plan Circulation Map and Zoning Map Amendment.** Amendments to the City General Plan Circulation Map and Zoning Map would be required to modify the site-specific circulation plan with regard to the locations for new street connections to the surrounding roadway network as well as the locations of public rights-of-way and paseos within the Project Site.
- **Rezoning from O-B and R-MU-B to O-B-X and R-MU-B-X to Incorporate an X Overlay for the Project Site.** Rezoning of the main Project Site would be required to add a conditional development ("X") combining district, thereby allowing special regulations and conditions to be added at the main Project Site (combined with the underlying O-B and R-MU-B regulations) as part of a proposed master-planned project, pursuant to a CDP.
- **Conditional Development Permit (CDP).** A CDP would be required for the main Project Site to permit a master-planned project with bonus-level development, define any adjustments to City Zoning Ordinance development standards, permit temporary site uses (i.e. the dialysis center), identify project conditions and requirements, and create mechanisms for the City to use to process any revisions to the Proposed Project that might arise over the buildout period. The CDP for the main Project Site also would include conditional use approval for a master-planned project with bonus-level development in the O and RMU districts; offices and accessory uses greater than 20,000 sf in gross floor area (GFA) in an RM-U district or 250,000 sf in GFA in an O district; a hotel; eating establishments, including drinking establishments; and retail sales establishments, including those that sell alcohol.
- **Vesting Tentative Subdivision Maps.** The phased Vesting Tentative Subdivision Maps for the main Project Site propose to merge 18 existing parcels to create a new subdivision, consisting of parcels for residential, retail, hotel, and office developments; new public rights-of-way for street purposes; parcels for private street purposes; and park open space parcels. Multiple final maps are anticipated to match Proposed Project phasing; phases would be further parcelized for subphasing, financing, or other development purposes. A subdivision map for Hamilton Avenue sites also would create new parcels for Hamilton Avenue Parcels North and South and provide for abandonment and dedication of public rights-of-way. In addition, an encroachment of approximately 500 sf within the Menlo Park public utility and access easement is proposed to accommodate the Elevated Park elevator and stairs. Utilities within the encroachment area would be relocated either within the easement or the adjacent public right-of-way.

It is anticipated that the proposed right-of-way abandonment on both Hamilton Avenue and Hamilton Court would be abandoned through the subdivision mapping process; alternate public rights-of-way also would be dedicated through the subdivision mapping process. The existing right-of-way on Hamilton Avenue east of the Willow Road/Hamilton Avenue intersection and the entirety of Hamilton Court are proposed to be vacated and/or abandoned, including any and all public utility easements. In addition, approximately 225 linear feet of Hamilton Avenue west of Willow Road is proposed to be abandoned in conjunction with realignment of the Willow Road/Hamilton Avenue intersection. The Proposed Project would also dedicate approximately 5 acres of public right-of-way within the main Project Site (inclusive of the existing abandoned rights-of-way) to the City. These public rights-of-way are anticipated to include Main Street (between Willow Road and West Street and between Park Street and O'Brien Drive), West Street, Park Street, and East Loop Road (from O'Brien Drive to Adams Court). The proposed right-of-way dedication would exceed the minimum area of right-of-way dedication required by the adopted zoning map.

- **Architectural Control Approval.** The Project Sponsor anticipates seeking architectural control for Phase 1 of the Proposed Project on the main Project Site concurrently with approval of the CDP and DA through building-specific architectural control permits. Phase 2 and Hamilton Avenue Parcels North and South would be subject to subsequent architectural control approval by the Planning Commission through building-specific architectural control permits. Design review would be enabled through individual architectural control permits for each building.
- **Tree Removal Permits.** A tree removal permit would be required for each heritage tree proposed for removal, per Menlo Park Municipal Code Section 13.24.040. Approximately 266 heritage trees on the main Project Site are currently proposed to be removed; three of the heritage trees on Hamilton Avenue Parcels North and South would be removed. Tree removal permits would be approved by the City Arborist, unless appealed to the Environmental Quality Control Commission. The City Arborist would take action on the trees in advance of the Planning Commission and City Council public hearings on the Proposed Project. This conditional action would precede City Council action on other permits and approvals. if the Proposed Project is approved by the City Council (and the heritage tree permit actions are not appealed to the Environmental Quality Control Commission), then the heritage tree removal permits would become active.
- **Fiscal Impact Analysis.** A fiscal impact analysis would be required to evaluate the revenue and cost items considered. This would include police, fire, public works, recreation, and library programs; services provided to the public; and general government services for both the City and special districts (e.g., fire and school districts). The fiscal impact analysis would be considered by decision-makers when reviewing the requested land use entitlements.
- **Housing Needs Assessment.** A housing needs assessment would be required to evaluate the need for housing associated with the Proposed Project and inform the analysis of population and housing in the EIR. The housing needs assessment is a requirement of the Settlement Agreement between the City of Menlo Park and the City of East Palo Alto. The housing needs assessment will be available as part of this EIR for decision-makers to consider. The housing needs assessment is not a required analysis under CEQA.
- **Below-Market-Rate Housing Agreement.** Approval of a below-market-rate agreement would be required by the City Council for the provision of onsite units and/or payment of commercial linkage in-lieu fees.

- **Appraisal/Community Amenity Value Analysis.** The community development director would approve the form and content of an appraisal to identify the fair-market value of the additional gross floor area of the bonus-level development and 50 percent of that value, which is the value of the community amenities to be provided by the Project Sponsor. The Project Sponsor would also provide a fiscal analysis, subject to peer review by the City's independent expert financial consultant, to determine if the value of the proposed community amenity package equals the required value. The CDP and DA would specify the community amenities to be provided by the Proposed Project.
- **Development Agreement (DA).** A DA is required to permit a master-planned project. A DA would create vested rights in Project approvals, address issues regarding community amenities not otherwise identified in the approved list of amenities adopted by City Council resolution, address issues regarding implementation of the proposed design and infrastructure improvements, and specify any additional benefits to the City.
- **Use Permit**: A Use Permit is required for relocation of the existing service station.

Reviews/Approvals by Responsible and Other Potentially Interested Agencies

The reviews and approvals by responsible and other potentially interested agencies that may be needed for the Proposed Project to proceed are identified below. Some of these agencies will need to approve certain parts of the Proposed Project prior to full implementation, but their approval is not required for EIR certification. The list below includes responsible agencies and agencies that may be interested in the EIR. This list is not intended to confer responsible agency status to each listed agency.

- U.S. Army Corps of Engineers (USACE) – Approval of Clean Water Act Section 404 Permit, if necessary.
- Federal Emergency Management Agency (FEMA) – Approval of Flood Insurance Rate Mate (FIRM) amendment. The Project Site is adjacent to San Francisco Bay, near Willow Road, and in FIRM Panel 307 of 510 of map number 06081C0307F, dated April 5, 2019. Conditional Letter of Map Revisions (CLOMRs) and/or Letters of Map Revision (LOMR) would be processed with FEMA to remove the flood hazard designation for each parcel. CLOMRs would document that each parcels, as designed, would be built above the BFE. LOMRs would document that the parcel has been constructed above the BFE, as certified by a post-construction site survey.
- Bay Area Air Quality Management District – Permitting of asbestos abatement activities, if any, and permits for onsite generators. Permits may also be required for boilers and other utility equipment.
- California Department of Transportation (Caltrans) – Consultation on potential traffic improvements that may affect state highway facilities, ramps, and intersections; encroachment permits for Willow Road, the Willow Road Tunnel, and the Elevated Park; and approval for modifications to Willow Road.
- California Regional Water Quality Control Board/San Mateo Countywide Water Pollution Prevention Program – Approval of NPDES permit for stormwater discharge; approval of Clean Water Act Section 401 water quality certification, if necessary; and approval of Porter-Cologne Water Quality Control Act waste discharge requirements, if necessary.
- California Department of Fish and Wildlife – Approval of Streambed Alteration Agreement, if necessary.

- California Department of Toxic Substances Control (DTSC) – Oversight of the voluntary cleanup agreement on the main Project Site and review of the Project Vapor Intrusion Mitigation Plan (VIMP) and Soil Management Plan (SMP).
- City/County Association of Governments – Review of potential effects on Routes of Regional Significance and the proposed TDM program.
- San Mateo County Transportation Authority – Review of potential effects on public transit and review of Willow Road Tunnel.
- Menlo Park Fire Protection District – Approval of proposed fire prevention systems, onsite generators, and emergency vehicle access.
- San Mateo County, Environmental Health Division – Review of food service functions and onsite generators.
- West Bay Sanitary District – Approval of wastewater hook-ups and wastewater conveyance facilities.
- Native American Heritage Commission – Consultation regarding tribal cultural resources on the Project Site.
- San Francisco Public Utilities Commission (SFPUC) – Review and approval of access Hetch Hetchy right-of-way (for offsite access and circulation to/from the main Project Site).
- Pacific Gas and Electric Company (PG&E) – Approval of improvements to Ravenswood Substation and associated distribution lines.
- California Public Utilities Commission – Approval of improvements to Ravenswood substation and associated distribution lines, if needed.

Chapter 3
Environmental Impact Analysis

Chapter 3 of this Draft Environmental Impact Report (Draft EIR) presents an analysis of the potential impacts that the Willow Village Master Plan Project (Proposed Project) could have on existing environmental conditions. The environmental analysis has been prepared in accordance with the California Environmental Quality Act (CEQA), as amended (Public Resources Code Section 21000, et seq.), and the CEQA Guidelines.

CEQA Methodology

CEQA Guidelines Section 15151 provides guidance for the preparation of an adequate EIR:

- An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information that enables them to make a decision that intelligently takes account of the environmental consequences of a project.
- An evaluation of the environmental impacts of a project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.
- Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. (The courts have looked not for perfection but for adequacy, completeness, and a good-faith effort at full disclosure.)

In practice, this guidance suggests that EIR preparers should adopt a reasonable methodology upon which to estimate impacts and make reasonable assumptions using the best information reasonably available.

As discussed in Chapter 1, *Introduction*, because the Proposed Project's location and development parameters, including density, are consistent with the General Plan and M-2 Area Zoning Update (ConnectMenlo), the ConnectMenlo Program EIR (2016) serves as the first-tier environmental analysis for some of the effects of the Proposed Project (e.g., pursuant to CEQA Guidelines Sections 15152 and 15130(d)). Thus, this EIR tiers from the Program EIR, pursuant to CEQA Guidelines Sections 15152, 15168, 15162, 15183, and 15130(d). Where an EIR has been prepared or certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to effects that were not analyzed as significant in the prior EIR or that are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or by other means (CEQA Guidelines Section 15152[d]). By tiering from the ConnectMenlo EIR, the environmental analysis for the Proposed Project relies on the ConnectMenlo EIR, where applicable.

In many topic areas, the impacts of the Proposed Project are within the scope of the ConnectMenlo Program EIR, as determined in accordance with CEQA Guidelines Sections 15168 and 15162. In those cases, the Proposed Project would not have new or substantially more severe impacts than identified in the ConnectMenlo EIR, and there are not new or considerably different mitigation measures or alternatives that would substantially reduce significant impacts that the applicant has declined to adopt. Likewise, in may topic areas, there are no impacts peculiar to the Proposed Project that were not addressed in the ConnectMenlo EIR, or that would be substantially more severe than impacts identified in the ConnectMenlo EIR, or that cannot be substantially mitigated by the imposition of uniformly applied

development policies or standards, as determined in accordance with CEQA Guidelines Section 15183. For such impacts, CEQA does not require preparation of a new EIR. Nonetheless, given the magnitude of the Proposed Project and the substantial public interest, the City of Menlo Park (City) chose to prepare an EIR that discusses all CEQA impacts of the Proposed Project, including those adequately addressed in the ConnectMenlo EIR. Thus, although the EIR tiers from the ConnectMenlo EIR, in accordance with CEQA, for purposes of providing comprehensive information, the EIR discusses all impacts, even when not required by CEQA.

On December 29, 2016, the City of East Palo Alto filed suit to challenge certification of the ConnectMenlo Final EIR. To resolve the litigation, the City of Menlo Park and the City of East Palo Alto entered into a settlement agreement. This EIR was prepared in accordance with the terms of the 2017 settlement agreement, which allows simplification in accordance with CEQA Guidelines Section 15168 for all topic areas, except housing and transportation.

Organization of This Chapter

Each CEQA topic or environmental issue in this chapter is given its own section, each containing the subsections listed below.

- **Environmental Setting**—describes existing baseline conditions, including the environmental context and background. The environmental baseline for purposes of the analysis is discussed in detail below. As discussed in Chapter 2, *Project Description*, the Project Site includes the 59-acre main portion of the Project Site, which encompasses the Menlo Science and Technology Park, along with the 3.7-acre Hamilton Avenue Parcels with commercial uses.
- **Regulatory Setting**—describes federal, state, and local regulations regarding the impact topic that would be applicable to construction and operation of the Proposed Project.
- **Environmental Impacts**—makes reference to, and tiers from, the ConnectMenlo Final EIR, where appropriate. Standards of significance are identified and the Proposed Project's effects on baseline conditions are evaluated. If the change to baseline conditions would exceed the significance thresholds, this would constitute a significant impact, and mitigation measures to reduce, eliminate, or avoid the significant impacts would be suggested. This section also analyzes cumulative impacts, as described in detail below.

Determination of Significance

In accordance with Section 15022(a) of the CEQA Guidelines, the City uses the impact significance criteria designated by CEQA and suggested by CEQA Guidelines Appendix G. These criteria, as well as City-adopted significance criteria from the City's transportation impact analysis (TIA) guidelines for transportation impacts, are used to evaluate the impacts of the Proposed Project throughout this document. These criteria are listed at the beginning of the *Environmental Impacts* subsection under "Thresholds of Significance" throughout this chapter.

In determining whether impacts are significant, an EIR compares the potential impacts of a project with pre-project environmental conditions. Sections 15125(a) and 15126.2(a) of the CEQA Guidelines specify that the baseline normally consists of physical conditions that exist at the time the Notice of Preparation (NOP) is published or the time the environmental analysis begins. With the Proposed Project, the NOP

release date of September 18, 2019, serves as the environmental baseline from which impacts of the Proposed Project are measured. However, for some resource areas with data that were gathered at a later date, this date is considered the baseline and noted in each topical section as needed.

For each impact identified, a level of significance is determined using the classifications listed below. Significance determinations are indicated in ***bold, italicized*** text.

- ***No Impact (NI)*** denotes situations in which there is no possibility of an adverse effect on the environment.
- ***Less-than-Significant (LTS)*** impacts are effects that are noticeable but do not exceed established or defined thresholds or already are reduced below such thresholds (e.g., through compliance with applicable law or features of the Proposed Project).
- ***Significant*** impacts occur in cases in which the Proposed Project would have a significant impact on the environment.
- ***Potentially Significant (PS)*** impacts occur in cases in which it is not precisely clear whether a significant effect would occur. The analysis in these instances assesses probable conditions using conservative assumptions, but the discussion acknowledges that there is some uncertainty regarding the credible extent of the impact.

For each impact identified as being significant or potentially significant, the Draft EIR provides mitigation measures to reduce, eliminate, or avoid the adverse effect. Following analysis of the mitigation measures, a final conclusion is provided, as follows:

- ***Less-than-Significant Impact with Mitigation (LTS/M)*** is concluded when impacts would be significant or potentially significant, but implementation of Project-specific mitigation measures and/or mitigation measures from the ConnectMenlo EIR would reduce impacts to a level of less than significant.
- ***Significant and Unavoidable (SU)*** is concluded if the mitigation measures would not diminish the effects to less-than-significant levels.

CEQA does not require an analysis of impacts of the Project itself on Project occupants. Nonetheless, in the interest of full disclosure, this EIR does consider the impact of Project-related construction noise and vibration and air quality impacts on the Project's future residents and users that would occupy the Project Site following completion of the initial phase of the construction but before completion of construction of the full Project.

In addition, although transportation impacts under CEQA are no longer judged by the level of service (LOS) at intersections, this topic is addressed in the EIR for informational purposes only.

In Chapter 3, impacts are defined using an alphanumeric system that identifies the environmental topic of the impact. For example, NOI-1 denotes the presentation of the first impact in the Noise section. The abbreviated codes used to identify the environmental issues discussed in this chapter are listed below.

- AES—Aesthetics
- AQ—Air Quality
- BIO—Biological Resources
- CUL—Cultural Resources
- EN—Energy
- GEO—Geology and Soils
- GHG—Greenhouse Gas Emissions
- HAZ—Hazards and Hazardous Materials
- LU—Land Use
- NOI—Noise
- POP—Population and Housing
- PS—Public Services
- TRA—Transportation
- UT—Utilities and Service Systems
- HY—Hydrology and Water Quality

Mitigation Measures

The Proposed Project would be required to comply with all applicable mitigation measures identified in the ConnectMenlo Mitigation Monitoring and Reporting Program (MMRP), which is a requirement of any proposed development project in the city. Mitigation measures identified in this Draft EIR were first tiered from the ConnectMenlo MMRP; then, if required, further measures were developed during the analysis to reduce, minimize, or avoid potential environmental impacts associated with the Proposed Project. Project-specific mitigation measures presented in this EIR have been developed by the City and ICF, the City's environmental consultant, unless otherwise noted. For certain mitigation measures, Peninsula Innovation Partners, LLC (Project Sponsor), provided the measures within technical studies, as cited in the respective sections. Mitigation measures provided by the Project Sponsor in technical studies have been peer reviewed by ICF and integrated as warranted.

According to CEQA Guidelines Section 15126.4:

> The discussion of mitigation measures shall distinguish between measures that are proposed by project proponents to be included in a project and other measures proposed by the lead, responsible, or trustee agency or other persons that were not included but the agency determines could reasonably be expected to reduce adverse impacts if required as conditions of approving the project. This discussion shall identify mitigation measures for each significant environmental effect identified in the EIR.

In this Draft EIR, mitigation measures are provided immediately following each significant or potentially significant impact. For mitigation measures from the ConnectMenlo EIR, the titles and numbers correspond with those in the ConnectMenlo EIR. Project-specific mitigation measures are numbered to correspond to the impacts they address. For example, Project-specific Mitigation Measure CUL-2.1 refers to the first mitigation measure for Impact CUL-2 in the Cultural Resources section.

If the Proposed Project is approved by the City Council, an MMRP must be adopted. Pursuant to CEQA Guidelines Section 15097, an MMRP is a mechanism for monitoring and reporting revisions to a project or conditions of approval that the public agency required as mitigation to lessen or avoid a significant environmental effect. The City can conduct the reporting or monitoring, or it can delegate the responsibilities to another public agency or private entity that accepts the delegation. The MMRP for the Proposed Project will identify the specific monitoring actions that shall be completed, the various City departments or other entities that shall oversee completion of the mitigation, and a timeline for implementation of the measures. The responsible departments shall ensure that due diligence is carried out during implementation of the measures. Implementation of the MMRP would eliminate or reduce the severity of the significant impacts identified in this EIR.

Impacts Requiring No Further Analysis

Section 15128 of the CEQA Guidelines states that "an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." Implementation of the Proposed Project would not result in significant environmental impacts on agricultural and forestry resources or mineral resources. Therefore, these issues are not discussed further in Chapter 3 of this Draft EIR but are briefly summarized below.

Agricultural and Forestry Resources

The Project Site is within an urban area of the city. Specifically, the Project Site is within the Residential Mixed-Use (R-MU), Office (O), and Neighborhood Commercial, Special (C-2-S) zoning districts and classified as "Urban and Built-Up Land" by the State Department of Conservation. The Project Site is not used for agricultural production. Furthermore, it does not support forestry resources. Therefore, there would be no impact on agricultural and forestry resources, and no further analysis is required.

Mineral Resources

The Project Site is currently developed within an urban area. The ConnectMenlo Final EIR determined that there are no mineral resource recovery operations within the city. Therefore, there would be no impact related to mineral resources, and no further analysis is required.

Approach to Cumulative Impacts

In addition to the evaluation of project-specific impacts, CEQA also requires an evaluation of cumulative impacts. In accordance with CEQA, the discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to a project alone.

According to Section 15355 of the CEQA Guidelines:

> The term "cumulative impacts" refers to two or more individual effects that, when considered together, are considerable or capable of compounding or increasing other environmental impacts.
>
> (a) The individual effects may be changes resulting from a single project or a number of separate projects.
>
> (b) The cumulative impact from several projects is the change in the environment that results from the incremental impact of a project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Throughout this EIR, cumulative impacts are denoted by a "C" (e.g., Impact C-NOI-1). An analysis of cumulative impacts follows the Project-specific impact evaluation and recommendation of mitigation measures in each section. In some instances, a Project-related impact may be considered less than significant but result in a cumulatively considerable contribution to significant cumulative impacts in combination with development in the surrounding area. Conversely, depending on the facts and circumstances, a Project-specific significant impact may not result in a cumulatively considerable contribution to a significant cumulative impact.

As discussed in Chapter 1, *Introduction*, this EIR tiers from the ConnectMenlo Program EIR, pursuant to CEQA Guidelines Sections 15152 and 15168. ConnectMenlo included changes to the City's zoning map and rezoned specific properties to reflect City General Plan updates, including the new land uses within the Bayfront Area of the city. ConnectMenlo specifically identified the new development potential in the Bayfront Area (i.e., up to 2.3 million square feet of non-residential space; 400 hotel rooms; 4,500 residential units, of which 3,000 were assumed to be unrestricted units and 1,500 were assumed to be corporate housing units; 11,570 residents; and 5,500 employees).[1] The buildout potential for future development is expected to occur over a 24-year buildout horizon (from approximately 2016 to 2040).[2] CEQA Guidelines Section 15130 (d) permits a pertinent discussion of cumulative impacts contained in one or more previously certified EIRs to be incorporated by reference, pursuant to CEQA's tiering and program EIR provisions. When a project is consistent with a general plan and the lead agency determines that the cumulative impacts of the project were adequately addressed in the EIR for a general plan update, no further cumulative impacts analysis is required. The ConnectMenlo Program EIR adequately addressed the cumulative impacts of ConnectMenlo, and the Proposed Project is consistent with ConnectMenlo.[3] Accordingly, the cumulative impacts analysis contained in the ConnectMenlo EIR is summarized in this Draft EIR.

CEQA Guidelines Section 15130(b)(1) sets forth two primary approaches to the analysis of cumulative impacts. The analysis can be based on (1) a list of past, present, and probable future projects producing related impacts that could combine with those of a proposed project or (2) a summary of projections contained in a general plan or related planning document. The methodology used depends on which approach appropriately captures the cumulative context for the resource topic being analyzed. An introductory statement that defines the cumulative geographic context that is being analyzed and whether the approach is a list-based or projections-based approach is included at the beginning of each cumulative impacts section. Unless otherwise noted, the approach taken is consistent with that of the ConnectMenlo EIR, with the following refinements:

- Where a projections-based approach was used in the ConnectMenlo EIR and the projections have been updated since the ConnectMenlo EIR was prepared (e.g., Association of Bay Area Governments/Metropolitan Transportation Commission projections), the projections are updated accordingly.
- Where a list-based approach was used, the following two projects, which were not included in the buildout considered in the ConnectMenlo EIR, are considered:
    - **123 Independence Drive**. This project proposes 432 residential dwelling units, which exceeds the number of unrestricted units studied in the ConnectMenlo EIR by 151 but does not exceed the number included in ConnectMenlo (i.e., 4,500 units). This EIR considers the additional unrestricted residential units. (The balance of the 123 Independence Drive project is within the ConnectMenlo assumptions.)

---

1 The ConnectMenlo Final EIR included an evaluation of 4,500 residential units in the Bayfront Area, consisting of 3,000 unrestricted residential units and 1,500 corporate dormitory-style housing units on the Facebook East Campus (also known as the Classic Campus).

2 Although the ConnectMenlo Final EIR assumed a buildout horizon of 2040, the maximum development potential may be reached sooner than anticipated. However, the ConnectMenlo Final EIR evaluated the maximum development potential that could occur at any given time and did not consider phased buildout of the development potential; therefore, no new or additional impacts are anticipated as a result of the expedited buildout.

3 As evaluated in this EIR, the minor revisions to the circulation plan proposed by the Project do not affect the environmental analysis.

- **East Palo Alto Projects**. In June 2016, in response to a water shortage, East Palo Alto adopted a moratorium that prohibited new or expanded water service connections for a period of 2 years.[4] The moratorium effectively halted new development within East Palo Alto's jurisdictional boundary; for that reason, the ConnectMenlo EIR did not consider East Palo Alto projects in the cumulative scenario. In 2018, the City of Palo Alto entered into an agreement with the City of East Palo Alto to permanently transfer 1.5 million gallons of water per day.[5] Because of the increased water supply, the moratorium was lifted, and East Palo Alto was again able to proceed with development applications. For this reason, and given the proximity of currently proposed projects in East Palo Alto to the Project Site, the cumulative scenario for the Proposed Project considers development projects that are under construction, approved, or pending in East Palo Alto.

Past, present, and probable future projects known at the time of preparation of this Draft EIR are included in Tables 3.0-1 and 3.0-2 and shown in Figure 3.0-1, Cumulative Projects. These include Menlo Park projects, which are listed in Table 3.0-1, and East Palo Alto projects, which are listed in Table 3.0-2. These are projects for which an application is on file or projects that have been entitled but have not, as of the time when the EIR analysis was initiated (September 2019), begun construction, and projects currently under construction.[6] As shown, these projects include new residential, office, hotel, and mixed-use projects. As described above, with the exception of the additional unrestricted residential units proposed as part of the 123 Independence Drive project, all of the listed Menlo Park projects were considered in ConnectMenlo. Thus, where a list-based approach was used, this EIR adds to the ConnectMenlo analysis only the additional unrestricted units in the 123 Independence Drive and the East Palo Alto projects.

[4] City of East Palo Alto. 2021. *City Council Staff Report, Proposed Minimum Purchase Obligation Transfer from the City of Mountain View to the City of East Palo Alto*. February 16.

[5] City of Palo Alto. 2018. *City Council Staff Report, Approval of the City of Palo Alto's Addendum to the Negative Declaration Adopted by the City of East Palo Alto, and Approval of an Agreement for the Permanent Transfer of a Portion of the City of Palo Alto's Individual Supply Guarantee to the City of East Palo Alto.* May 7.

[6] Although this list of projects is based on the Proposed Project's NOP date, the City subsequently determined that the list of projects should be updated as of December 2020. Table 3.0-1 and Table 3.0-2 reflect the planned projects as of December 2020, with the exception of the proposed 123 Independence Drive project, which was subsequently revised by the Project Sponsor in June 2021 to remove the office component and increase the residential dwelling units.

Table 3.0-1. Cumulative Projects – Menlo Park

ID	Address	Land Use (net change) and Unit						Status
		Office (sf)	Retail/ Commercial (sf)	R&D/Light Industrial (sf)[a]	Other (sf)	Hotel (rooms)	Residential (du)	
1	105–155 Constitution Dr (Menlo Gateway Phase 2)	361,362	—	—	—	—		Under construction, temporary occupancy
2	1285 El Camino Real (aka 1283–1295 El Camino Real)	-4,474	—	—	—	—	15	Completed
3	133 Encinal Ave (Roger Reynolds)	—	-6,166	—	—	—	24	Completed
4	1010–1026 Alma St	25,156	-9,948	—	—	—		Completed
5	650–660 Live Oak Ave (Minkoff Group)	10,858	—	—	—	—	15	Completed
6	1275 El Camino Real	9,334	603	—	—	—	3	Approved, under construction
7	301–309 Constitution Dr (Facebook Expansion Project)	835,388	—	-384,675	—	200	—	Under construction, Building 21 completed, temporary occupancy granted for Building 22, hotel construction proposed
8	500 El Camino Real (Stanford)	142,840	10,286	-70,545	—	—	215	Approved, under construction
9	150 Jefferson Dr (new magnet high school)	—	—	-43,986	40,000[b]	—	—	Partially completed (9th, 10th, and 11th grades only)
10	1300 El Camino Real (Greenheart)	203,000	8,600	—	—	—	183	Approved, under construction
11	1021 Evelyn St (841 Menlo Ave)	6,610	—	—	—	—	3	Approved, proposed construction
12	2111–2121 Sand Hill Road (Stanford)	39,010	—	—	—	—	—	Pending construction
13	1430 O'Brien Dr	—	7,652	66,583	10,223[c]	—	—	Completed

ID	Address	Land Use (net change) and Unit						Status
		Office (sf)	Retail/ Commercial (sf)	R&D/Light Industrial (sf)[a]	Other (sf)	Hotel (rooms)	Residential (du)	
14	40 Middlefield Rd	3,584	—	—	—	—	—	Approved, proposed construction
15	949 El Camino Real (Guild Theatre)	—	—	—	6,682 [d]	—	—	Approved, under construction
16	1540 El Camino Real	40,759	-23,536	—	—	—	27	Approved, under construction
17	115 El Camino Real	—	1,543	—	—	-13	4	Approved, proposed construction
18	506–556 Santa Cruz Ave	17,877	-7,458	—	—	—	—	Under construction, temporary occupancy
19	1125 Merrill St	4,366	-1,887	—	—	—	1	Under construction, temporary occupancy
20	409 Glenwood Ave	—	—	—	—	—	5	Approved, proposed construction
21	1350 Adams Court (1315 O'Brien Drive)	—	—	260,400	—	—	—	Pending construction
22	111 Independence Dr	-15,000	746	—	—	—	105	Pending construction
23	1125 O'Brien Dr		2,760	68,881	—	—	—	Pending construction
24	162–164 Jefferson Dr (151 Commonwealth Dr)	249,500	—	—	—	—	—	Pending construction
25	555 Willow Rd	-1,400	—	—	—	—	3	Pending construction
26	1704 El Camino Real (Boutique Hotel – Hampton Inn)	—	—	—	—	18	—	Pending construction
27	706–716 Santa Cruz Ave	23,454	-3,140	—	—	—	4	Approved, proposed construction
28	1345 Willow Rd	—	—	—	—	—	58	Approved, proposed construction
29	201 El Camino Real	—	1,127	—	—	—	10	Approved, proposed construction

ID	Address	Land Use (net change) and Unit						Status
		Office (sf)	Retail/ Commercial (sf)	R&D/Light Industrial (sf)[a]	Other (sf)	Hotel (rooms)	Residential (du)	
30	141 Jefferson Dr (Menlo Uptown)	—	2,940	-108,411	—	—	483	Pending construction
31	1162 El Camino Real	—	-11,062	—	—	—	9	Pending construction
32	3723 Haven Ave (Hotel Moxy)	—	—	-13,700	—	—	163	Pending construction
33	110 Constitution Dr and 115 Independence Dr (Menlo Portal)	-4,922	1,608	-25,091	—	—	335	Pending construction
34	301 Constitution Drive (Citizen M Hotel Conditional Development Permit Amendment)[e]	—	—	—	—	40	—	Approved, proposed construction
35	1075 O'Brien Dr	94,617	9,869	-26,715	—	—	—	Pending construction
36	1550 El Camino Real	18,500	—	—	—	—	8	Pending construction
37	165 Jefferson Drive (Menlo Flats)	-24,300	15,000	—	—	—	158	Pending construction
38	123 Independence Drive (Sobrato Mixed Use)[f]	88,750	—	-108,461	—	—	432	Pending construction
Total		2,120,395	-1,304	-385,720	56,905	245	2,278	

Source: City of Menlo Park. 2020.

Notes:

Although this list is based on the Proposed Project's NOP date, the list is updated to reflect the various projects' status as of December 2020 and more recent setting conditions relative to the Proposed Project.

Table includes all projects in Menlo Park that have filed a complete development application for five or more net new residential units or 5,000 sf or more of net new commercial development.

Some projects involve structure demolition. Demolished buildings are listed for only projects that receive credit for traffic purposes.

a. This category includes manufacturing.
b. This is a school that will accommodate up to 400 students.
c. This is a fitness gym for the campus.
d. This is an entertainment venue.
e. Forty additional hotel rooms are being requested, beyond the 200 listed in the Facebook Campus Expansion Project detailed earlier in this list; project remains subject to the West Campus trip cap.
f. The property at 123 Independence Drive exceeds the number of residential units studied in the ConnectMenlo EIR but does not exceed the total cap on residential units. A full EIR is required; the 151 additional units should be considered in cumulative analyses for other projects in the city.

sf = square feet; du = dwelling unit

Table 3.0-2. Cumulative Projects – East Palo Alto

ID	Address	Land Use (net change) and Unit						Status
		Office (sf)	Retail/ Commercial (sf)	R&D/Light Industrial (sf)[a]	Other (sf)	Hotel (rooms)	Residential (du)	
A	1039 and 1063 Garden Street (KIPP School)	—	—	—	—	—	—	Approved
B	1960 Tate Street (Woodland Park Euclid Improvements)	—	—	—	—	—	444	Proposed
C	1893 Woodland Avenue (Glory Mobile Home Park Conversion Impact Report)	—	—	—	—	—	-30	Approved
D	717 Donohoe Street	—	—	—	—	—	14	Proposed
E	2340 Cooley Avenue	—	—	—	—	—	6	Proposed
F	1201 Runnymede Street	—	—	—	—	—	32	Approved
G	760 Weeks Street	—	—	—	—	—	10	Approved
H	990 Garden Street	—	—	—	—	—	7	Proposed
I	2519 Pulgas Avenue (The Sobrato Office Project)	65,000	—	—	—	—	—	Proposed
J	2535 Pulgas Avenue (JobTrain Office Project)	102,478	—	-4,500	—	—	—	Proposed
K	2050 University Avenue (University Circle Phase II)	180,00	—	—	—	—	—	Proposed
L	151 Tara Street/264 Tara Street/230 Demeter Street/ 350 Demeter Street/391 Demeter Street (East Palo Alto Waterfront Project)	750,000	50,000	550,000	40,000	—	260	Proposed
M	1990 Bay Road/1175 Weeks Street/ 1250 Weeks Street (The Landing at EPA – Harvest Properties)	879,979	23,521	-15,000	23,500	—	—	Proposed
N	1675 Bay Road (Four Corners)	—	40,000	500,000	—	—	180	Proposed
O	2020 Bay Road	1,381,460	3,500		18,000			Proposed
P	1804 Bay Road	—	1,903	—	5,936	—	75	Approved
Total		3,178,917	118,924	1,035,000	87,436	0	998	

sf = square feet; du = dwelling unit

3.1 Land Use and Planning

This section describes existing and proposed land uses within the site for the Willow Village Master Plan Project (Proposed Project) and surrounding area and evaluates the potential for the Proposed Project to physically divide an established community or cause a significant environmental impact due to a conflict with land use policies adopted for the purpose of avoiding or mitigating environmental effects. This section also addresses the consistency of the Proposed Project with applicable land use goals and policies from the City of Menlo Park (City) General Plan,[1] the Menlo Park Municipal Code, and the Title 16 Zoning Ordinance. The City General Plan and Menlo Park Municipal Code consistency analysis is provided for environmental review purposes only. The City Council will ultimately determine the Proposed Project's consistency with the goals and policies of the City General Plan and the requirements of other City planning documents.

Under the California Environmental Quality Act (CEQA), land use and planning analyses generally consider two thresholds: 1) the extent to which a project may physically divide an established community and, 2) the consistency of a project with relevant local land use policies adopted to mitigate or avoid an environmental effect. With respect to the thresholds, the magnitude of the impact depends on how a project affects the existing development pattern, development intensity, and air quality, noise, and the visual setting in the immediate area. Specific environmental issues (e.g., visual, transportation, air quality, noise) and their potential significance are discussed in detail in the associated topical resource sections of this Draft Environmental Impact Report (Draft EIR) (e.g., Section 3.3, *Transportation/Traffic*, Section 3.6, *Noise*). In addition, the analysis presented in this section implements General Plan and M-2 Area Zoning Update (ConnectMenlo) Mitigation Measure LU-2, which requires, as part of any future project application processes, projects to demonstrate consistency with applicable goals, policies, and programs in the City General Plan and supporting zoning standards to the satisfaction of the City's Community Development Department.

Issues identified in response to the Notice of Preparation (NOP; Appendix 1) were considered in preparing this analysis. The City received two comments in response to the NOP related to land use. One comment requested an analysis that considers the Proposed Project's consistency with adopted San Francisco Public Utilities Commission (SFPUC) plans and policies. The other requested an analysis that considers how the Proposed Project would be integrated with land uses south of the Project Site and recommended that bicycle- and pedestrian-friendly neighborhoods be integrated into the plan.

Existing Conditions

Environmental Setting

Adjacent Uses

The Project Site is located in the city of Menlo Park. The city encompasses an area of about 19 square miles, including nearly 12 square miles of the San Francisco Bay (Bay) and wetlands. The approximately 7-square-mile urbanized portion of the city is predominately built out. The main Project Site is generally bounded by the currently inactive Dumbarton Rail Corridor to the north, an existing life science

[1] The City General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2015–2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016.

complex to the east (Menlo Park Labs Campus), the SFPUC Hetch Hetchy right-of-way to the south, and Willow Road to the west. Hamilton Avenue Parcels North and South are adjacent to and west of Willow Road. Figure 2-1, Project Location, in Chapter 2, *Project Description*, depicts the Project Site and adjacent uses. North of the Dumbarton Rail Corridor, across State Route 84 (Bayfront Expressway), are tidal mudflats and marshes along the Bay, Don Edwards San Francisco Bay National Wildlife Refuge (Refuge), and Ravenswood Slough.

The Belle Haven neighborhood of Menlo Park is west of the Project Site, across Willow Road. Hamilton Avenue Parcels North and South are adjacent to the Belle Haven neighborhood, which includes a mix of uses including churches, Menlo Park Fire Station No. 77, single-family residential units, multi-family residential units, and institutional buildings. The Belle Haven neighborhood's institutional and park uses include Beechwood School, Belle Haven Elementary School, the Belle Haven Pool, Belle Haven Youth Center, Onetta Harris Community Center, Menlo Park Senior Center, the Boys and Girls Club, Hamilton Park, Karl E. Clark Park, the Belle Haven Community Garden, and Kelly Park. As part of a separate project, the Onetta Harris Community Center and Menlo Park Senior Center is being redeveloped into a new multi-generational facility that will incorporate the current Onetta Harris Community Center, Menlo Park Senior Center, Belle Haven Youth Center (childcare), Belle Haven Pool, and a branch library (commonly referred to as the Menlo Park Community Campus). Construction of the Menlo Park Community Campus began in May 2021 and is expected to continue through January 2023.

The majority of the Belle Haven neighborhood is zoned as R-1-U (Single-Family Urban Residential District), with a City General Plan land use designation of Low-Density Residential. Along the southern border of the Dumbarton Rail Corridor and the parcels along US 101, the zoning designations include R-3, R-4-S, and C-2-S (Neighborhood Commercial District, Special). Along Willow Road, the zoning designations include C-2-S, R-3, R-4-S (High-Density, Special) and C-2-B (Neighborhood Commercial District, Restrictive). Other zoning in the Belle Haven neighborhood includes P-F (Public Facilities) for Belle Haven Elementary School, Joseph B. Kelly Park (Kelly Park), and the Menlo Park Community Campus (adjacent to Kelly Park) and OSC (Open Space and Conservation) for Hamilton Park.

Two Menlo Park schools are directly south of the main Project Site: Open Mind School/Wund3rSCHOOL and Mid-Peninsula High School. Open Mind School/Wund3rSCHOOL is a small private school for pre-kindergarten through 12th-grade students. The school is across from the Hetch Hetchy right-of-way on O'Brien Drive. Mid-Peninsula High School is a private high school at 1340 Willow Road, abutting the main Project Site to the south. In the broader Bayfront Area, the Sequoia Union High School District operates the TIDE Academy, a small public high school at 150 Jefferson Drive in Menlo Park, approximately 1.25 miles west of the main Project Site near the Marsh Road and US 101 interchange.

Neighborhoods in East Palo Alto are east (across University Avenue) and south (across O'Brien Drive) of the Project Site. Included in these neighborhoods, as close as 0.1 mile from the main Project Site, are single-family residential units; multi-family residential units; neighborhood-serving retail uses; César Chávez Ravenswood Middle School; Creative Montessori Learning; the 4 Corners Civic Hub, including the East Palo Alto Library, city hall, and post office; Costaño School and San Francisco 49ers Academy; and Jack Farrell Park.

The Dumbarton Rail Corridor is immediately north of both the Project Site and Belle Haven neighborhood. The railway, which is owned by the San Mateo County Transit District (SamTrans), crosses the northernmost part of the city from east to west. It is part of a former Union Pacific right-of-way that once crossed the Bay. The SamTrans corridor spans across the Bay from Redwood City to Newark. The railway currently consists of a single track; the bridge that served the railway is no longer functional. Although

the railway is no longer in use, SamTrans studied the bicycle/pedestrian trail adjacent to the railway, along with other transportation alternatives, as part of the Dumbarton Transportation Corridor Study.[2] This study was completed in 2017. SamTrans is currently evaluating the technical and financial feasibility of the recommendations from the 2017 study. The evaluation was put on hold in spring 2020 because of the COVID-19 pandemic but restarted in spring 2021. According to SamTrans, the evaluation is ongoing. Located beyond the railway, north of Bayfront Expressway, is the Meta Platforms, Inc. ("Meta"), Campus, consisting of Buildings 10–19 (referred to as the East Campus); located west of Willow Road are Buildings 20–23 (referred to as the West Campus). Located farther north, beyond the campuses, is the Refuge and Ravenswood Slough.

Project Site

As described in Chapter 2, *Project Description*, the 59-acre Project Site encompasses the Menlo Science and Technology Park, which, historically, supported industrial uses. The Project Site also includes Hamilton Avenue Parcels North and South, approximately 3.1 acres of retail uses west of Willow Road at the intersection with Hamilton Avenue. As detailed in Table 2-1, the main Project Site contains 20 buildings with employee amenities/support services (for Meta) and a mix of office, research-and-development (R&D), and warehousing uses at the following addresses: 1350–1390 Willow Road, 925–1098 Hamilton Avenue, and 1005–1275 Hamilton Court. Buildings at the main Project Site were constructed between 1956 and 1996 and have an area of approximately 1 million square feet (sf). Building heights range from approximately 21 feet to a maximum of approximately 38 feet. Landscaping consists of mostly native trees, hedges, and plant material, although most of the site is paved. Hamilton Avenue Parcel North is a 1.8-acre block at the northwest corner of Willow Road and Hamilton Avenue; it is currently developed with approximately 16,000 sf of retail buildings. Hamilton Avenue Parcel South is a 1.3-acre parcel at the southwest corner of Willow Road and Hamilton Avenue; it includes a Chevron gas station with approximately 4,500 sf of retail space and a car wash.

The main Project Site was previously zoned M-2 (General Industrial), which permitted office and general industrial uses, such as warehousing, manufacturing, printing, and assembling, but did not allow housing, retail, or any form of mixed-use development. In 2016, as part of ConnectMenlo and an associated rezoning effort, nearly half of the main Project Site was rezoned for Residential Mixed-Use (R-MU) development, with the remainder zoned for Office (O) development. Hamilton Avenue Parcels North and South continued to be zoned Neighborhood Commercial, Special (C-2-S); no changes to the C-2-S zoning district were incorporated into ConnectMenlo.

The main Project Site is currently accessible from a stoplight-controlled intersection at Willow Road via Hamilton Avenue/Hamilton Court and from two driveways off northbound Willow Road. Multiple curb-cut entrances off Hamilton Avenue/Hamilton Court lead into the primary parking area for each building. There are approximately 2,300 parking spaces at the main Project Site. Hamilton Avenue Parcels North and South are accessible from a driveway on southbound Willow Road and a driveway along Hamilton Avenue. There are approximately 66 parking spaces at Hamilton Avenue Parcel North and 24 parking spaces at Hamilton Avenue Parcel South.

[2] San Mateo County Transit District. 2020. *Dumbarton Rail Corridor Study*. Available: https://www.samtrans.com/Planning/Planning_and_Research/Dumbarton_Rail_Corridor.html. Accessed: October 28, 2021.

Regulatory Setting

Plan Bay Area

Senate Bill (SB) 375, adopted in 2008, requires preparation of a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan (RTP) for the Bay Area. The Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) adopted Plan Bay Area 2040 in 2017 and Plan Bay Area 2050 in 2021. Because Plan Bay Area 2050 has not been formally adopted by the California Air Resources Board (CARB) and has been challenged in court, both plans are discussed below.

Plan Bay Area 2040

Plan Bay Area 2040 is the integrated land use/transportation plan and demographic/economic forecast for the nine-county San Francisco Bay Area region. The plan coordinates housing plans, open space conservation efforts, economic development strategies, and transportation investments. One of the main goals of Plan Bay Area 2040 is to reduce greenhouse gas (GHG) emissions from cars and light-duty trucks through 2040 to meet state goals under SB 375. Under SB 375, Metropolitan Planning Organizations such as MTC must develop an SCS as part of the RTP. Plan Bay Area 2040 functions as both the SCS and the RTP for the region.

To reduce GHG emissions, Plan Bay Area 2040 promotes compact, mixed-use, infill development within bikeable/walkable neighborhoods that are close to public transit, jobs, schools, shopping, parks, recreation, and other amenities. Local jurisdictions voluntarily identified Priority Development Areas (PDAs) as appropriate locations for these types of neighborhoods. PDAs are eligible for capital infrastructure funds, planning grants, and technical assistance. The adopted Plan Bay Area 2040 estimates that approximately 80 percent of the region's future housing needs may be met within PDAs. The strategy of focusing growth within PDAs maximizes travel choices, reduces dependency on driving, takes advantage of existing infrastructure capacity, and reduces pressure to develop open space. Many PDAs are also eligible transit priority project (TPP) areas,[3] and most of the TPP-eligible land in the Bay Area is within PDAs. Although the Project Site is not within a TPP-eligible area, it is adjacent to the Ravenswood PDA in East Palo Alto.[4] Table 3.1-1 illustrates the anticipated jobs and housing for the city of Menlo Park, as projected by ABAG and considered in Plan Bay Area 2040 as of 2017. As shown, the number of households is projected to increase by 5,400 between 2010 and 2040, while the number of jobs in the city is expected to grow by 7,900 during that same period. According to the ABAG's projections, which do not include Meta's expected growth, the jobs/housing ratio is anticipated to improve in 2040.

Plan Bay Area 2050

Plan Bay Area 2050, adopted by MTC and ABAG in October 2021, includes transportation and environmental strategies that support active and shared modes of travel combined with a transit-supportive land use pattern that places housing near transportation centers. Implementation of the strategies are forecast to lower the number of Bay Area residents who drive to work alone from 50 percent

[3] Per Public Resources Code Section 21155 et seq., to qualify as a transit priority project, a project must meet the following criteria: be consistent with the general use designation, density, building intensity, and applicable policies of the adopted RTP/SCS; have at least 50 percent residential use; have a FAR of 0.75 or more if the project has between 26 and 50 percent non-residential uses; have a minimum net density of at least 20 dwelling units per acre; and be located within 0.5 mile of a major transit stop or high-quality transit corridor included in the RTP/SCS.

[4] Metropolitan Transportation Commission. 2021. *MTC Policy Map Explorer*. Available: https://mtc.maps.arcgis.com/apps/View/index.html?appid=1b8fdd83aa564aa180a59e9b7c4583ca. Accessed: November 4, 2021.

Table 3.1-1. Comparison of Projected Number of Jobs to Housing in Menlo Park (Plan Bay Area 2040)

	2010	2040
Jobs[a]	34,600	42,500
Households[a]	12,300	17,700
Jobs/Household Ratio	2.8	2.4

Source: Metropolitan Transportation Commission and Association of Bay Area Governments. 2017. *Plan Bay Area, Land Use Modeling Report*. July.

Note:

[a] Jobs and housing are based on the city's sphere of influence, which also includes unincorporated areas of San Mateo County. Although the original Plan Bay Area listed this value as "housing," the 2017 update refers to this as "households."

in 2015 to 33 percent in 2050, leading to a 20 percent decrease in GHG emissions compared to 2005 and meeting the state mandate that calls for a 19 percent decrease in GHG emissions by 2050.[5] Plan Bay Area 2050 reports household and employment growth projections at the regional, county, and sub-county level. The number of households in San Mateo County is expected to increase by 129,000 from 2015 to 2050, and the number of jobs is expected to increase by 114,000 in the same period.[6] Because Plan Bay Area 2050 reports household and employment growth at the regional, county, and sub-county level and Plan Bay Area 2040 reports household and employment growth at the city level, a comparison table (i.e., between the 2040 and 2050 projects from each Plan Bay Area report) is not provided.

SFPUC Right-of-Way Encroachment Policy

As discussed in Section 3.1, above, the SFPUC requested that the Proposed Project consider consistency with their plans and policies in the Draft EIR; the applicable SFPUC polices to the Proposed Project include the Right-of-Way Encroachment Policy. As part of its utility system, the SFPUC operates and maintains approximately 1,600 miles of water pipelines and tunnels, 160 miles of electrical transmission lines, and 900 miles of sewer lines and related appurtenances that run through real property located in San Francisco, San Mateo, Santa Clara, Alameda, Tuolumne, Stanislaus and San Joaquin Counties. To support management of these lines, the SFPUC adopted its Right-of-Way Encroachment Policy in 2007. Increased urbanization and development around a water transmission line right-of-way in particular led to an increase in the number of encroachments onto the right-of-way. Because of limited resources and the variation in safety and other threats posed by different encroachments, the SFPUC continuously prioritizes known encroachments. Prioritization is conducted to ensure that encroachments that pose the greatest threat to pipeline access, construction, safety, and security are addressed first, along with encroachments that can be easily removed. Depending on the nature of the encroachment, at the sole discretion of the SFPUC, response options may include:

- Immediate removal,
- Removal within a specified period of time,
- Possible modifications to the encroachment, and/or
- Development of a permit agreement with provisions acceptable to the SFPUC.

[5] Metropolitan Transportation Commission and Association of Bay Area Governments. 2021. *Plan Bay Area 2050.* Adopted: October 2021. Available: https://www.planbayarea.org/finalplan2050. Accessed: February 2, 2022.

[6] Metropolitan Transportation Commission and Association of Bay Area Governments. 2021. *Plan Bay Area 2050, Final Blueprint Compendium.* Adopted: October 2021. Available: https://www.planbayarea.org/sites/default/files/FinalBlueprintRelease_December2020_Compendium_Jan2021Update.pdf. Accessed: February 2, 2022.

With respect to possible modifications to an encroachment and development of a permit agreement, the SFPUC's policy is that ancillary uses and encroachments in the right-of-way are permitted only when the uses provide identifiable benefits for the SFPUC, as determined by the SFPUC Water Enterprise and Real Estate Services personnel. Approval of permitted uses shall be consistent with existing SFPUC policy and be processed by Real Estate Services. In specific cases, the SFPUC will allow use of the right-of-way by third parties to enhance maintenance efforts and reduce maintenance costs for the SFPUC. For example, the SFPUC provides for the leasing or permitting of portions of rights-of-way with nominal revenue-generating potential to property owners whose land was bisected by the SFPUC as well as neighborhood associations, municipal governmental entities, non-profit groups, and similar entities at little or no cost, provided they agree to maintain the surface of the right-of-way in a good and safe condition acceptable to the SFPUC and indemnify the SFPUC for any injury or loss related to such third-party use.[7]

ABAG Bay Trail Plan

The ABAG Bay Trail Plan proposes development of a regional biking and hiking trail around the perimeter of San Francisco Bay and San Pablo Bay. The Bay Trail Plan mandates that the San Francisco Bay Trail (Bay Trail) provide connections to existing park and recreational facilities, create links to existing and proposed transportation facilities, and be planned in a way that avoids adverse effects on environmentally sensitive areas. The Bay Trail Plan policies and design guidelines are intended to complement, rather than supplant, the adopted regulations and guidelines of local managing agencies. Implementation of the Bay Trail Plan relies on continued cooperation among shoreline property owners as well as federal, state, and local agencies with jurisdictions over the trail alignment. The Elevated Park and Willow Road Tunnel would link the onsite multi-use pathway with the East Campus, which provides Bay Trail access. However, because Proposed Project improvements would not provide direct links to the Bay Trail, it would not necessitate application of the Bay Trail Plan. Consideration of the ABAG Bay Trail Plan is included for informational purposes.

Menlo Park General Plan (ConnectMenlo)

California planning law requires each city and county in the state to adopt a general plan for its future development. A general plan identifies the allowable land uses within its boundaries and establishes policies for both development and the protection of resources. It forms the foundation for a zoning ordinance, which establishes regulatory standards for development and resource protection. The City General Plan, known as ConnectMenlo, adopted in 2016, is a long-term plan that guides the physical development and character of the city. The City General Plan discusses the City's goals, policies, and implementation programs regarding future growth and development in the city. It also provides a framework for implementation of the City's zoning, subdivision, and building regulations, as codified in the Menlo Park Municipal Code. As such, the City General Plan is used by the City Council and Planning Commission in considering planning and land use decisions. The central purpose of the City General Plan, as stated in the document, "is to maintain the community's special character, including a range of residential, business, and employment opportunities, and accommodate change that will help maintain a vital community."[8]

---

7 San Francisco Public Utilities Commission. 2007. *Right-of-Way Encroachment Policy*. Available: https://sfpuc.org/sites/default/files/construction-and-contracts/ROW_EncroachmentPolicy_2007.pdf. Accessed: November 4, 2021.

8 City of Menlo Park. 2016. *ConnectMenlo General Plan*. Adopted: November 16. Available: https://www.menlopark.org/DocumentCenter/View/15013/Land-Use-and-Circulation-Element_adopted-112916_final_figures?bidId=. Accessed: May 17, 2021.

General Plan—Land Use Designations. The Land Use Diagram in the City General Plan depicts the land use pattern for future development in the city. The boundaries of the land use designations in the Land Use Diagram are depicted generally. The land use designations are meant to outline building intensity and population density for various land uses. The City General Plan designates the main Project Site, which is within the Bayfront Area, for Office and Residential Mixed-Use land uses and Hamilton Avenue Parcels North and South for Retail/Commercial land uses. The purpose of the Bayfront Area designation is to create live/work/play environments. This designation encourages office, R&D, residential, and commercial uses, as well as hotels, in proximity to or integrated with one another. These designations are intended to foster innovation and emerging technologies; promote the creation of an employment district with travel patterns that are oriented toward bicyclists, pedestrians, and transit riders; and provide amenities to surrounding neighborhoods as well as fiscal support to the City, as leveraged through development intensity bonuses. Master planned projects on parcels that are in the same designation and in proximity to one another or large contiguous parcels with different zoning designations that are owned by the same entity may calculate residential density, floor area ratio (FAR), and open space according to aggregate lot area, provided that the underlying development regulations are satisfied, the vision for the Bayfront Area identified in the City General Plan is maintained, and the maximum overall residential density and/or FAR of the combined parcels is not exceeded.

The Office land use designation allows office and R&D uses, business-oriented community education and training facilities, supportive sales and personal services, corporate housing, and hotel uses. The designation also accommodates existing and new light industrial uses that are not in conflict with existing or planned commercial or residential uses in the vicinity. Hotels are allowed as options in several locations. The Office designation also allows for increased development intensities with the provision of community amenities. The maximum FAR allowed is 0.45 for office uses (plus 0.10 for commercial uses); the maximum bonus-level FAR with community amenities is 1.0 (plus 0.25 for commercial uses). For corporate housing, 0.6 is the maximum residential FAR. The maximum FAR for hotels is 1.75.

The Residential Mixed-Use land use designation allows higher-density housing to meet the needs of all income levels. It also allows mixed-use developments with integrated or stand-alone supportive sales and service uses as well as uses that are consistent with the Office designation. Sales uses can range from small-scale businesses that serve nearby employment to a large-format grocery that serves adjacent neighborhoods. This designation is intended to promote live/work/play environments that are oriented toward bicyclists, pedestrians, and transit riders, especially for those who commute to nearby jobs. The maximum base residential density is 30 units per acre, and the maximum bonus-level residential density is 100 units per acre. Maximum base FAR for residential uses is 0.9, with a maximum of 2.25 for the bonus-level FAR, which is calculated on a sliding scale, based on proposed density. Non-residential uses have a maximum additional base FAR of 0.15 and additional bonus-level FAR of 0.25.

The Retail/Commercial land use designation applies to Hamilton Avenue Parcels North and South. It provides for retail services, personal services, professional offices, banks, savings and loan offices, restaurants, cafes, theaters, residences, public and quasi-public uses, and similar and compatible uses. Under the Retail/Commercial land use designation residential density shall not exceed 30 units per acre. Furthermore, the maximum FAR shall be 50 percent for nonresidential uses, 90 percent for residential uses, and 100 percent for mixed uses.

General Plan – Goals and Policies. The City General Plan was updated in November 2016 when the City adopted ConnectMenlo, which contained the City's new Land Use Element and new Circulation Element. Other recent revisions to the City General Plan took place in 2013, including updated Open Space and Conservation, Noise, and Safety Elements and the 2015–2023 Housing Element. Applicable City General

Plan goals and policies adopted for environmental protection purposes and related to land use are discussed under Impact LU-1, below. In addition, other applicable policies adopted for environmental protection purposes related to other topics are outlined in the relevant sections of this EIR.

Menlo Park Municipal Code

The Menlo Park Zoning Ordinance implements the land uses designated in the City General Plan. Title 16 of the Menlo Park Municipal Code was adopted as a precise zoning plan for the City. It is designed to

> …preserve and extend the charm and beauty inherent to the residential character of the city; to regulate and limit the density of population; encourage the most appropriate use of land; to conserve land and stabilize the value of property; to provide adequate open space for light, air and fire protection; to lessen traffic congestion; to facilitate the provision of community facilities; to encourage tree and shrub planting; to encourage building construction of pleasing design; to provide the economic and social advantages of a planned community.

The Menlo Park Zoning Ordinance defines the City's zoning districts and identifies the land uses permitted and conditionally permitted in each. The ordinance also establishes development regulations regarding building heights, setbacks, parking ratios, building land cover, and floor area. The main Project Site is currently zoned for Office and Residential Mixed-Use development; Hamilton Avenue Parcels North and South are zoned C-2-S.

The O zoning district permits office and accessory uses, light industrial and R&D uses, banks, retail uses, eating establishments, personal services, privately operated recreational facilities, and community education/training centers.[9] Conditional uses allowed in the O district include office and accessory uses with a gross floor area greater than 250,000 sf; eating and drinking establishments that sell beer, wine, and alcohol; automobile dealerships; privately owned recreational facilities greater than 20,000 sf; hotels; and public utilities, in accordance with Chapter 16.76 of the Menlo Park Municipal Code.[10] Development regulations for the O district specify a minimum open space requirement (i.e., 30 percent of the site), minimum building setbacks (i.e., 5 feet at the street and 10 feet at the sides and rear), and a maximum FAR for office buildings (i.e., 0.45 plus 0.10 for commercial uses and 1.75 for hotels when permitted). The zoning ordinance includes provisions for development projects to increase height, density, and/or intensity in exchange for community amenities (i.e., a bonus-level scenario). Under a bonus-level scenario, the maximum office FAR is 1.0 (plus 0.25 for commercial uses). In addition, the maximum building height is not to exceed 35 feet, except hotels, which may reach 110 feet. Under a bonus-level scenario, a maximum building height of up to 110 feet is permitted.[11] The height (average) within the O zoning district is 67.5 feet under the bonus-level scenario (O-B).

---

[9] Note that, under permitted uses, offices and light industrial uses are limited to 250,000 square feet of gross floor area and recreational facilities are limited to 20,000 square feet; retail and eating establishments do not permit alcohol sales; personal services exclude tattoo parlors and piercing, palm-reading, and similar services; and education/training centers should provide free or low-cost educational and vocational programs to help prepare local youth and adults for entry into college and/or the local job market.

[10] Administratively permitted uses allowed in this district include any outside storage of material, equipment, or vehicles associated with the main use; eating establishments offering beer and wine only and/or that have live entertainment; outdoor seating areas; childcare centers; R&D and light industrial uses requiring hazardous material review; and diesel generators.

[11] The maximum height does not include roof-mounted equipment and utilities (i.e., a parapet used to screen mechanical equipment is not included in the height or maximum height). The maximum allowed height for rooftop mechanical equipment is 14 feet, except for elevator towers and associated equipment, which may be 20 feet. Properties within the flood zone or subject to flooding and sea-level rise are allowed a 10-foot increase in height and maximum height.

The R-MU zoning district permits multiple dwellings, office and accessory uses, banks, retail uses, eating establishments, personal services, privately operated recreational facilities, and community education/training centers.[12] Conditional uses allowed in the R-MU district include home businesses;[13] office and accessory uses with a gross floor area greater than 20,000 sf; retail uses; privately operated gyms with a gross floor area greater than 20,000 sf; R&D; eating and drinking establishments that sell beer, wine, and alcohol; personal services; including tattooing, piercing, palm-reading, etc.; movie theaters; and public utilities, in accordance with Chapter 16.76 of the Menlo Park Municipal Code.[14]

Development regulations for the R-MU district specify a minimum open space area equal to 25 percent of the site, with minimum building setbacks of 0 feet at the street and 10 feet at the sides and rear. Residential developments within this district are permitted a base FAR in the range of 0.6 (for 20 dwelling units per acre) to 0.9 (for 30 dwelling units per acre); with the increase under a bonus scenario, the permitted FAR is from 0.9 (for 30 dwelling units per acre) to 2.25 (for 100 dwelling units per acre). The maximum FAR for both the base and bonus-level development scenarios is calculated on a sliding scale, based on the proposed density. The maximum ratio of non-residential square footage to the gross floor area of all buildings on a lot in this district is permitted at 0.15, with a bonus of up to 0.25. In addition, the base development building height is 35 feet and cannot exceed 40 feet; in the bonus-level scenario (R-MU-B), the height (average) is 52.5 feet. The maximum height cannot exceed 70 feet.[15]

The C-2-S zoning district permits retail, financial, professional, and personal services, along with restaurants (excluding those that serve alcohol or provide live music/entertainment), similar and compatible neighborhood commercial uses, and residential dwelling units.

Conditional uses allowed in the C-2-S district include service stations, including associated automobile repair facilities, car washes, and mini-marts; cafés and restaurants that serve alcoholic beverages and provide live music/entertainment; special uses (in accordance with Menlo Park Municipal Code Chapter 16.78); outside uses; and utilities (in accordance with Menlo Park Municipal Code Chapter 16.76). Although the FAR should not exceed 0.5, development regulations for the C-2-S district specify that all setbacks, building heights, distances between buildings, lot coverage requirements, parking requirements, and landscaping requirements shall be established by the Planning Commission for each development. A development plan shall be submitted for preliminary review by the Community Development Director and for final review and approval by the Planning Commission.

Environmental Impacts

This section describes the impact analysis related to land use for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

[12] Note that, under permitted uses, office, retail, and recreational uses are limited to 20,000 sf of gross floor area; retail and eating establishments do not permit alcohol sales; personal services exclude tattoo parlors and piercing, palm-reading, and similar services; and education/training centers should provide free or low-cost educational and vocational programs to help prepare local youth and adults for entry into college and/or the local job market.

[13] That is, home businesses in accordance with Section 16.04.340.

[14] Administratively permitted uses allowed in this district include eating establishments offering beer and wine only and/or that have live entertainment, childcare centers, outdoor seating areas, and diesel generators.

[15] The maximum height does not include roof-mounted equipment and utilities (i.e., a parapet used to screen mechanical equipment is not included in the height or maximum height). The maximum allowed height for rooftop mechanical equipment is 14 feet, except for elevator towers and associated equipment, which may be 20 feet. Properties within the flood zone or subject to flooding and sea-level rise are allowed a 10-foot increase in height (average) and maximum height.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect if it would result in any of the conditions listed below.

- Physically divide an established community.
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Methods for Analysis

CEQA requires that an EIR consider whether a proposed project would conflict with any applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact. This environmental determination differs from the larger policy determination of whether a proposed project is consistent with a jurisdiction's general plan. The former determination (intended for consideration in a CEQA document) is based on, and limited to, a review and analysis of environmental effects. The latter determination, by comparison, is made by the decision-making body of the jurisdiction and based on the jurisdiction's broad discretion to assess whether a proposed project would conform to the policies and objectives of its general plan/specific plan as a whole. In addition, the broader general plan consistency determination takes into account all evidence in the record concerning project characteristics, its desirability, as well as its economic, social, and other non-environmental effects. A project's conflicts with land use policies do not, in and of themselves, constitute significant environmental impacts. Policy conflicts are considered environmental impacts only when they result in direct environmental effects. This Draft EIR evaluates the Proposed Project's consistency with City General Plan policies adopted to avoid or mitigate environmental effects. Consistency with policies designed to avoid or mitigate environmental land use impacts are discussed in this section; consistency with policies designed to avoid or mitigate other physical impacts are discussed in the sections that address those particular impacts (e.g., consistency with the City's Climate Action Plan is discussed in the section that addresses energy and greenhouse gases). The Planning Commission and City Council will consider all policies, as well as overall City General Plan consistency, during the Project review process in the non-CEQA context.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the impacts below that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update.[16]

- Impacts related to the physical division of an established community were analyzed in the ConnectMenlo EIR as Impact LU-1 (pages 4.9-11 to 4.9-13) and determined to be less than significant because future development under ConnectMenlo would generally retain existing roadway patterns, would not propose new major roadways or physical features that would create new barriers, and would provide measures to increase connectivity.
- Impacts related to conflicts with applicable land use plans, policies, or regulations with jurisdictional authority were analyzed in the ConnectMenlo EIR as Impact LU-2 (pages 4.9-14 to 4.9-23) and determined to be less than significant with mitigation. Although it was found that ConnectMenlo would not conflict with applicable land use plans adopted for the purpose of avoiding

[16] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Prepared by PlaceWorks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 19, 2021.

or mitigating an environmental impact in the study area, Impact LU-2 concluded that, should future development in Menlo Park be found inconsistent with the City General Plan, implementation of ConnectMenlo Mitigation Measure LU-2 would reduce impacts to less than significant. ConnectMenlo Mitigation Measure LU-2 requires projects to demonstrate consistency with the applicable goals, policies, and programs in the City General Plan and the supporting zoning standards.

Impacts Not Evaluated in Detail

Division of an Established Community. The Proposed Project would redevelop a site that is already developed but would not change the site boundaries. The main Project Site is adjacent to and south of the Dumbarton Rail Corridor, an area that is characterized by light industrial, office, and commercial uses. The Proposed Project would include the construction of up to 1,730 residential units; up to 200,000 sf of retail (non-office commercial) uses; up to 193 hotel rooms, with accessory hotel uses (e.g., restaurant and bar); up to 1.6 million sf of space for an office campus, consisting of up to 1.25 million sf of office uses and the balance (i.e., 350,000 sf if office use is maximized) for accessory uses in multiple buildings;[17] and approximately 8 acres of publicly accessible open space, assuming full buildout. Although this would add new development to the area, the development would be in an area with similar uses that is already physically separated from the Belle Haven neighborhood by Willow Road. In addition, the proposed Elevated Park and Willow Road Tunnel would connect the Belle Haven neighborhood to the main Project Site and areas north to the Bay Trail using a grade-separated bicycle and pedestrian crossing, thereby better integrating existing land uses in the community. Although the Proposed Project would reconfigure roadways and multi-use pathways within the main Project Site, the reconfiguration would maintain or enhance access to and through the main Project Site. Likewise, the reconfiguration of Hamilton Avenue and the land uses on Hamilton Avenue Parcels North and South would maintain area access. The Proposed Project would not divide the established communities surrounding the Project Site, including the Belle Haven community to the west or the established residential neighborhoods in East Palo Alto to the south, resulting in no impact. Therefore, this impact is not evaluated further.

Impacts and Mitigation Measures

Impact LU-1: Conflicts with any Land Use Plan, Policy, or Regulation Adopted for the Purpose of Avoiding or Mitigating an Environmental Effect. The Proposed Project would not result in a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. (LTS)

As addressed under *Methods for Analysis,* this impact considers whether the Proposed Project would conflict with an applicable land use plan, policy, or regulation that was adopted for the purpose of avoiding or mitigating an environmental impact. The following subsections address the Proposed Project's consistency with applicable land use plans, policies, and regulations adopted for the purpose

[17] Accessory uses could include the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitors center, product demonstration areas, a film studio, gathering terraces and private gardens, and space for other Meta accessory uses. Accessory uses could occur in spaces located anywhere throughout the Campus District.

of avoiding or mitigating an environmental effect, including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance.

Plan Bay Area Consistency

As described under *Regulatory Setting,* Plan Bay Area 2040 and Plan Bay Area 2050 (consistent with SB 375) provide incentives for local governments by allowing streamlined CEQA review of GHG impacts for certain qualifying "transit priority projects" and other residential or mixed-used projects (i.e., where at least 75 percent of the total square footage of a project consists of residential use) that are consistent with Plan Bay Area, as the approved SCS.[18] The Project Site is not located within a TPP-eligible area but is adjacent to the Ravenswood PDA in East Palo Alto.[19] As such, the Proposed Project's degree of consistency with Plan Bay Area (both 2040 and 2050) is discussed for informational purposes only in this Draft EIR.[20]

Plan Bay Area 2040 calls for new development to be placed near active transit corridors. Similarly, Plan Bay Area 2050 includes transportation and environmental strategies that support active and shared modes of travel, combined with a transit-supportive land use pattern that places housing near transportation centers throughout the Bay Area. The Project Site is an already-developed urban site; however, there are no public transit stops adjacent to the Project Site. Alameda-Contra Costa Transit District (AC Transit), SamTrans, and the City of Menlo Park Midday Shuttle serve areas near the Project Site, connecting them to surrounding areas. Consistent with Plan Bay Area 2040 and Plan Bay Area 2050, the Proposed Project would include Transportation Demand Management (TDM) programs that would provide subsidized public transit passes and shuttle services to connect the main Project Site to public transit stations, thereby encouraging employees to use alternate modes of transportation and reducing the number of vehicles traveling to/from the main Project Site. Section 3.3, *Transportation*, of this Draft EIR describes the Proposed Project's relationship to transit in detail.

As indicated above in Table 3.1-1 and in Section 3.12, *Population and Housing*, the City's jobs/housing ratio is projected to improve by 2040. The Proposed Project's development of housing in addition to office and hotel uses, in the context of the city's already-high jobs/housing ratio, further supports the balanced growth objectives of Plan Bay Area. As described in Section 3.12, *Population and Housing*, the indirect housing demand from the Proposed Project would represent only a small percentage of ABAG's projected housing growth for Menlo Park. Therefore, the Proposed Project would be consistent with Plan Bay Area 2040 and/or Plan Bay Area 2050 and result in a less-than-significant impact.

Consistency with SFPUC Right-of-Way Encroachment Policy

As discussed under Section 3.1, *Regulatory Setting,* the SFPUC requested that the Proposed Project be analyzed for consistency with relevant plans at policies; the SFPUC Right-of-Way Encroachment Policy applies to the Project Site. At the southeast corner of the main Project Site, the Proposed Project would

[18] Public Resources Code Section 21155 (defining a "transit priority project" as a project that contains at least 50 percent residential use and a minimum net density of at least 20 dwelling units per acre that is within 0.5 mile of a major transit stop or high-quality transit corridor) and Section 21159.28 (providing certain exemptions from the need to evaluate project or cumulative impacts on global warming due to car and light-duty vehicle trips generated by the project).

[19] Metropolitan Transportation Commission. 2021. *MTC Policy Map Explorer*. Available: https://mtc.maps.arcgis.com/apps/View/index.html?appid=1b8fdd83aa564aa180a59e9b7c4583ca. Accessed: May 18, 2021.

[20] Plan Bay Area 2050 has not been formally adopted by the California Air Resources Board and has been challenged in court. Therefore, both the 2040 and 2050 plans are discussed.

create a new four-legged roundabout at O'Brien Drive to accommodate site access and area circulation.[21] This would require realignment of O'Brien Drive where it passes through the roundabout. The southern half of the roundabout would then overlay the SFPUC Hetch Hetchy right-of-way. Because of this overlay, the Project Sponsor would be required to obtain approval to access the SFPUC Hetch Hetchy right-of-way. Through adherence to this approval process, the Proposed Project would be consistent with SFPUC's Right-of-Way Encroachment Policy and result in a less-than-significant impact.

Consistency with the ABAG Bay Trail Plan

The Proposed Project would include construction of Willow Road Tunnel under the current Dumbarton Cutoff Line at Willow Road (and under the Willow Road right-of-way) to facilitate tram, service-vehicle, bicycle, and pedestrian traffic between the main Project Site and the West Campus, which is located south of Bayfront Expressway and the Bay Trail. In addition, the Elevated Park would enhance access to the Bay Trail from the Project Site and the Bell Haven neighborhood via the Willow Road Tunnel. Although construction of the Elevated Park and Willow Road Tunnel could affect a California Department of Transportation (Caltrans) right-of-way, all construction would occur within the Caltrans right-of-way, the Project Site, Samtrans right-of-way, and the West Campus; no construction would occur directly adjacent to the existing Bay Trail. Furthermore, the Proposed Project's multi-use pathways would not be located within an area that would be subject to the ABAG Bay Trail Plan. Therefore, the Proposed Project would have no inconsistencies with the ABAG Bay Trail Plan and would result in a less-than-significant impact.

Consistency with the General Plan

Land Use Designations. The Proposed Project is required to be consistent with the land use designations described in the City General Plan. As described in greater detail above, the main Project Site, within the Bayfront Area, is designated for Office and Residential Mixed-Use land uses. Under the two land use designations, as implemented by the associated zoning districts, the main Project Site could be built out to approximately 1.774 million sf for office uses—specifically, the 1.586 million sf of office uses with an allowable bonus-level FAR of 1.0, with community amenities, for land in an Office district and an additional 188,442 sf of office uses with an allowable bonus-level FAR of 0.25 for land in a Residential Mixed-Use district. The main Project Site could also include 2,776,048 sf of hotel use, with a maximum FAR of 1.75 for land in an Office district; up to 396,578 sf of commercial/retail (non-office) space, with a permitted FAR of 0.25 for land in an Office district; up to 188,442 sf of commercial uses for land in a Residential Mixed-Use district (proposed to be used partially for office uses); and up to 1.695 million sf of residential land uses, with a maximum allowable bonus-level FAR of 2.25, with community amenities, for land in a Residential Mixed-Use district (assuming a maximum residential density of 100 dwelling units per acre).

Hamilton Avenue Parcels North and South, also within the Bayfront Area, are designated for Retail/Commercial land uses. The Retail/Commercial land use designation provides for retail services, personal services, professional offices, banks, savings and loan offices, restaurants, cafes, theaters, residences, public and quasi-public uses, and similar and compatible uses. Under the existing land use designation and the corresponding C-2-S zoning designation, Hamilton Avenue Parcels North and South could be built out with approximately 69,260 sf of commercial uses, with an allowable 0.5 FAR.

The Proposed Project would include new infrastructure, housing, sustainability features, circulation elements, open spaces, office uses, commercial (retail, dining, entertainment, and hotel) uses, and bicycle and pedestrian infrastructure. The new housing and community-serving retail uses would include

[21] Note that the intersection design is still being developed but may include a four-way, signal-controlled intersection; the design of the intersection would be subject to review and approval by the City and the SFPUC.

publicly accessible spaces of various scales, restaurants, and publicly accessible gathering spaces. The Proposed Project would also include a Town Square with ground-floor retail, publicly accessible gathering space, and a 193-room hotel. Hamilton Avenue Parcels North and South would provide neighborhood-serving commercial and retail uses, along with a service station and car wash.

To ensure consistency with City General Plan policies and City Zoning Ordinance requirements for master-planned projects, as indicated in Chapter 2, *Project Description*, the Proposed Project would require:

- *General Plan Circulation Map and Zoning Map Amendment.* Amendments to the City General Plan Circulation Map and Zoning Map would be required to modify the site-specific circulation plan with regard to the locations for new street connections to the surrounding roadway network as well as the locations for public rights-of-way and paseos within the Project Site.
- *Rezoning from 0-B and R-MU-B to O-B-X and R-MU-B-X to Incorporate an X Overlay for the Project Site.* Rezoning of the main Project Site would be required to add a conditional development ("X") combining district, thereby allowing special regulations and conditions to be added at the main Project Site (combined with the underlying O-B and R-MU-B regulations) as part of a proposed master-planned project, pursuant to a CDP.
- *Conditional Development Permit (CDP)*. A CDP would be required to permit a master-planned project with bonus-level development, define any adjustments to City Zoning Ordinance development standards, identify Project conditions and requirements, and create mechanisms for the City to use to process any revisions to the Proposed Project that might arise over the buildout period. The CDP for the main Project Site also would include conditional use approval for a master-planned project with bonus-level development in the O and R-MU districts; office and accessory uses greater than 20,000 sf in gross floor area (GFA) in an RM-U district or 250,000 sf in GFA in an O district; a hotel; eating establishments, including those that sell alcohol; drinking establishments; and retail sales establishments, including those that sell alcohol.
- *Development Agreement (DA).* A DA is required to permit a master-planned project. A DA would create vested rights in Project approvals, address issues regarding community amenities not otherwise identified in the approved list of amenities adopted by City Council resolution, address issues regarding implementation of the proposed design and infrastructure improvements, and specify any additional benefits to the City.

The application for a CDP and DA demonstrates the Project Sponsor's intent to comprehensively redevelop the main Project Site through a master-planned process. The Proposed Project would use bonus-level development allowances for density, intensity (FAR), and height in exchange for community amenities (as defined through the ConnectMenlo process and memorialized in the City's adopted Community Amenities List or DA). Overall, by proposing up to 1.6 million sf of office and accessory uses, up to 200,000 sf of commercial retail uses, approximately 172,000 sf of hotel uses (up to 193 rooms), and approximately 1.695 million sf of residential land uses, the main Project Site would be within the maximum FARs identified above for Office and Residential Mixed-Use land uses and associated zoning districts. By proposing approximately 28,200 sf of neighborhood-serving commercial, including a reconstructed service station, Hamilton Avenue Parcels North and South would be within the maximum FAR identified for Retail/Commercial land use and the corresponding zoning district. These land uses would be consistent with those identified in their respective land use designations under the City General Plan. As such, the Proposed Project, including the proposed amendment to the City General Plan Circulation Map and Zoning Map, would not conflict with the existing land use designation, resulting in a less-than-significant land use impact.

General Consistency with Goals and Policies. The determination of whether or not the Proposed Project would conflict with applicable policies adopted for the purpose of mitigating an environmental impact is addressed in part by the regulatory setting and environmental analysis provided in each resource section of this Draft EIR. For example, transportation- and circulation-related policies are addressed in Section 3.3, *Transportation*, and noise- and vibration-related policies are addressed in Section 3.7, *Noise*. In addition, Table 3.1-4, at the end of this section, both outlines the adopted City General Plan goals and policies related to land use that have been identified as applicable to the Proposed Project and provides a determination of either "consistent" or "inconsistent" for each policy. Based on this analysis, the Proposed Project, with approval of the Zoning Map and Circulation Element amendments for onsite circulation, would be consistent with the environmental goals and policies contained in the City General Plan, resulting in a ***less-than-significant*** impact. The ultimate determination of the consistency of the Proposed Project with the City General Plan overall (not only polices adopted for the purpose of protecting the environment) will be made by the City Council.

Compliance with the Zoning Ordinance

As described in Chapter 2, *Project Description*, the Proposed Project at the main Project Site would redevelop the existing industrial, office, and warehouse complex into a mixed-use neighborhood that would connect to the surrounding areas of Menlo Park and East Palo Alto. Although intended to be consistent with the guiding principles of ConnectMenlo, City General Plan policies, and the City's zoning standards, as indicated in Chapter 2, *Project Description*, the Proposed Project would also require:

(i) Amendments to the adopted zoning map and the Circulation Element of the City General Plan to modify the site-specific circulation plan with regard to the locations for new street connections to the surrounding roadway network as well as the locations of public rights-of-way and the proposed paseo within the main Project Site.

(ii) Rezoning of the site to add a conditional development ("X") combining district to the main Project Site, allow development of the site through the master-planned process, and adjust development standards, such as maximum height, modulation, and step-back requirements, pursuant to a CDP. The "X" district would be combined with the underlying O-B and R-MU-B regulations.

(iii) A CDP would be required to permit a master-planned project with bonus-level development, define any adjustments to City Zoning Ordinance development standards, identify Project conditions and requirements, and create mechanisms for the City to use to process any revisions to the Proposed Project that might arise over the buildout period. The CDP for the main Project Site also would include conditional use approval for a master-planned project with bonus-level development in the O and RMU districts; office and accessory uses greater than 20,000 sf in GFA in an RM-U district or 250,000 sf in GFA in an O district; a hotel; eating establishments, including those that sell alcohol; drinking establishments; and retail sales establishments, including those that sell alcohol.

The mixed-use "village" would include up to 1,730 residential units; up to 200,000 sf of retail (non-office commercial) uses; up to 193 hotel rooms, with accessory hotel uses (e.g., restaurant and bar); up to 1.6 million sf of space for an office campus, with a maximum of 1.25 million sf for office uses and the balance (350,000 sf if office uses are maximized) for accessory uses, including meeting and collaboration space, orientation space, training space, incubator space, a business partner center, an event building (including pre-function space, collaboration space, and meeting/event rooms), a visitors center, product demonstration areas, a film studio, gathering terraces, private gardens within a sun-/rain-protected area, and space for other Meta accessory uses. All components of the Proposed Project at the main Project Site are shown in Table 2-4 in Chapter 2 and repeated below in Table 3.1-2.

Table 3.1-2. Allowed and Proposed Development for the Main Project Site

Zoning District	Development Regulations per Zoning District[l]	Proposed Development[a,b,c,d,g]
Maximum Square Footage		
O-B Zoning		
Office	1,586,313 sf	1,600,000 sf
Non-Office Commercial/Retail	396,578 sf	200,000 sf
Hotel	2,776,048 sf	172,000 sf
R-MU-B Zoning		
Residential	1,695,976 sf	1,695,976 sf
Non-Residential Commercial/Retail	188,442 sf	—
Maximum Building Height[e,f]		
O-B Zoning	110 feet	120 feet
R-MU-B Zoning	70 feet	80 feet; 85 feet for the parcel bounded by Center Street, West Street and Main Street (Building RS 3)
Building Height (average)[e,f]		
O-B Zoning	77.5 feet	70 feet
R-MU-B Zoning	62.5 feet	62.5 feet
Minimum Open Space[h]		
O-B Zoning	475,894 sf (30%)	487,000 sf
R-MU-B Zoning	188,442 sf (25%)	370,000 sf
Total Open Space	664,336 sf	857,000 sf
Minimum Publicly Accessible Open Space		
O-B Zoning	237,947 sf (50%)	200,000 sf
R-MU-B Zoning	47,110 sf (25%)	160,000 sf
Total Public Open Space	285,057 sf	360,000 sf

Source: Peninsula Innovation Partners, LLC, 2021.

Notes:

a. Although the proposed hotel has a FAR of 1.75, the number of rooms (193) is a more useful metric for this analysis.

b. The Proposed Project would be developed at up to the maximum density for residential units, after rounding the maximum down to the nearest whole number, and therefore would be permitted for a FAR of up to 225 percent, as identified in this table.

c. The Proposed Project includes the nonresidential FAR permitted for the R-MU zoning district, which allows for office uses.

d. The Proposed Project includes up to 1.6 million sf of office space and accessory uses, consisting of up to 1.25 million sf of office space and the balance (i.e., 350,000 square feet if office space is maximized) of accessory use in multiple buildings. Accessory uses could occur in the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitors center, product demonstration areas, a film studio, gathering terraces and private gardens, and space for other Meta accessory uses.

Zoning District	Development Regulations per Zoning District[1]	Proposed Development[a,b,c,d,g]

e. Properties within the flood zone or subject to flooding and sea-level rise are allowed a 10-foot increase in average height and maximum height. The height increase to 85 feet applies only to the parcel bounded by Center Street, West Street, and Main Street (Parcel 3) on the main Project Site.

f. Height is defined as the average height of all buildings on one site where a maximum height cannot be exceeded. Maximum height does not include roof-mounted equipment and utilities.

g. The difference between the amount of office permitted by the zoning district and the amount of office proposed by the Project comes from the "Non-Office Commercial/Retail" category. The 200,000 sf of Non-Residential/Retail proposed by the Project is using the bonus-level commercial development from the Office district, not the R-MU district.

h. Private garden space is proposed within a sun-shaded, rain-protected area that is included in the calculation of FAR, per the City Zoning Ordinance.

i. The 188,442 sf of Non-Residential Commercial/Retail is included in the estimated 1,600,000 sf of office use because the R-MU district allows for office uses.

The Proposed Project would be designed as a master-planned project under the City's Zoning Ordinance, which would allow for the construction of single projects or phased projects on sites that exceed 15 acres and meet certain specified criteria. Master-planned projects are permitted to aggregate permitted densities and uses across an entire site.

The City Zoning Ordinance states that the purpose of master-planned projects is to provide flexibility for creative designs, orderly development, and optimal use of open space while maintaining and achieving the City General Plan vision for the Bayfront Area. Master-planned projects for sites with the same zoning (O, LS, or R-MU) in proximity to one another or contiguous sites that have a mix of zoning designations (O or R-MU), larger than 15 acres, and held in common ownership (or held by wholly owned affiliated entities), either for development as a single project or single phased development project, are permitted as a conditional use, provided that sites with mixed zoning obtain a CDP and enter into a DA. For a master-planned project that meets the criteria, residential density, FAR, and open space requirements at the bonus level, if applicable, may be calculated in the aggregate across the site, provided the overall development proposed does not exceed what would be permitted if the site were developed in accordance with the zoning designation applicable to each portion of the site and the development complies with all other design standards identified for the applicable zoning districts.

Because the City's master-planned project aggregation provisions apply to the Proposed Project, the precise distribution of uses across the main Project Site would be flexible and not prescribed by the boundaries shown on the City's zoning map. These provisions permit allowable non-office commercial uses associated with the property zoned O-B to be allocated as part of property zoned R-MU as well as allowable commercial uses associated with the property zoned R-MU to be allocated as part of property zoned O, subject to review and approval of a CDP and DA by the City Council. Table 3.1-2, above, summarizes allowed development under current O and R-MU zoning and the development proposed for the main Project Site.

In addition to the main Project Site, the Proposed Project includes realignment of Hamilton Avenue, which would require demolition, relocation, and reconstruction of the service station on Hamilton Avenue Parcel South. It would also enable redevelopment of Hamilton Avenue Parcel North. To accommodate the Proposed Project's intersection realignment at Hamilton Avenue and Willow Road, a subdivision mapping process would be initiated for the parcels that would include abandonment of a portion of Hamilton Avenue and an irrevocable offer of dedication and public utility easement for the

realigned Hamilton Avenue. Hamilton Avenue Parcels North and South are both zoned C-2-S. The development regulations for the C-2-S district are intended to be flexible and encourage innovative site and design solutions that accommodate the uses allowed in the district.

Apart from a FAR of 0.5, development within this district must be consistent with Willow Road design guidelines, heights, and open space restrictions, as considered on a case-by-case basis. In addition, the subdivision mapping process would include the creation of new parcels for the retail uses at Hamilton Avenue Parcel North and the relocated service station at Hamilton Avenue Parcel South. A Conditional Use Permit would also be required to relocate the existing service station to a new parcel. Height is set by the use permit and established by Planning Commission review. Hamilton Avenue Parcel North would include an expanded one-story structure; Hamilton Avenue Parcel South would be reconstructed with a height similar to the existing condition. Table 3.1-3, below, compares allowable development areas across Hamilton Avenue Parcels North and South with the Project Sponsor's proposed levels of development.

Table 3.1-3. Allowable and Proposed Development for Hamilton Avenue Parcels North and South

	Development Regulations per Zoning[a]	Proposed Development
Land Uses – Maximum Square Footage (C-2-S Zoning)		
Hamilton Avenue Parcel North	48,134 sf/(FAR 0.5)	22,400 sf
Hamilton Avenue Parcel South	21,126 sf/(FAR 0.5)	5,700 sf

Source: Peninsula Innovation Partners, LLC, 2021.

Notes:

a. "Development Regulations per Zoning" represents maximum development potential after realignment of Hamilton Avenue.

b. The lot area for Hamilton Avenue Parcel North totals 95,773 sf (and includes two legal parcels at one site), and the lot area for Hamilton Avenue Parcel South is 42,495 sf.

As shown in Table 3.1-2 and Table 3.1-3, development on the main Project Site and Hamilton Avenue Parcels North and South would be below the maximum square footage permitted per their respective FARs. Therefore, the Proposed Project would not conflict with the existing FAR requirements outlined in the City Zoning Ordinance, as discussed above.

As shown in Table 3.1-2 and Table 3.1-3, the O-B and R-MU-B zoning districts have maximum height limits of 110 feet and 70 feet, respectively, and an average height requirement of 67.5 feet and 52.5 feet, respectively. In both cases, an additional 10 feet is permitted for properties within the flood zone or subject to flooding and sea-level rise. The C-2-S height limit is provided on a per project basis. The Project Sponsor proposes a CDP that would allow for modification to the maximum height requirement of the development regulations for the parcel bounded by Center Street, West Street, and Main Street in the Residential/Shopping District. Development of Hamilton Avenue Parcels North and South would include an expanded one-story structure and other structures with a height similar to the existing condition.

As described above, the Project Site is within the O, R-MU, and C-2-S zoning districts. The proposed uses at the main Project Site and Hamilton Avenue Parcels North and South are within the scope permitted for their respective zoning districts. The Project Sponsor's CDP and DA for redevelopment of the main Project Site through a master-planned process includes bonus-level development allowances for density, intensity (FAR), and height in exchange for community amenities (as defined through the ConnectMenlo process and memorialized in the City's adopted Community Amenities List or the DA). Therefore, through

rezoning of the main Project Site to include the conditional development ("X") combining district and approval of the associated CDP to allow development through the master-planned process and adjust development standards, such as maximum height, modulation, and step-back requirements, the Proposed Project would be consistent with the City Zoning Ordinance, resulting in a less-than-significant impact.

Conclusion

Overall, the Proposed Project, with approval of the Zoning Map and General Plan Circulation Element amendments for the onsite circulation, would be consistent with the environmental goals and policies contained in the City General Plan, resulting in a ***less-than-significant*** impact.

Cumulative Impacts

Impact C-LU-1: Cumulative Land Use Impacts. Cumulative development would not result in a significant cumulative impact on land use, and the Proposed Project would not be a cumulatively considerable contributor to such cumulative impacts. (LTS/M)

Summary of Analysis in the ConnectMenlo EIR

As stated in Section 4.9, *Land Use and Planning*, of the ConnectMenlo EIR, the geographic context for the cumulative assessment of land use and planning impacts considered growth in the study area projected by ConnectMenlo in combination with impacts from development on lands adjacent to the city in East Palo Alto, Palo Alto, Stanford, Atherton, North Fair Oaks, and Redwood City as well as the unincorporated areas of San Mateo County within the sphere of influence.

The development of past, current, and future projects affects Menlo Park and surrounding areas. However, the City and surrounding areas implement general plans and regulations to guide development and growth within their respective jurisdictions. The ConnectMenlo EIR determined that implementation of ConnectMenlo would not divide an established community or conflict with established plans, policies, and regulations and that implementation of Mitigation Measure LU-2 (requiring projects to demonstrate consistency with the City General Plan and zoning standards prior to approval) would ensure that future projects in Menlo Park would be consistent with City General Plan policies (Table 3.1-4). The ConnectMenlo EIR also determined that the Proposed Project would be consistent with existing and proposed changes in other local and regional plans and that development in surrounding cities and the San Mateo County region is taking place in already-urbanized areas and therefore would not require significant land use changes that would create land use conflicts, nor would they divide communities. Therefore, cumulative impacts related to land use changes would be ***less than significant with mitigation***.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative land use impacts under the Proposed Project includes development within the ConnectMenlo study area in combination with development on lands adjacent to the city in East Palo Alto, Palo Alto, Stanford, Atherton, North Fair Oaks, and Redwood City as well as the unincorporated areas of San Mateo County within the sphere of influence.

As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted residential units in the 123 Independence Drive and East Palo Alto projects. As with the Proposed Project, the additional unrestricted residential units in the 123 Independence Drive and East

Palo Alto projects, as well as other projects within the area, would be required to comply with existing local and regional plans adopted to minimize potential cumulative land use impacts related to dividing an established community or conflicts with adopted land use plans, policies, or regulations. In addition, the Proposed Project and the additional unrestricted residential units in the 123 Independence Drive project would be required to comply with ConnectMenlo EIR Mitigation Measure LU-2, which requires projects to demonstrate consistency with ConnectMenlo policies and zoning standards prior to approval. Therefore, the additional projects would not alter the cumulative impact determination stated in the ConnectMenlo EIR, and the cumulative impact with respect to land use would remain ***less than significant***.

The Proposed Project would not result in a substantial change in the ConnectMenlo project and would not cause a new or substantially more severe significant land use impact than that analyzed in the ConnectMenlo EIR. Therefore, consistent with the conclusions in the ConnectMenlo EIR, the Proposed Project in combination with other cumulative development would result in ***less-than-significant cumulative impact with mitigation*** with respect to land use. No additional mitigation measures would be required.

Table 3.1-4. Comparison of Project to General Plan Goals and Policies

General Plan Goal/Policy	Consistency Analysis
Land Use Element – Adopted November 2016 (ConnectMenlo)	
Policy LU-1.1 Land Use Patterns. Cooperate with the appropriate agencies to help ensure a coordinated land use pattern in Menlo Park and the surrounding area.	CONSISTENT. The Proposed Project would involve approvals from and coordination with various agencies, in addition to the City, as detailed in Section 2.5, *Proposed Project Approvals and Analyses*, which would ensure a coordinated land use pattern in Menlo Park and the surrounding area.
Goal LU-2: Maintain and enhance the character, variety, and stability of Menlo Park's residential neighborhoods.	CONSISTENT. The Proposed Project would involve construction of a new residential mixed-use neighborhood in Menlo Park, which would be developed following City architectural control approval.
Policy LU-2.1: Neighborhood Compatibility. Ensure that new residential development possesses a high-quality design that is compatible with the scale, look, and feel of the surrounding neighborhood and respects the city's residential character.	CONSISTENT. For the Proposed Project's new residential mixed-use neighborhood, each building's architectural design and configuration would be determined through the design review process set forth in the CDP and the subdivision mapping process.
Policy LU-2.2: Open Space. Require accessible, attractive open space that is well maintained and uses sustainable practices and materials in all new multiple-dwelling and mixed-use development.	CONSISTENT. In addition to approximately 3.5-acre Publicly Accessible Park, approximately 0.3-acre publicly accessible Dog Park, and approximately 0.3-acre plaza adjacent to the mixed-use building on Parcel 3, within the Residential/Shopping District, the Proposed Project would include common amenities and gathering areas as well as private spaces, such as balconies, patios, podium-level open spaces, and rooftop spaces. All landscaping would be a combination of native, drought-tolerant, and adapted species and comply with the Menlo Park Water-Efficient Landscaping Ordinance. The Proposed Project would include generally aggregated open space in the approximately 3.5-acre Publicly Accessible Park, Town Square, Dog Park, and Elevated Park that would connect the main Project Site to Hamilton Avenue Parcel North (across Willow Road).
Policy LU-2.3: Mixed-Use Design. Allow mixed-use projects with residential units if the project design addresses potential compatibility issues, such as traffic, parking, light spillover, dust, odors, and the transport and use of potentially hazardous materials.	CONSISTENT. As addressed in Sections 3.2, 3.3, 3.4, 3.7, and 3.12 of this Draft EIR, the Proposed Project would not result in incompatible uses related to traffic, parking, light spillover, dust, odors, or the transport and use of potentially hazardous materials.
Policy LU-2.5: Below-Market-Rate Housing. Require residential developments of five or more units to comply with the provisions of the City's Below-Market-Rate Housing Program, including eligibility for increased density above the number of market-rate dwellings otherwise permitted by the applicable zoning as well as other exceptions and incentives.	CONSISTENT. Through approval of a below-market-rate program, the Proposed Project would include onsite affordable units and/or pay commercial in-lieu fees.

General Plan Goal/Policy	Consistency Analysis
Policy LU-2.6 Underground Utilities. Require all electric and communications lines serving new development to be placed underground.	CONSISTENT. The Proposed Project would install all new electric and communication lines underground throughout the Project Site.
Policy LU-2.9: Compatible Uses. Promote residential uses in mixed-use arrangements and the clustering of compatible uses such as employment centers, shopping areas, open spaces, and parks within easy walking and bicycling distance of each other as well as transit stops.	CONSISTENT. By providing a mix of uses within the Residential/Shopping District, Town Square District, and Campus District, the Proposed Project would cluster compatible uses within easy bicycling/walking distance.
GOAL LU-3 Retain and enhance existing uses and encourage new neighborhood-serving commercial uses, particularly retail services, to create vibrant commercial corridors.	CONSISTENT. By updating the existing neighborhood-serving commercial uses at Hamilton Avenue Parcels North and South, the Proposed Project would support the vibrancy of the Willow Road commercial corridor.
Policy LU-3.1: Underutilized Properties. Encourage underutilized properties in and near existing shopping districts to redevelop with attractively designed commercial, residential, or mixed-use development that complements existing uses and supports bicycle and pedestrian access.	CONSISTENT. By updating the main Project Site with new, attractively designed mixed-use development (office, residential, commercial, and hotel), updating existing commercial uses at Hamilton Avenue Parcels North and South, and providing new multi-use pedestrian and bicycle paths, the Proposed Project would improve existing underutilized properties.
Policy LU-3.2 Neighborhood Shopping Impacts. Limit the impacts from neighborhood shopping areas, including traffic, parking, noise, light spillover, and odors, on adjacent uses.	CONSISTENT. By updating the footprint of the existing neighborhood-serving commercial and retail uses at Hamilton Avenue Parcels North and South, consistent with current City and CEQA thresholds related to traffic, parking, noise, light, and odor, the Proposed Project would limit impacts on the adjacent Belle Haven neighborhood.
Policy LU-3.3: Neighborhood Retail. Preserve existing neighborhood-serving retail, especially small businesses, and encourage the formation of new neighborhood retail clusters in appropriate areas while enhancing and preserving the character of the neighborhood.	CONSISTENT. By updating and expanding the footprint of the existing neighborhood-serving commercial and retail uses at Hamilton Avenue Parcels North and South, the Proposed Project would support the neighborhood retail cluster adjacent to the Belle Haven neighborhood.
Goal LU-4: Promote and encourage existing and new businesses, and attract entrepreneurs and emerging technologies that will provide goods, services, amenities, local job opportunities, and tax revenue for the community while avoiding or minimizing potential environmental and traffic impacts.	CONSISTENT. The Proposed Project would provide goods, services, amenities, local job opportunities, and tax revenue to the Belle Haven neighborhood and the City. As evaluated throughout this Draft EIR, the Proposed Project would minimize potential environmental and traffic impacts through various Project components or mitigation measures.
Policy LU-4.1: Priority Commercial Development. Encourage emerging technology and entrepreneurship, and prioritize commercial development that provides fiscal benefits to the city, local job opportunities, and/or the goods or services needed by the community.	CONSISTENT. The Proposed Project would include commercial (including office and retail) development that would provide fiscal benefits to the City, local job opportunities, and goods and services needed by the community.

General Plan Goal/Policy	Consistency Analysis
Policy LU-4.2: Hotel Location. Allow hotel uses at suitable locations in mixed-use and non-residential zoning districts.	CONSISTENT. The Proposed Project would include an up to 193-room hotel with approximately 172,000 sf of space in the Town Square District of the Project Site, an area currently zoned as O, which permits this use.
Policy LU-4.3: Mixed-Use and Non-residential Development. Limit parking, traffic, and other impacts of mixed-use and non-residential development on adjacent uses, and promote high-quality architectural designs and effective transportation options.	CONSISTENT. Overall, the Proposed Project would include onsite parking, implement TDM programs and a trip cap, and require building-specific architectural control permits. The Proposed Project would provide approximately 6,250 parking spaces (i.e., between 5,960 and 6,516 spaces) on the main Project Site and approximately 106 spaces at Hamilton Avenue Parcels North and South; proposed parking would require review by the City's transportation manager and approval by the City Council as part of the requested land use entitlements. The TDM programs would encourage Project workers and residents to use alternative modes of transportation, thereby reducing the number of vehicles traveling to/from the Project Site. Architectural design would be subject to review and approval of architectural control plans, consistent with the CDP, to ensure high-quality design.
Policy LU-4.4: Community Amenities. Require mixed-use and non-residential development of a certain scale to support and contribute to programs that benefit the community and the city, including programs related to education, transit, transportation infrastructure, sustainability, neighborhood-serving amenities, child care, housing, job training, and meaningful employment for Menlo Park youth and adults.	CONSISTENT. The Proposed Project would include community amenities, based on the Menlo Park–adopted Community Amenities List and the DA and the extent of bonus-level development. To determine the value and scale of amenities, the community development director would approve an appraisal to identify the fair-market value of the additional gross floor area of the bonus-level development and 50 percent of that value, which would be the value of the community amenities provided by the Project Sponsor. The DA would specify the community amenities to be provided by the Proposed Project.
Policy LU-4.5 Business Uses and Environmental Impacts. Allow modifications to business operations and structures that promote revenue-generating uses for which potential environmental impacts can be mitigated.	CONSISTENT. The Proposed Project would include a mixture of uses (including residential, hotel, office, and retail) on the main Project Site and modify the commercial uses at the Hamilton Avenue Parcels, which would promote revenue generation. The environmental impacts, as addressed in this Draft EIR, would be mitigated to the extent feasible.
Policy LU-4.6: Employment Center Walkability. Promote local-serving retail and personal service uses in employment centers and transit areas that support walkability and reduce the number of automobile trips.	CONSISTENT. The Proposed Project would provide a high-density, mixed-use neighborhood with up to 1,730 housing units; a grocery store and pharmacy services; neighborhood-serving retail uses; office and accessory space; a hotel; new bicycle and pedestrian connections; and open space; therefore, it supports this policy.
GOAL LU-6: Preserve open space lands for recreation, protect natural resources and air and water quality, and protect and enhance scenic qualities.	CONSISTENT. By providing a minimum of 857,000 sf (20+ acres) of open space, assuming full buildout, the Proposed Project would exceed the minimum requirement that calls for 664,336 sf of open space. Of the open space, a minimum of 360,000 sf (approximately 8 acres) would be publicly accessible, assuming full buildout.

General Plan Goal/Policy	Consistency Analysis
Policy LU-6.2: Open Space in New Development. Require new non-residential, mixed-use, and multiple-dwelling development of a certain scale to provide ample open space in the form of plazas, greens, community gardens, and parks whose frequent use is encouraged through thoughtful placement and design.	CONSISTENT. Assuming full buildout, the Proposed Project would include a minimum of approximately 20 acres of open space, of which a minimum of approximately 8 acres would be publicly accessible. Publicly accessible open spaces would include the Town Square, Publicly Accessible Park, Dog Park, and Elevated Park. New multi-family residences would also include open spaces in the form of private balconies, patios, and rooftop terraces. The Campus District would provide ample private open space.
Policy LU-6.3: Public Open Space Design. Promote a public open space design that encourages active and passive uses, with use during daytime and appropriate nighttime hours, to improve quality of life.	CONSISTENT. The mixture of open spaces provided by the Proposed Project, including its Town Square paths and parks, would promote both active and passive uses that would improve the quality of life for Project Site users.
Policy LU-6.4: Park and Recreational Land Dedication. Require new residential development to dedicate land, or pay fees in lieu thereof, for park and recreational purposes.	CONSISTENT. Assuming full buildout, the Proposed Project would set aside a minimum of approximately 8 acres of land as publicly accessible open space, which would include several parks.
Policy LU-6.6: Public Bay Access. Protect and support public access to the Bay for the enjoyment of open water, sloughs, and marshes, including restoration efforts and completion of the Bay Trail.	CONSISTENT. The Proposed Project would include the publicly accessible Elevated Park to facilitate bicycle and pedestrian travel from the Belle Haven neighborhood to the main Project Site and a publicly accessible tunnel (Willow Road Tunnel) to facilitate tram, service-vehicle, bicycle, and pedestrian travel between the main Project Site and the West Campus. The Elevated Park and Willow Road Tunnel would facilitate pedestrian access to Bayfront Expressway and the Bay Trail.
Policy LU-6.8: Landscaping in Development. Encourage extensive and appropriate landscaping in public and private development to maintain the city's tree canopy and promote sustainability and healthy living, particularly through additional trees and water-efficient landscaping in large parking areas and the public right-of-way.	CONSISTENT. The Proposed Project would plant approximately 822 trees, thereby meeting the heritage tree replacement requirements. Landscaping at the Project Site would include a combination of native, drought-tolerant, and adapted species and comply with the Menlo Park Water-Efficient Landscaping Ordinance.
Policy LU-6.11 Baylands Preservation. Allow development near the Bay only in already-developed areas.	CONSISTENT: Although the Proposed Project would be located near the Bay, all development would be located on existing developed sites. No portion of the Proposed Project would encroach on Bay lands.
Policy LU-7.1 Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.	CONSISTENT. As part of landscaping plans, the Proposed Project would include a combination of native, drought-tolerant, and adapted species and comply with the Menlo Park Water-Efficient Landscaping Ordinance. The Proposed Project would be Leadership in Energy and Environmental Design (LEED) Gold certified for buildings 10,000 square feet or larger. Smaller buildings in the Town Square District and Residential/Shopping District (e.g., the south pavilion and park restroom building) would not be certified under LEED. All buildings would comply with the City's applicable reach codes, and include strategies to optimize energy performance.

General Plan Goal/Policy	Consistency Analysis
Circulation and Transportation Element – Adopted November 2016 (ConnectMenlo)	
Goal CIRC-2: Increase accessibility for and use of streets by bicyclists, pedestrians, and transit riders.	CONSISTENT. The Proposed Project would provide pedestrian connections to adjacent sidewalks, an Elevated Park to facilitate safe crossings over Willow Road, and the Willow Road Tunnel. The Project Sponsor has identified bicycle, pedestrian, and transit routes within the Project Site. Furthermore, the TDM programs would promote bicycle and transit use.
Policy CIRC-2.11: Design of New Development. Require new development to incorporate designs that prioritize safe bicycle and pedestrian travel and accommodate senior citizens, people with mobility challenges, and children.	CONSISTENT. The Proposed Project would facilitate bicycle and pedestrian accessibility and connectivity, both within the Project Site (new streets with bike lanes and sidewalks and new multi-use pathways) and between nearby areas, including the Belle Haven neighborhood (from Hamilton Avenue Parcels North and South via the Elevated Park) and Meta Campus via the Willow Road Tunnel. Access to the Elevated Park would be provided by both stairs and elevators.
Policy CIRC-5.7: New Development. Ensure that new non-residential, mixed-use, and multiple-dwelling residential developments provide the associated needed transit service, improvements, and amenities in proportion to the demand attributable to the type and scale of the proposed development.	CONSISTENT. There are no public transit stops adjacent to the Project Site. However, AC Transit's DB and DB1 Dumbarton express routes cross the Dumbarton Bridge, with stops near the Project Site on Willow Road. SamTrans provides bus service to the area south of the Project Site from Routes 296 (Redwood City Transit Center – Bayshore/Donohoe) and 281 (Onetta Harris Center – Stanford Mall) and several shuttle routes. The City of Menlo Park Midday Shuttle serves the Menlo Park Senior Center, located south of the Dumbarton Rail Corridor, and several retail areas in downtown Menlo Park. Furthermore, the Proposed Project's TDM programs would provide subsidized public transit passes and a shuttle service that would connect the Project Site to public transit stations.
Goal CIRC-7: Use innovative strategies to provide efficient and adequate vehicle parking.	CONSISTENT. In addition to onsite vehicle parking, the Proposed Project would include TDM programs that would encourage employees and residents to use alternative modes of transportation, thereby reducing the number of vehicles traveling to/from the Project Site.
Policy CIRC-7.1: Parking and New Development. Ensure that new development provides appropriate parking ratios through the application of appropriate minimum and/or maximum ratios, unbundling, shared parking, electric-car charging, car-sharing, and Green Trip–Certified strategies to accommodate employees, customers, and visitors.	CONSISTENT. The Proposed Project would provide a minimum of 5,960 and a maximum of 6,516 parking spaces on the main Project Site, 93 spaces on Hamilton Avenue Parcel North, and 13 spaces on Hamilton Avenue Parcel South (i.e., a total of 106 spaces on the Hamilton Avenue Parcels); this proposed parking would meet minimum City parking requirements and would not exceed City parking maximums. This would require review by the City's transportation manager and approval by the City Council as part of requested land use entitlements. In addition, the TDM programs would encourage workers to use alternative modes of transportation, thereby reducing the number of vehicles traveling to/from the Project Site. The Proposed Project would provide unbundled parking for the market-rate rental units and include electric-car charging stations and car-sharing spaces.

General Plan Goal/Policy	Consistency Analysis
Policy CIRC-7.2: Off-Street Parking. Ensure both new and existing off-street parking is properly designed and used efficiently through shared parking agreements and, if appropriate, parking in-lieu fees.	CONSISTENT. The Proposed Project would provide adequate off-street parking and encourage the use of alternative modes of transportation. Shared parking would be provided below the Town Square for hotel guests, retail patrons, residential visitors, and campus visitors.
Open Space/Conservation Element – Adopted May 21, 2013	
Policy OSC1.11: Sustainable Landscape Practices. Encourage the enhancement of boulevards, plazas, and other urban open spaces in high-density and mixed-use residential developments, as well as commercial and industrial areas, with landscaping practices that minimize water usage.	CONSISTENT. As part of landscaping plans, the Proposed Project would plant approximately 822 trees throughout the Project Site, thereby meeting heritage tree replacement requirements. Landscaping would include a combination of native, drought-tolerant, and adapted species and comply with the Menlo Park Water-Efficient Landscaping Ordinance.
Policy OSC1.12: Landscaping and Plazas. Include landscaping and plazas on public and private lands and well-designed bicycle and pedestrian facilities in areas of intensive non-vehicular activity. Require landscaping to provide shade, reduce surface runoff, or obscure parked cars in extensive parking areas.	CONSISTENT. The Proposed Project would include landscaping throughout the Project Site, along with walkways, roads, parks, and plazas. The landscaping would include shade trees in parking areas and stormwater gardens to reduce runoff.
Policy OSC1.13: Yard and Open Space Requirements in New Development. Ensure that required yards and open spaces are provided as part of new multi-family residential, mixed-use, commercial, and industrial development.	CONSISTENT. Assuming full buildout, the Proposed Project would include a minimum of approximately 20 acres of open space, of which a minimum of approximately 8 acres would be publicly accessible. Publicly accessible open spaces would include the Town Square, Publicly Accessible Park, Dog Park, and Elevated Park. New multi-family structures would also include open spaces for residences in the form of private balconies, patios, and rooftop terraces. The Campus District would provide ample private open space.
Housing Element – Adopted April 1, 2014	
Policy H1.7: Local Funding for Affordable Housing. Seek ways to reduce housing costs for lower-income workers and people with special needs by developing ongoing local funding resources and continuing to use local, state, and federal assistance to the fullest extent possible. The City will also maintain the Below-Market-Rate Housing Program requirements for residential and non-residential developments.	CONSISTENT. The Proposed Project would adhere to below-market-rate program requirements for both residential and non-residential developments.

General Plan Goal/Policy	Consistency Analysis
Policy H2.4: Protection of Existing Affordable Housing. Strive to ensure that affordable housing provided through government incentives, subsidies, or funding, as well as deed restrictions, remains affordable over time; the City will intervene when possible to help preserve such housing.	CONSISTENT. The Proposed Project would provide up to 1,730 multi-family rental units. Of the proposed units, at least 15 percent (260 if the maximum number of units [1,730] is constructed), and possibly up to 17.8 percent (308 if the maximum number of units [1,730] is constructed), would be below-market-rate rental units. The 308 units would be inclusive of the inclusionary requirement and the commercial linkage fee/unit requirement. The units would be located throughout the Residential/Shopping District. The market-rate units would include up to 120 units for dedicated senior housing, to be located in a proposed stand-alone building. Through approval of a below-market-rate program, the Proposed Project would include onsite affordable units and/or pay commercial in-lieu fees.
Policy H-2.5 Maintenance and Management of Quality Housing and Neighborhoods. Encourage good management practices, rehabilitation of viable older housing, and long-term maintenance and improvement of neighborhoods.	CONSISTENT. Adherence to City standard conditions and Menlo Park Municipal Code requirements would ensure compliance with this policy.
Policy H3.4: Adaptable/Accessible Units for the Disabled. Ensure that new multi-family housing includes units that are accessible and adaptable for use by disabled persons in conformance with the California Building Code. This will include ways to promote housing design strategies that will allow seniors to "age in place" or in the community.	CONSISTENT: Within the Residential/Shopping District, the Proposed Project would provide up to 1,730 multi-family rental units. Of the proposed units, at least 15 percent (260 if the maximum number of units [1,730] is constructed), and possibly up to 17.8 percent (308 if the maximum number of units [1,730] is constructed), would be below-market-rate rental units. The 308 units would be inclusive of the inclusionary requirement as well as the commercial linkage fee/unit requirement. These would be located throughout the district. The below-market-rate units would include a dedicated senior housing community (up to 120 units).
Policy H4.3: Housing Design. Review proposed new housing in order to achieve excellence in development design through an efficient process and encourage infill development on vacant and underutilized sites that is harmonious with the character of Menlo Park's residential neighborhoods. New construction in existing neighborhoods shall be designed to emphasize preservation and improvement of the stability and character of the individual neighborhood. The City will also encourage innovative design that creates housing opportunities that are complementary to the location of the development. It is the City's intent to enhance neighborhood identity and sense of community by ensuring that all new housing will (1) have a sensitive transition with the surrounding area, (2) avoid unreasonably affecting the privacy of neighboring properties, or (3) avoid impairing access to light and air for structures on neighboring properties.	CONSISTENT: The Proposed Project's housing components would be subject to design review through building-specific architectural control permits. The units would be located on an underutilized infill site.

General Plan Goal/Policy	Consistency Analysis
Policy H4.4: Variety of Housing Choices. Strive to achieve a mix of housing types, densities, affordability levels, and designs in response to the broad range of housing needs in Menlo Park. Specific items include: a. The City will work with developers of non-traditional and innovative housing approaches regarding financing, designs, construction, and the types of housing required to meet local housing needs. b. Housing opportunities for families with children should strive to provide necessary facilities nearby or onsite. c. The City will encourage a mix of housing types, including owned and rental housing, single- and multiple-family housing, housing close to jobs and transit, mixed-use housing, work-force housing, special-needs housing, single-room-occupancy housing, shared living and co-housing units, mobile-homes, manufactured housing, self-help or "sweat-equity" housing, cooperatives, and assisted living facilities. d. The City will support the development of affordable alternative living arrangements, such as co-housing and shared housing units (e.g., the Human Investment Project's HIP Housing [shared housing program]).	CONSISTENT: Of the proposed units, at least 15 percent (260 if the maximum number of units [1,730] is constructed), and possibly up to 17.8 percent (308 if the maximum number of units [1,730] is constructed), would be below-market-rate rental units. The 308 units would be inclusive of the inclusionary requirement as well as the commercial linkage fee/unit requirement. These would be located throughout the Residential/Shopping District. The below-market-rate units would include a dedicated senior housing community (up to 120 units) in a stand-alone building. In addition, the 1,730 units would consist of a mix of unit sizes, currently anticipated to be distributed approximately as follows: • Studios: 29 percent (approximately 501 units if the maximum number of units [1,730] is constructed) • One-bedroom units: 32 percent (approximately 561 units if the maximum number of units [1,730] is constructed) • One bedroom plus den: 9 percent (approximately 158 units if the maximum number of units [1,730] is constructed) • Two-bedroom units: 27 percent (approximately 459 units if the maximum number of units [1,730] is constructed) • Three-bedroom units: 3 percent (approximately 51 units if the maximum number of units [1,730] is constructed)
Policy H-4.5 Density Bonuses and Other Incentives for Affordable Housing Development. Use density bonuses and other incentives to help achieve housing goals while ensuring that potential impacts are considered and mitigated. This will include affordable housing overlay zoning provisions as an alternative to State Density Bonus Law.	CONSISTENT. Of the proposed units residential units, up to 17.8 percent (308 if the maximum number of units [1,730] is constructed) would be below-market-rate rental units; these would be located throughout the district. The below-market-rate units would include a dedicated senior housing community (up to 120 units) in a stand-alone building. The Proposed Project would comply with the City's below-market-rate housing requirements and would not seek a density bonus for the provision of onsite below-market-rate units.
Policy H4.6: Mixed-Use Housing. Encourage well-designed mixed-use developments (residential mixed with other uses) where residential use is appropriate to the setting, and encourage mixed-use development in proximity to transit and services, such as at shopping centers and near downtown, to support downtown businesses (consistent with the El Camino Real/Downtown Specific Plan).	CONSISTENT: By proposing up to 1.6 million sf of office and accessory space, up to 200,000 sf of commercial retail uses, and nearly 1.7 million sf of residential sf uses within the Project Site, in addition to open spaces and an onsite multi-modal road network, the Proposed Project would be a well-designed mixed-use development.

General Plan Goal/Policy	Consistency Analysis
Policy H-4.8 Retention and Expansion of Multi-Family Sites at Medium and Higher Density. Strive to protect and expand the supply and availability of multi-family and mixed-use infill housing sites for housing. When possible, the City will avoid re-designating or rezoning multi-family residential land for other uses or lowering densities without re-designating equivalent land for multi-family development and ensure that adequate sites remain at all times to meet the City's share of the region's housing needs.	CONSISTENT: The Proposed Project would not involve re-designation or rezoning of multi-family residential land for other uses or lower densities. Rather, the Proposed Project's housing components would provide medium- and higher-density multi-family units at a Project Site that currently provides no housing. The Proposed Project would take advantage of bonus-level development to maximize the number of multi-family units on the Project Site permitted by the City Zoning Ordinance.
Policy H4.10: Inclusionary Housing Approach. Require residential developments involving five or more units to provide units or an in-lieu fee equivalent for very low-, low-, and moderate-income housing. The units provided through this policy are intended for permanent occupancy and must be deed restricted, including, but not limited to, single-family housing, multi−family housing, condominiums, townhouses, or land subdivisions. In addition, the City will require larger non-residential developments, as job generators, to participate in efforts to address housing needs in the community through the City's commercial in-lieu fee requirements.	CONSISTENT. Through approval of a below-market-rate housing agreement, the Proposed Project would include onsite affordable units and/or pay commercial in-lieu fees.

3.2 Aesthetics

This section describes the existing aesthetic resources and visual characteristics of the Project Site and its immediate vicinity, along with existing plans and policies relevant to visual resource issues within Menlo Park. This section also evaluates the effect on visual resources associated with implementation of the Proposed Project. The evaluation of potential impacts on aesthetics and visual resources is based on a review of photographs, visual simulations, site reconnaissance materials, and Project data. The specific impacts examined in this section pertain to the Proposed Project's potential to change the visual quality and character of the area and create new sources of light and glare.

Issues identified in response to the Notice of Preparation (Appendix 1) were considered during preparation of this analysis. Applicable issues pertain to baseline conditions and the scale of development.

Existing Conditions

Environmental Setting

Regional Context

Menlo Park is a 19-square-mile municipality on the San Francisco Peninsula (Peninsula), approximately 30 miles south of San Francisco and 20 miles north of San José. Located east of the San Andreas Fault Zone, Menlo Park is one of more than a dozen cities on the flatter portions of the western margin of San Francisco Bay (Bay). The city is bounded by Redwood City to the northwest, Atherton to the west, Palo Alto and Stanford University to the southwest, and East Palo Alto to the east. The Bay is north of the city.

Urban development within the area is concentrated primarily between the Bay and the Interstate 280 (I-280) corridor. In general, the Peninsula is developed with low-density uses within distinct neighborhoods that include commercial, retail, and residential uses. Larger-scale development, such as office parks and industrial uses, are located between the Bay and US 101. High-rise office developments, multi-family housing units, and hospital buildings are concentrated along the US 101 and El Camino Real corridors.

The Bay and its natural features are key visual components in the eastern and northern portions of the city. The Santa Cruz Mountains, which form a barrier between the Pacific Ocean and the Bay, are visible throughout Menlo Park and adjacent cities, especially in areas north and east of US 101. The visible portion of the mountain range is Skyline Ridge, which rises to more than 2,400 feet; the ridge is approximately 15 miles south of the Project Site.

Project Vicinity

The urban design in the Project vicinity is influenced by both the undeveloped areas along the Bay and the mix of development, including life science, office, and residential uses, elsewhere. The undeveloped areas, which are north of the Dumbarton Rail Corridor and across State Route (SR) 84, include the Bay's tidal mudflats and marshes, Don Edwards San Francisco Bay National Wildlife Refuge (Refuge), and Ravenswood Slough. Developed areas include the Menlo Park Labs Campus east of the main Project Site, Open Mind School/Wund3rSCHOOL and Mid-Peninsula High School to the south, and the Belle Haven

neighborhood to the west. North of the Project Site is the Meta Platforms, Inc. (Meta), West Campus, which includes Building 20, the original West Campus building, and three large office buildings (Buildings 21, 22, and 23), along with the site for a future hotel, part of the Meta Campus Expansion Project. The West Campus also includes landscape vegetation, pathways, and a small portion of the Dumbarton Rail Corridor. A bicycle/pedestrian tram undercrossing/tunnel at Bayfront Expressway connects the Meta West Campus to the Meta East Campus.

The Project vicinity, which is relatively flat, has limited long-range views due, in part, to the prevalence of buildings in the area. In addition, trees and vegetation provide visual separation and screening between buildings and along roadways. The visual resources to the north, including the Bay, tidal mudflats and marshes, Refuge, and Dumbarton Bridge, are generally not visible from vantage points in the vicinity of the Project Site; these resources are visible only from areas immediately adjacent to Bayfront Expressway. No scenic resources, such as rock outcroppings, cliffs, or knolls, are present in the Project vicinity, although mature trees are present throughout the area.

The development pattern in this area of Menlo Park is characterized by one- or two-story structures, mostly tilt-up construction, with landscaped setbacks, tree-lined streets, and surface parking lots. The older industrial construction in the area has limited windows, sparse landscaping, and surrounding parking lots. Overhead utility lines are visible in most areas. Bicycle lanes, which connect to Bayfront Expressway, are provided along Willow Road. The Belle Haven neighborhood, located east of the Project Site, generally consists of one- or two-story single-family residential developments, with ample street setbacks, landscaped front yards, mature street trees, and well-maintained sidewalks. The neighborhood also features open spaces, parks, and a small retail area adjacent to Willow Road, Fire Station 77, and Belle Haven Elementary School.

The residential neighborhoods in East Palo Alto are east of the Project Site (across University Avenue) and to the south (across O'Brien Drive). Included in these neighborhoods, some of which are as close as 500 feet from the main Project Site, are single-family residences, multi-family residential buildings, and neighborhood-serving retail centers. The neighborhoods generally feature one- or two-story buildings, mature front landscaping, sidewalks, utility poles, and overhead wires. The adjacent neighborhoods in East Palo Alto include Cesar Chavez Elementary School; the 4 Corners Civic Hub, including East Palo Alto Library, City Hall, and Post Office; Costaño School and San Francisco 49ers Academy; and Jack Ferrell Park. Because of flat topography, structures, and dense vegetation, background views of the areas surrounding the East Palo Alto neighborhoods are generally not available.

Project Site

As discussed in Chapter 2, *Project Description*, the main Project Site comprises approximately 59 acres. It is generally bounded by the currently inactive Dumbarton Rail Corridor to the north, an existing life science complex to the east (Menlo Park Labs Campus), the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy right-of-way to the south, and Willow Road to the west. The Proposed Project would also alter parcels west of the main Project Site, across Willow Road, on both the north and south sides of Hamilton Avenue (i.e., Hamilton Avenue Parcels North and South) to support realignment of the right-of-way and provide access to the new Elevated Park. The Proposed Project would also include a below-grade tunnel for trams, service vehicles, bicyclists, and pedestrians that would connect the Campus District on the main Project Site to the West and East Campuses. The southern approach to Willow Road Tunnel comprises the northwest portion of the Menlo Science and Technology Park, consisting of a single-story concrete structure, 925 Hamilton Avenue, and circulation and parking improvements, including landscape improvements. The tunnel would be beneath the right-of-way for Willow Road and the

Dumbarton Rail Corridor. The western approach of Willow Road Tunnel is within an eastern portion of the West Campus (MPK 20), which contains landscape improvements as well as vehicle, bicycle, and pedestrian circulation improvements.

The above-grade Elevated Park, spanning Willow Road, that would be open to the public would connect Hamilton Avenue Parcel North to the main Project Site. The western access route to the Elevated Park would be on Hamilton Avenue Parcel North from a staircase and elevator. The Elevated Park would extend over the Willow Road right-of-way and through the Town Square and Campus Districts on the main Project Site. The northeast access point from North Loop Road would include a staircase and elevator to the Elevated Park.

The Ravenswood substation, which would serve the Proposed Project, is an approximately 17.5-acre site with electrical transmission equipment adjacent to the former Cargill salt ponds.

Visual Character

The main Project Site currently contains 20 buildings with employee amenities/support services (for Meta) and a mix of office, research-and-development (R&D), and warehousing uses. Existing buildings at the main Project Site were constructed between 1956 and 1996 and have an area of approximately 1 million square feet (sf). The buildings are conventional reinforced-concrete structures, with heights ranging from approximately 21 feet to a maximum of approximately 38 feet. Landscaping consists of mostly native trees, hedges, and plant material, although most of the site is paved.

The main Project Site buildings are set back from Willow Road but relatively close to the inactive Dumbarton Rail Corridor. A chain link fence runs along the northern, eastern, and southern boundaries of the main Project Site. Street trees and ornamental landscaping also create a natural buffer.

Hamilton Avenue Parcel North, the approximately 1.8-acre block, composed of two legal parcels, at the northwest corner of Willow Road and Hamilton Avenue, is developed with approximately 16,000 sf of retail buildings, including the Belle Haven Retail Center and a Jack in the Box restaurant. The one- or two-story commercial buildings are fronted by surface parking lots, decorative landscaping, mulched and irrigated areas, and interior sidewalks. Hamilton Avenue Parcel South, an approximately 1.3-acre parcel at the southwest corner of Willow Road and Hamilton Avenue, includes a 12-pump Chevron gas station with approximately 4,500 sf of retail space and a car wash. The buildings on both parcels are set back and relatively screened from view along Willow Road and Hamilton Avenue by mature street trees, open space buffers, and manicured vegetation.

Onsite Topography

The main Project Site is relatively flat, with a 0.5 percent slope south–north across the site; elevations range from 6 to 11 feet North American Vertical Datum 1988 (NAVD88). The parking lots are generally graded toward existing drainage facilities.[1] Hamilton Avenue Parcels North and South are nearly flat, with elevations ranging from about 6 to 12 feet NAVD 88.[2,3,4] Hamilton Avenue Parcel South is approximately 3 feet above adjacent streets.[5]

Vegetation

Vegetation on the main Project Site includes trees and shrubs on the perimeter and at entrances, along internal circulation routes, in parking lots, and between buildings. Perimeter landscaping provides a visual barrier between the main Project Site and exterior land uses, emphasizing the separation between adjacent development and onsite buildings. Breaks in the landscape buffer along Willow Road and the southern boundary of the main Project Site provide intermittent views of adjacent development, including the Belle Haven neighborhood.

The arborist report prepared for the main Project Site identified 784 trees, consisting of 40 different species. Of the total number of onsite trees, 274 are considered heritage trees, according to Chapter 13.24 of the Menlo Park Municipal Code.[6] The heritage trees consist almost entirely of nonnative ornamental species, such as Canary Island pine (*Pinus canariensis*), shamel ash (*Fraxinus uhdei*), raywood ash, (*Fraxinus oxycarpa* "Raywood"), deodar cedar (*Cedrus deodara*), Tasmanian blue gum (*Eucalyptus globulus*), Peruvian pepper (*Schinus mole*), and purple leaf plum (*Prunus cerasifera* "Krauter Vesuvius"). Native but planted, and therefore considered ornamental, heritage trees on the main Project Site include two coast live oaks (*Quercus agrifolia*) and five coast redwoods (*Sequoia sempervirens*).[7]

Hamilton Avenue Parcels North and South are landscaped with trees and ornamental shrubs. Street trees line the public right-of-way surrounding the parcels. According to the arborist report, Hamilton Avenue Parcels North and South contain 141 trees, consisting of 10 different species. Of the trees surveyed, 18 are considered heritage.[8] The 18 heritage tree comprise two species, coast redwoods and coast live oaks. The most numerous tree species on Hamilton Avenue Parcels North and South are Chinese pistache (*Pistacia chinensis*) (32 trees, including 16 City street trees) and red maple (*Acer rubrum*) (19 trees).

---

1 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

2 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871-899 Hamilton Avenue, Menlo Park, California*. (Project Number 254-11-21.) June 10. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

3 Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. (Project Number 254-11-15.) April 23. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

4 Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. (Project Number 254-45-1.) October 13. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

5 Cornerstone Earth Group. 2020. *Geotechnical Consultation Willow Village Expansion Feasibility Study*. October 15, 2020.

6 SBCA Tree Consulting. 2020. *Tree Survey and Valuation of Heritage Trees*. August 27, 2020.

7 H.T. Harvey & Associates. 2020. *Willow Village Master Plan Biological Resources Report*. Los Gatos, CA. Prepared for Peninsula Innovation Partners, Menlo Park, CA. June 12. Unpublished.

8 SBCA Tree Consulting. 2021. *Tree Survey.* April 1, 2021.

Views from the Project Site

Views on the main Project Site include buildings, paved parking lots, landscaping, and power lines. At-grade offsite views from the interior of the main Project Site are limited because of the relatively flat topography, onsite buildings, fencing, and vegetation. To the north, views of the inactive Dumbarton Rail Corridor from pedestrian-level viewpoints are obscured by a chain link fence and dense vegetation. Similarly, views of the Menlo Park Labs Campus to the east and the SFPUC Hetch Hetchy right-of-way to the south are partially obscured by vegetation. To the west, intermittent views across Willow Road to the Belle Haven neighborhood and Hamilton Avenue Parcels North and South are available from the main Project Site through breaks in the landscape buffer.

Views at Hamilton Avenue Parcels North and South consist mainly of existing development, including the Belle Haven Retail Center, a Jack in the Box restaurant, paved parking lots, and landscaping. Similar to the main Project Site, at-grade offsite views from Hamilton Avenue Parcels North and South are limited because of the relatively flat topography, onsite and offsite development, and landscaping. To the north, views of the inactive Dumbarton Rail Corridor from pedestrian-level viewpoints are obscured by onsite buildings. However, because of its height, the two-story building at the Meta West Campus, as well as the vegetation on its rooftop garden, is visible beyond the Dumbarton Rail Corridor. To the east, intermittent views to the main Project Site are available across Willow Road through breaks in the landscape buffer. To the west and south, views of the Belle Haven neighborhood and commercial development are partially obscured by street trees, fencing, and landscape buffers.

Public View Corridors

Public view corridors are areas where short-range, medium-range, and long-range views are available from publicly accessible viewpoints, such as city streets. Portions of the main Project Site are visible from nearby public vantage points; however, the main Project Site is not visible in its entirety from a single grade-level vantage point because of its large size, flat topography, and surrounding development. Public vantage points with views of the main Project Site and Hamilton Avenue Parcels North and South are discussed below.

Bayfront Expressway

Bayfront Expressway is a major roadway that links Dumbarton Bridge to US 101. This six-lane roadway runs in an east–west direction north of the main Project Site. A concrete median, approximately 3 feet in height, separates the eastbound and westbound lanes. Views of the main Project Site from passing automobiles traveling in the eastbound and westbound direction are partially obscured by vegetation and a storage facility along the inactive Dumbarton Rail Corridor. However, views of the buildings on the northeastern portion of the main Project Site—specifically, MPK 44 and MPK 45—can be seen through breaks in the vegetation. Hamilton Avenue Parcels North and South are also obscured by surrounding development and vegetation. In addition, the regional lattice-type electrical transmission towers and electrical transmission lines along the northern portion of the main Project Site and Hamilton Avenue Parcels North and South are highly visible from Bayfront Expressway. The Pacific Gas and Electric Company (PG&E) Ravenswood substation is highly visible from Bayfront Expressway; the substation is adjacent to the westbound travel lanes. The facility and its distribution lines are not screened from Bayfront Expressway. The ridges of the Santa Cruz Mountains can be seen in the distance beyond the onsite rooftops and mature trees.

San Francisco Bay Trail

The San Francisco Bay Trail (Bay Trail) runs north of Bayfront Expressway between the salt ponds and marsh from Marsh Road to Willow Road. At Willow Road, the Bay Trail runs along the south side of Bayfront Expressway, including the portion north of the main Project Site.[9] The Bay Trail uses an existing tunnel between the East and West Campuses to cross Bayfront Expressway. The Willow Road Tunnel site is visible from the existing Bayfront Expressway undercrossing. Because of the natural Bay setting north and west of the Bay Trail, as well as to the south toward the Santa Cruz Mountains, this public viewpoint is considered a scenic resource. Depending on the location, views of the main Project Site are visible to bicyclists and pedestrians traveling along the Bay Trail, particularly on the northeast portion. Views of Hamilton Avenue Parcels North and South from the Bay Trail are limited because of landscaping on the West Campus and MPK 20. Looking west and east, prominent middleground features within the viewshed include Bayfront Expressway, traffic signals, electrical transmission towers, and utility poles and wires. Given the proximity of the Bay Trail to Bayfront Expressway and the PG&E Ravenswood substation, which is adjacent to Bayfront Expressway, the substation and distribution lines are visible from the Bay Trail. Views of the Santa Cruz Mountains are available in the background.

Bay Conservation and Development Commission Public Shoreline trail

Portions of the Bay Conservation and Development Commission (BCDC) Public Shoreline Trail are approximately 1 mile northeast of the main Project Site—specifically, Ravenswood Trail and the SF2 Trail.[10] Because of the natural Bay setting north and west of the Bay Trail, as well as to the south toward the Santa Cruz Mountains, this public viewpoint is considered a scenic resource. From this vantage point, foreground views feature the trail, the Refuge, and salt ponds. The high-voltage PG&E transmission lines and the Ravenswood substation are visible in the foreground, given the proximity of the Ravenswood Trail and SF2 trail. Middleground views include Bayfront Expressway, surrounding vegetation, rooftops of buildings on the main Project Site, electrical transmission towers, and power lines. Views of Hamilton Avenue Parcels North and South are obstructed by vegetation, electrical transmission towers, and power lines. Unobstructed distant views of the Santa Cruz Mountains are available to the southwest.

Willow Road

Willow Road extends south from Bayfront Expressway along the western edge of the main Project Site. This segment of the street provides two vehicular lanes and one bicycle lane in each direction. There are no sidewalks along the southbound roadway segment. The main Project Site and Hamilton Avenue Parcels North and South are visible along Willow Road; however, views are partially obstructed by vegetation, depending on the viewer's location. There are no views of the PG&E substation from Willow Road. The areas for the approaches to the Willow Road Tunnel are visible from Willow Road.

[9] San Francisco Bay Trail. 2021. *Navigational Map*. Available: https://baytrail.org/baytrailmap.html. Accessed: October 4, 2021.

[10] U.S. Fish and Wildlife. *Don Edwards San Francisco Bay National Wildlife Refuge, Directory of Trails*. Available: https://www.fws.gov/uploadedImages/Region_8/NWRS/Zone_2/San_Francisco_Bay_Complex/Don_Edwards_San_Francisco_Bay/Images/Visit/Trail_Maps/Map%20Overview.jpg?n=41. Accessed: October 4, 2021.

Viewer Perspective and Sensitivity

Viewer sensitivity, which refers to a viewer's reaction to landscape change, is affected by viewer activity, awareness, and expectations, in combination with the number of viewers and the duration of the view. Visual sensitivity is generally higher for views that are observed by people who are driving for pleasure or engaging in recreational activities, such as biking, walking, or hiking; residents of an area; or people who are engaged in work activities or commuting to work. For purposes of this analysis, sensitive viewers include individuals with a direct view of the Project Site from a public vantage point. These include employees, and individuals traveling on public roadways, in bike lanes, on sidewalks, and at nearby recreational facilities, such as the Bay Trail and BCDC Public Shoreline Trail.

Light and Glare

Light pollution refers to all forms of unwanted light in the night sky, including glare, light trespass or spill on adjacent sensitive receptors, sky glow, and over-lighting. Views of the night sky are an important part of the natural environment. Excessive light and glare can be visually disruptive to humans and nocturnal animal species. Light pollution in most of the city is minimal and restricted primarily to areas with lighting along major streets and freeways or areas with nighttime illumination within commercial and industrial areas.

Existing sources of light on the main Project Site include the light fixtures on buildings, along walkways, and along internal circulation routes. Similarly, sources of light on Hamilton Avenue Parcels North and South include the light fixtures on buildings and along pathways as well as street lighting in the public right-of-way. Site-level lighting for bicycles, pedestrians, and vehicles at the Willow Road Tunnel approaches on the main Project Site and West Campus is present. On the Ravenswood substation site, existing sources of light include the light fixtures on the support buildings. Sources of daytime glare on the main Project Site and Hamilton Avenue Parcels North and South include reflected sunlight from windows on buildings, glass doors, and parked vehicles. There are no sources of daytime glare at the Willow Road Tunnel approaches or the Ravenswood substation. Sources of nighttime glare include vehicle headlights and street lighting. Dense vegetation and fencing on the main Project Site aid in minimizing light trespass from the area.

Regulatory Setting

State

California Scenic Highway Program

The California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans), protects state scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to the highways. A highway's designation of "scenic" depends on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers' enjoyment of the view. The segment of I-280 that runs from the Santa Clara County line to the San Bruno city limit, southwest of the Project Site, is designated as a state scenic highway by Caltrans.[11]

[11] California Department of Transportation. 2021a. *California State Scenic Highways*. Available: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed: September 27, 2021.

California Code of Regulations, Title 24

The 2019 Building Energy Efficiency Standards outlined in the California Code of Regulations (Title 24, Parts 1 and 6) contain energy and water efficiency requirements for new construction. These standards are intended to improve the quality of outdoor lighting and reduce the impacts of light pollution, light trespass, and glare. Specifically, non-residential, high-rise residential, and hotel developments must comply with the standards that regulate lighting characteristics, such as maximum power and brightness, shielding, and sensor controls, as outlined in Sections 130.2(a) through 130.2(c).[12]

Local

Menlo Park General Plan

The City General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2014-2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The following policies from the Land Use Element, adopted to avoid or mitigate environmental impacts, pertain to the Proposed Project:

Goal LU-1: Promote the orderly development of Menlo Park and its surrounding area.

> **Policy LU-1.1: Land Use Patterns.** Cooperate with the appropriate agencies to help ensure a coordinated land use pattern in Menlo Park and the surrounding area.

Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.

> **Policy LU-2.1: Neighborhood Compatibility.** Ensure that new residential development possesses a high-quality design that is compatible with the scale, look, and feel of the surrounding neighborhood and respects the city's residential character.
>
> **Policy LU-2.2: Open Space.** Require accessible, attractive open space that is well maintained and use sustainable practices and materials in all new multiple-dwelling and mixed-use development.
>
> **Policy LU-2.3: Mixed-Use Design.** Allow mixed-use projects with residential units if project addressed potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials.
>
> **Policy LU-2.6: Underground Utilities.** Require all electric and communications lines that serve new development to be placed underground.

Goal LU-3: Retain and enhance existing and encourage new neighborhood-serving commercial uses, particularly retail services, to create vibrant commercial corridors.

> **Policy LU-3.2: Neighborhood Shopping Impacts.** Limit the impacts from neighborhood shopping areas, including traffic, parking, noise, light spillover, and odors, on adjacent uses.

Goal LU-4: Promote and encourage existing and new business to be successful and attract entrepreneurship and emerging technologies for providing goods, services amenities, local job opportunities, and tax revenue for the community while avoiding or minimizing potential environmental and traffic impacts.

[12] California Energy Commission. 2019. *Building Energy Efficiency Standards for Residential and Non-residential Buildings.* Available: https://www.energy.ca.gov/sites/default/files/2021-06/CEC-400-2018-020-CMF_0.pdf. Accessed: October 2021.

Policy LU-4.3: Mixed-Use and Non-residential Development. Limit parking, traffic, and other impacts of mixed-use and non-residential development on adjacent uses, and promote high-quality architectural designs and effective transportation options.

Goal LU-6: Preserve open space lands for recreation; protect natural resources and air and water quality; and protect and enhance scenic qualities.

Policy LU-6.2: Open Space in New Development. Require new non-residential, mixed-use, and multiple dwelling development of a certain minimum scale to provide ample open space in the form of plazas, greens, community gardens, and parks whose frequent use is encouraged through thoughtful placement and design.

Policy LU-6.6: Public Bay Access. Protect and support public access to the Bay for the scenic enjoyment of open water, sloughs, and marshes, including restoration efforts, and completion of the Bay Trail.

Policy LU-6.8: Landscaping in Development. Encourage extensive and appropriate landscaping in public and private development to maintain the city's tree canopy and to promote sustainability and healthy living, particularly through increased trees and water-efficient landscaping in large parking areas and in the public right-of-way.

Policy LU-6.11: Baylands Preservation. Allow development near the Bay only in already-developed areas.

The following policies from the Open Space and Conservation Element were adopted to avoid or minimize environmental impacts:

Policy OSC1.12: Landscaping and Plazas. Include landscaping and plazas on public and private lands and well-designed bicycle and pedestrian facilities in areas of intensive non-vehicular activity. Require landscaping for shade and surface runoff or to obscure parked cars in extensive parking areas.

Policy OSC1.15: Heritage Trees. Protect heritage trees, including during construction activities, through enforcement of the Heritage Tree Ordinance (Chapter 13.24 of the Menlo Park Municipal Code).

Menlo Park Municipal Code

Chapter 13.24, Heritage Trees

Chapter 13.24 of the Menlo Park Municipal Code regulates the removal and replacement of heritage trees, promotes additional heritage tree planting, and supports public education about the planting, maintenance, and preservation of healthy heritage trees. Pursuant to Section 13.24.050, a permit issued by the public works director is required to remove and conduct major pruning of a heritage tree. Heritage trees include:

- All trees other than oaks that have a trunk with a circumference of 47.1 inches (diameter of 15 inches) or more, measured 54 inches above natural grade.
- An oak tree (*Quercus*) that is native to California and has a trunk with a circumference of 31.4 inches (diameter of 10 inches) or more, measured 54 inches above natural grade.
- A tree or group of trees of historical significance, special character, or community benefit—specifically, designated by resolution of the City Council.

Sections 16.43.140(6) and Section 16.45.130(6), Bird-Friendly Design

All new construction, regardless of size, is required to comply with the City of Menlo Park (City) bird-safe design requirements provided in Menlo Park Municipal Code Sections 16.43.140(6) (with respect to the O District) and 16.45.130(6) (with respect to the R-MU District). These design requirements include appropriate measures to reduce bird collisions, as follows:

A. No more than 10 percent of the façade surface area shall have non-bird-friendly glazing.

B. Bird-friendly glazing includes, but is not limited to, opaque glass; clear glass with patterns covering the outside surface; paned glass with fenestration, frit, or etching patterns; and nonreflective glass with external screens. Highly reflective glass is not permitted.

C. Occupancy sensors or other switch control devices shall be installed on non-emergency lights and programmed to shut off during non-work hours and between 10:00 p.m. and sunrise.

D. The placement of buildings shall avoid the potential funneling of flight paths toward a building façade.

E. Glass skyways or walkways, free-standing (see-through) glass walls and handrails, and transparent building corners shall not be allowed.

F. Transparent glass shall not be allowed at the rooflines of buildings, including in conjunction with roof decks, patios, and green roofs.

G. Rodenticides shall not be allowed.

H. A project may receive a waiver from one or more of the items listed in subsections (6)(A) to (F) of this section, subject to submittal of a site-specific evaluation from a qualified biologist and review and approval by the Planning Commission.

Chapter 16.64, Fences, Walls, Trees, and Hedges

Chapter 16.64 of the Menlo Park Municipal Code establishes standards for fences, walls, trees, and hedges in non-residential and residential areas. In non-residential areas, fences, walls, hedges, and similar structures between the building and front lot line are required to obtain written approval from the community development director. The following features must be considered when obtaining approval: structural stability; aesthetics; the general health, safety, and welfare of the community; clear lines of sight for vehicular and pedestrian traffic; and other safety factors.

Chapter 16.82, Permits

Sections 16.82.050 through 16.82.100 of the Menlo Park Municipal Code establish criteria for the issuance of conditional development permits (CDPs). A CDP may be issued to allow adjustments to zoning district requirements to secure special benefits through comprehensive planning of large developments. A CDP would be required for the main Project Site to permit a master-planned project with bonus-level development, define any adjustments to City Zoning Ordinance development standards, identify project conditions and requirements, and create mechanisms for the City to use to process any revisions to the Proposed Project that might arise over the buildout period. Section 16.82.060 requires that each CDP application be accompanied by architectural drawings and plot plans that clearly identify elevations, locations of proposed buildings, landscaping, parking, and other physical features. Section 16.68.020 of the Menlo Park Municipal Code establishes requirements for architectural control approval. Each application for a building permit for construction or alternation of a building must be accompanied by architectural drawings showing elevations, landscaping or other ground treatments, and the design of parking facilities, including access points.

The City Council is the final decision-making body in the CDP; however, subsequent architectural control permits would be reviewed and acted upon, perhaps concurrently, by the Planning Commission. The Planning Commission would consider the following when conducting architectural control review of the Proposed Project:

1. The general appearance of the structures is in keeping with the character of the neighborhood.
2. The development will not be detrimental to the harmonious and orderly growth of the city.
3. The development will not affect the desirability of investment or occupation in the neighborhood.
4. The development provides adequate parking, as required in all applicable City ordinances, and has made adequate provisions for access to such parking.

Environmental Impacts

This section describes the impact analysis related to aesthetics for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the Proposed Project would have a significant effect if it would result in any of the conditions listed below.

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are experienced from publicly accessible vantage points); if a project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality.
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

Methods for Analysis

Visual conditions within the Project vicinity are influenced by both the undeveloped areas along the Bay and the mix of development, including life science, office, and residential uses, elsewhere. The interplay of these elements of the visual setting varies from point to point, depending on viewer location. The appearance of the main Project Site, Hamilton Avenue Parcels North and South, the location for proposed offsite improvements (refer to Chapter 2, *Project Description*), and the surrounding community would change with construction of the Proposed Project.

To illustrate the general appearance of the Project Site, photomontages (massing studies) from 10 vantage points were prepared, as shown in Figure 3.2-1, Map of Viewpoints. A photomontage is a photograph of existing conditions, with an image of the proposed development superimposed over the photograph through the use of computer imaging techniques. The photomontages created for the Proposed Project were prepared in a photo-realistic fashion to depict proposed development, inclusive of buildings, roadway configurations,

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-1
Map of Viewpoints

and landscaping. The photomontages provide a reasonable representation of building massing, scale, and height upon Project completion. Building façade and architectural designs for the Proposed Project would be determined through the architectural control (design review) process set forth in the CDP and the subdivision mapping process. Therefore, these features are not included in the photomontages.

The photomontages in Figures 3.2-2 through 3.2-11 provide both "existing" (without Project development) and "illustrative" (with Project development) conditions. Notably, there are no designated scenic vistas or scenic highways in the vicinity of the Project Site. The viewpoints were selected to demonstrate existing and proposed conditions from each cardinal direction (north, east, south, west). Depictions of the "proposed" conditions are based on the development standards and conceptual and illustrative designs included in the CDP for the Proposed Project. As described above, final Project designs would be subject to architectural control approval and reviewed for consistency with the development parameters established in the CDP for the Proposed Project. The selected viewpoints for each photomontage are listed below.

- Viewpoint 1: Bay Trail and Bayfront Expressway (facing southeast)
- Viewpoint 2: Bay Trail and Bayfront Expressway (facing southwest)
- Viewpoint 3: Adams Court (facing west)
- Viewpoint 4: Kavanaugh Drive and Clarence Court in East Palo Alto (facing northwest)
- Viewpoint 5: Alberni Street and Menalto Avenue in East Palo Alto (facing north)
- Viewpoint 6: O'Brien Drive and Kavanaugh Drive (facing northwest)
- Viewpoint 7: Mid-Peninsula High School (facing northwest)
- Viewpoint 8: Willow Road (facing north)
- Viewpoint 9: Hamilton Avenue and Carlton Avenue (facing southeast)
- Viewpoint 10: Willow Road (facing northwest)

For the purposes of this analysis, viewpoints are separated into foreground, middleground, and background views. Generally, the foreground is characterized by clear details (up to 0.5 mile from the viewer); the middleground is characterized by the loss of clear detail in a landscape, creating a uniform appearance (up to 4 miles from the foreground); and the background extends from the middleground to the limit of human sight.[13]

Summary of Analysis in the ConnectMenlo EIR

- Impacts related to scenic vistas were analyzed in the ConnectMenlo Environmental Impact Report (EIR) as Impact AES-1 (pages 4.1-8 to 4.1-14) and determined to be less than significant because no publicly accessible views of scenic resources would be blocked or obstructed by increasing height limits in the Bayfront Area. Similar views would continue to be visible between buildings and over lower-intensity areas. No mitigation measures were required.
- Impacts related to scenic resources within a state scenic highway were analyzed in the ConnectMenlo EIR as Impact AES-2 (pages 4.1-14 to 4.1-15). The ConnectMenlo EIR determined that impacts would be less than significant because none of the potential new development that would result in more intense development or increased heights would be within the I-280 viewshed. Furthermore,

[13] U.S. Department of Agriculture, U.S. Forest Service. 1995. *Landscape Aesthetics, A Handbook for Scenery Management.* Agricultural Handbook Number 701. Washington D.C.

potential future development in the I-280 viewshed would, if necessary, be subject to the City's existing architectural control process, in accordance with Section 16.68.020 of the City Zoning Ordinance, and required to comply with applicable design standards outlined in the City Zoning Ordinance. No mitigation measures were required.

- Consistency with applicable zoning and other regulations was analyzed in the ConnectMenlo EIR as Impact LU-2 (pages 4.9-14 to 4.9-23) and determined to be less than significant with mitigation incorporated. In addition, consistency with regulations governing scenic quality was analyzed in the ConnectMenlo EIR as Impact AES-3 (pages 4.1-15 to 4.1-16). The following City General Plan goals and policies, among others, would serve to reduce impacts on visual quality and character in the Bayfront Area: Goal LU-1, Policy LU-1.1; Goal LU-2, Policy 2.1, Policy 2.2; Goal LU-3, Policy LU-3.2; Goal LU-4, Policy LU-4.3, Policy LU-4.5; Goal LU-6, Policy LU-6.2, Policy LU-6.6, Policy LU-6.8, Policy LU-6.11; and Goal OSC-1, Policy OSC-1.11, Policy OSC1.12, Policy OSC-1.13, and Policy OSC-1.15. These policies encourage orderly development and land use patterns, promote high-quality architectural design, and protect and enhance the scenic qualities of Menlo Park. The ConnectMenlo EIR concluded that the impacts would be less than significant. Although more intense development with taller and larger buildings could occur in the Bayfront Area, future development would not result in a substantial change to the existing visual character of the Bayfront Area or its surroundings. The ConnectMenlo EIR notes that potential future development under the update to the City General Plan would create a shift in uses from light industrial and business park uses to office, technology, R&D, life sciences, and mixed-use uses with multi-family residential and commercial development and involve notable changes in building intensity and height (from 35 to 120 feet). However, given the existing commercial, industrial, and residential uses surrounding areas of potential new growth, the gradual development of future projects would continue to be compatible with the existing visual character and quality of the Bayfront Area or its surroundings. No mitigation measures were required.
- Impacts related to light and glare were analyzed in the ConnectMenlo EIR under Impact AES-4 (pages 4.1-16 to 4.1-17). The ConnectMenlo EIR determined that impacts would be less than significant because new development would be required to comply with general best management practices and City General Plan policies that ensure that new land uses would not generate excessive levels of light that would spill onto adjacent sensitive receptors and reduce light and glare spillover from future development on surrounding land uses. No mitigation measures were required.

Impacts Not Evaluated in Detail

Impacts on Scenic Resources along a State Scenic Highway. There are no officially designated state scenic highways or eligible state scenic highways in the vicinity of the Project Site. The nearest state-designated scenic highway, I-280, is approximately 5.5 miles southwest of the Project Site.[14] The Proposed Project would not be visible from this highway. No impacts on scenic resources along a state scenic highway would occur, and therefore, this topic is not discussed further.

Impacts on Public Views in Non-Urbanized Areas. The Project Site is in an urbanized area. The applicable threshold in non-urbanized areas regarding substantial degradation of the existing visual character or the quality of public views of the site and its surroundings is therefore not applicable. This topic is not discussed further.

[14] California Department of Transportation. 2021b. *California State Scenic Highway System Map*. Available: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa. Accessed: October 4, 2021.

Impacts and Mitigation Measures

Impact AES-1: Substantial Adverse Effect on Scenic Vistas. The Proposed Project would not result in a substantial adverse effect on scenic vistas. (LTS)

For the purposes of this analysis, a scenic vista is defined as a vantage point with a broad and expansive view of a significant landscape feature (e.g., a mountain range, lake, or coastline) or a significant historic or architectural feature (e.g., a historic tower). A scenic vista is a location with high-quality views, including harmonious and visually interesting views. Menlo Park does not have any officially designated scenic views or vistas. However, in the areas surrounding the Project Site, scenic resources that could be considered scenic vistas are the Santa Cruz Mountains, BCDC Public Shoreline Trail, the Bay Trail, and Bayfront Expressway. These areas offer expansive views of the natural setting, including a mountain range, marsh, the Refuge, salt ponds, and Bay, which is farther north.

Construction of the Proposed Project would increase the total building area on the main Project Site by more than 2.6 million sf compared to existing conditions. Therefore, building massing and height would increase, resulting in greater visibility of the onsite buildings compared with existing conditions. To accommodate the intersection realignment at Hamilton Avenue and Willow Road, Hamilton Avenue Parcel North would include an expanded one-story structure; the service station would be reconstructed on Hamilton Avenue Parcel South, with a height similar to that under existing conditions. However, as noted above, the ConnectMenlo EIR determined that impacts related to scenic vistas within the Bayfront Area would be less than significant because publicly accessible views of scenic vistas would not be blocked or obstructed by increased building heights. The Willow Road tunnel would be below grade. The approaches from the Project Site and West Campus would begin at grade and extend below grade. The PG&E Ravenswood substation upgrades would be contained within the existing substation footprint. Distribution feeder lines from the substation would be below grade. As demonstrated by the photomontages described below, scenic views would continue to be available from publicly accessible vantage points, between buildings, and over lower-intensity areas.

Viewpoint 1: View from Bay Trail and Bayfront Expressway Looking Southeast toward the Project Site

Viewpoint 1 represents a view of the Project Site from the Bay Trail and Bayfront Expressway looking southeast toward the Project Site. Sensitive viewers at this viewpoint include individuals traveling along Bayfront Expressway and recreationalists using the Bay Trail. As shown in Figure 3.2-2a, Viewpoint 1, views of the main Project Site are obscured by the storage facility and vegetation. In the foreground, prominent views of the BCDC Public Shoreline Trail and Bay Trail, with associated amenities such as benches, are available. The Bayfront Expressway undercrossing/tunnel for cyclists, pedestrians, and Meta trams is also visible. In the middleground, the Bayfront Expressway and Willow Road intersection is visible to the left, and the northeast corner of the Meta West Campus is visible to the right. In the background, long-distance views of the Santa Cruz Mountains are not available because of the flat topography and intervening tree line.

As shown in Figure 3.2-2b, the foreground views would remain the same, but the middleground views would be altered. The glass atrium structure surrounding the proposed meeting and collaboration space (Building O7), depicted with an illustrative height of approximately 116 feet, would be visible above the roofline of the storage facility. The Elevated Park in the northern portion of the site would be visible across Willow Road to the northeast corner of Hamilton Avenue Parcel North. Proposed development would be visible to viewers along the Bay Trail and Bayfront Expressway; however, because long-distance views of the Santa Cruz Mountains are not available in the background from this vantage point and views of scenic vistas in the foreground would not be altered, no substantial adverse changes are anticipated.

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-2
Viewpoint 1: Bay Trail and Bayfront Expressway (southeast)

Viewpoint 2: Bay Trail and Bayfront Expressway Looking Southwest toward the Project Site

Viewpoint 2 provides a background view of the Santa Cruz Mountains to the southwest toward the Project Site, as viewed from the Bay Trail and Bayfront Expressway. Sensitive viewers at this viewpoint include individuals traveling along Bayfront Expressway and recreationalists using the Bay Trail. As shown in Figure 3.2-3a, Viewpoint 2, from this vantage point, views of the Bay Trail, Bayfront Expressway, and wetlands are available in the foreground. In the middleground, views of existing development on the main Project Site and storage facility are largely obscured by existing vegetation. In the background, long-distance views of the Santa Cruz Mountains are available.

As shown in Figure 3.2-3b, with implementation of the Proposed Project, the foreground and background views would remain the same, but the middleground views would be altered. On the eastern boundary of the main Project Site, the Campus District buildings (O5 and O6), depicted with an illustrative height of approximately 83 feet, would be visible in the distance above the roofline of the storage facility. The proposed North Garage on the northeast boundary of the main Project Site, depicted with an illustrative height of approximately 89 feet, would be visible directly north of the Bay Trail and Bayfront Expressway. It would partially obstruct views of the Santa Cruz Mountains, some of which also are partially obstructed by existing development on the main Project Site. However, portions of the continuous ridgeline would be visible above the roof line. Therefore, no substantial adverse changes are anticipated.

Viewpoint 3: Adams Court Looking West toward the Project Site

Viewpoint 3 provides views of developed and undeveloped areas along Adams Court. Sensitive viewers at this viewpoint include individuals traveling along Adams Court and employees working in the area. As shown in Figure 3.2-4a, Viewpoint 3, from this vantage point, views of streetscape vegetation, a warehouse building to the north, and a vacant lot to the south are available in the foreground. In the middleground, a two-story warehouse building (MPK 44) at the main Project Site is visible. Scenic vistas, including views of the Santa Cruz Mountains, are not available from this vantage point because of flat topography and intervening structures.

As shown in Figure 3.2-4b, the foreground and background views would remain the same, but the middleground views would be altered. To the southwest, the Campus District buildings (O5 and O6), depicted with an illustrative height of approximately 83 feet, would be visible. To the northwest, the North Garage, with a transit hub on the ground level and depicted with an illustrative height of approximately 89 feet, would be visible. Between the North Garage and O5, a view corridor would be provided, looking west of the proposed open space at an additional Campus District building (O4), depicted with a illustrative height of 82 feet. Although the proposed buildings would be taller than buildings under existing conditions, the proposed buildings would be generally compatible with surrounding development because development would be within the maximum and average height parameters of the City Zoning Ordinance, with the exception of one mixed-use/residential building that would exceed the maximum height limit by up to 5 feet, subject to approval of an adjustment through the CDP. This building would be in the middle of the Residential/Shopping District and Town Square District, thereby limiting potential aesthetic impacts from the increased height. Furthermore, scenic vistas are not available from this vantage point; therefore, no substantial adverse changes are anticipated.

Viewpoint 4: Kavanaugh Drive and Clarence Court Looking Northwest toward the Project Site

Viewpoint 4 provides views of a residential neighborhood in East Palo Alto. Sensitive viewers at this viewpoint include individuals traveling along Kavanaugh Drive and Clarence Court. As shown in Figure 3.2-5a, Viewpoint 4, from this vantage point, views of single-family homes, neighborhood streets,

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-3
Viewpoint 2: Bay Trail and Bayfront Expressway (south)

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-4
Viewpoint 3: Adams Court

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-5
Viewpoint 4: Kavanaugh Drive and Clarence Court

and vehicles are available in the foreground. In the middleground, the roofline of an office/warehouse building at 1330 O'Brien Drive in Menlo Park is visible above the single-family homes. Scenic vistas are not available from this vantage point because of the flat topography and intervening structures.

As shown in Figure 3.2-5b, the foreground and background views would remain the same, but the middleground views would be altered. The South Garage on the southeast corner of the main Project Site, depicted with an illustrative height of approximately 79 feet, would be visible above the roofline of existing single-family homes. Residential buildings (RS 5 and RS 7), depicted with an illustrative height of approximately 77 feet, as proposed for the southern portion of the main Project Site, would also be visible. Although the proposed buildings would be taller than existing buildings, the buildings would not constitute a significant feature in the area. Furthermore, given that scenic vistas are not available in the background, no substantial adverse changes are anticipated.

Viewpoint 5: Alberni Street and Menalto Avenue Looking North toward the Project Site

Viewpoint 5 provides views of a residential neighborhood in East Palo Alto, looking north toward the Project Site. Sensitive viewers at this viewpoint include individuals traveling along Alberni Street and Menalto Avenue. As shown in Figure 3.2-6a, Viewpoint 5, from this vantage point, views of single-family homes, neighborhood streets, vehicles, and utility poles are available in the foreground. An existing two-story warehouse building at 1100 O'Brien is visible in the middleground. Scenic vistas are not available from this vantage point because of the flat topography and intervening structures.

As shown in Figure 3.2-6b, views from this vantage point would remain the same. The Project Site would not be visible from this vantage point because of the flat topography and surrounding development. Therefore, no substantial adverse changes are anticipated.

Viewpoint 6: O'Brien Drive and Kavanaugh Drive Looking Northwest toward the Project Site

Viewpoint 6 provides views of the O'Brien Drive and Kavanaugh Drive intersection and surrounding development. Sensitive viewers at this viewpoint include individuals traveling along O'Brien Drive and Kavanaugh Drive. As shown in Figure 3.2-7a, Viewpoint 6, from this vantage point, views of the intersection, utility poles, electrical wires, and streetscape vegetation are available in the foreground. In the middleground, a white warehouse building at 1185 O'Brien Drive and a green and blue Open Mind School/Wund3SCHOOL building at 1215 O'Brien Drive are visible. Scenic vistas are not available from this vantage point because of the flat topography and surrounding development.

As shown in Figure 3.2-7b, foreground and background views would remain the same, but middleground views would be altered. The proposed residential building (RS 5), depicted with an illustrative height of approximately 78 feet, would be visible to the north, above the roofline of the Open Mind School/Wund3SCHOOL. To the northeast, a Campus District building (O1), depicted with an illustrative height of approximately 68 feet, is visible in the distance. Farther northeast, beyond the utility pole on the corner of O'Brien Drive and Kavanaugh Drive, the south parking structure (SG), depicted with an illustrative height of approximately 79 feet, would be visible. Although the proposed buildings would be taller than existing buildings, the buildings would be generally compatible with surrounding development as the proposed buildings would be within the maximum and average height parameters of the zoning ordinance, with the exception of one mixed-use/residential building that would exceed the maximum height limit by up to 5 feet, subject to approval of an adjustment through the CDP. Furthermore, given that scenic vistas are not available from this vantage point, no substantial adverse changes are anticipated.

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-6
Viewpoint 5: Alberni Street and Menalto Avenue

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-7
Viewpoint 6: O'Brien Drive and Kavanaugh Drive

Viewpoint 7: Mid-Peninsula High School Looking Northwest toward the Project Site

Viewpoint 7 provides foreground views of the Mid-Peninsula High School athletic field. Sensitive viewers at this viewpoint include Mid-Peninsula High School staff members, students, and visitors. As shown in Figure 3.2-8a, Viewpoint 7, this vantage point provides views of a Mid-Peninsula High School building, perimeter fencing, mature trees, and an onsite building (MPK 58) at 1360 Willow Road. Scenic vistas are not available from this vantage point because of the flat topography, perimeter fencing, mature trees, and intervening structures.

As shown in Figure 3.2-8b, foreground and background views would remain the same, but middleground views would be altered. To the north, the proposed residential building (RS 6), depicted with an illustrative height of approximately 80 feet, would be visible beyond the perimeter fence and line of mature trees. The Publicly Accessible Park, as proposed directly adjacent to the Mid-Peninsula High School building, would not visible beyond the tree line. However, this park would serve as a buffer to distance the majority of proposed building from the shared property line with Mid-Peninsula High School. Although the proposed buildings would be taller than existing buildings, the buildings would be generally compatible with surrounding development because development would be within the maximum and average height parameters of the City Zoning Ordinance, with the exception of one mixed-use/residential building that would exceed the maximum height limit by up to 5 feet, subject to approval of an adjustment through the CDP. Furthermore, given that scenic vistas are not available from this vantage point, no substantial adverse changes are anticipated.

Viewpoint 8: Willow Road Looking North toward the Project Site

Viewpoint 8 provides views along Willow Road, looking north toward Hamilton Avenue. Sensitive viewers at this viewpoint include individuals traveling along Willow Road. As shown in Figure 3.2-9a, Viewpoint 8, from this vantage point, the roadway, vegetated median, and the Mid-Peninsula High School building are visible in the foreground. Visible features in the middleground include mature trees within the vegetated median along Willow Road, an onsite building (MPK 57) at 1350 Willow Road, and a surface parking. Scenic vistas are not available from this vantage point because of the flat topography, mature trees, and surrounding development.

As shown in Figure 3.2-9b, foreground and background views would remain the same, but middleground views would be altered. The Publicly Accessible Park and residential building (RS 2), depicted with a illustrative height of approximately 77 feet, would be visible east of Willow Road. In this portion of Willow Road, the park would serve as a visual buffer, setting back the majority of proposed buildings from the street. The hotel (TS1), depicted with an illustrative height of approximately 84 feet, would be seen in the distance. Farther to the north, the Elevated Park overcrossing above Willow Road would be visible to the viewer. Although the proposed buildings would be taller than existing buildings, the buildings would be generally compatible with surrounding development because development would be within the maximum and average height parameters of the City Zoning Ordinance, with the exception of one mixed-use/residential building that would exceed the maximum height limit by up to 5 feet, subject to approval of an adjustment through the CDP. Furthermore, given that scenic vistas are not available from this vantage point, no substantial adverse changes are anticipated.

Viewpoint 9: Hamilton Avenue and Carlton Avenue Looking Southeast toward the Project Site

Viewpoint 9 provides views of the Hamilton Avenue and Carlton Avenue intersection, looking southeast toward the Project Site. Sensitive viewers at this viewpoint include individuals traveling along roadways and sidewalks. As shown in Figure 3.2-10a, Viewpoint 9, from this vantage point views, of the

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-8
Viewpoint 7: Mid-Peninsula High School

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-9
Viewpoint 8: Willow Road (north)

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-10
Viewpoint 9: Hamilton Avenue and Carlton Avenue

intersection, streetlights, fire hydrants, and streetscape vegetation are visible in the foreground. In the middleground, mature trees and the service station on Hamilton Avenue Parcel South are visible. Because of the flat topography and intervening views, scenic vistas would not be available in the background.

As shown in Figure 3.2-10b, foreground views would remain the same, but middleground views would be altered. The Hamilton Avenue alignment would be reconfigured to align with the proposed Main Street on the main Project Site. The redesigned service station would be partially visible through proposed vegetation on Hamilton Avenue Parcel South. The proposed open space area on Hamilton Avenue Parcel North would be visible beyond the streetlight. North of Main Street, the hotel (TS1), depicted with a n illustrative height of approximately 84 feet, would be seen in the distance. South of Main Street, the residential building (RS 2), depicted with an illustrative height of approximately 77 feet, would be visible. Although the proposed buildings would be taller than existing buildings, the buildings would be generally compatible with surrounding development because development would be within the maximum and average height parameters of the City Zoning Ordinance, with the exception of one mixed-use/residential building that would exceed the maximum height limit by up to 5 feet, subject to approval of an adjustment through the CDP. Furthermore, given that scenic vistas are not available from this vantage point, no substantial adverse changes are anticipated.

Viewpoint 10: Willow Road Looking Northwest toward the Project Site

Viewpoint 10 provides views of Willow Road and surrounding development. Sensitive viewers at this viewpoint include individuals traveling along the roadway, bicycle lanes, and sidewalks. As shown in Figure 3.2-11a, Viewpoint 10, from this vantage point, views of the Willow Road and the Hamilton Avenue intersection, traffic lights, wayfinding signs, and streetscape vegetation are available in the foreground. In the middleground, existing commercial retail and dining establishments are visible at Hamilton Avenue Parcel North. Mature vegetation and transmission towers are also visible in the distance, beyond existing development. The Willow Road and Bayfront Expressway intersection is visible in the background, and the roofline of the Meta East Campus is visible north of Bayfront Expressway. Because of the flat topography and surrounding development, scenic vistas are not available in the background.

As shown in Figure 3.2-11b, foreground, middleground, and background views would be altered. The Hamilton Avenue and Willow Road intersection would be reconfigured, the pedestrian crosswalk would be farther south on Willow Road, and the vegetated median would extend farther south. However, the viewshed of existing buildings on Hamilton Avenue Parcel North would remain the same. The hotel (TS1), depicted with an illustrative height of approximately 84 feet, and associated sidewalk improvements would be visible to those traveling north on Willow Road.

The Elevated Park over Willow Road would be a dominant feature in this area, with views of the concrete overcrossing structure and the large trees and vegetation in the park. The northeast corner of Hamilton Avenue Parcel North would include a structure with an elevator and staircase, providing access to the Elevated Park. The southeast corner of the parcel would provide a new surface parking lot and additional open space areas. The proposed development would be taller than existing development and would alter the viewshed within this vantage point. However, proposed structures would be generally compatible with surrounding development because development would be within the maximum and average height parameters of the City Zoning Ordinance, with the exception of one mixed-use/residential building that would exceed the maximum height limit by up to 5 feet, subject to approval of an adjustment through the CDP. Furthermore, because long-distance scenic vistas are not available from this vantage point, no substantial adverse changes are anticipated.

a. Existing

b. Proposed

Graphics ... 00040.18 (11/2/21) AB

Figure 3.2-11
Viewpoint 10: Willow Road (northwest)

Summary

As demonstrated by the photomontages, the Proposed Project would construct buildings and associated structures with additional height, bulk, and massing compared with existing conditions. However, increased development would represent a small portion of the overall vista, as viewed from the Bay Trail, Bayfront Expressway, BCDC Public Shoreline Trail, and surrounding roadways. Scenic views would continue to be available from publicly accessible vantage points, between buildings, and over lower-intensity areas. Because scenic views would continue to be available from publicly accessible vantage points, impacts on scenic vistas would be ***less than significant***.

Impact AES-2: Conflict with Applicable Zoning and Other Regulations Governing Scenic Quality. The Proposed Project would not conflict with applicable zoning or other regulations governing scenic quality. (LTS)

For purposes of this analysis, a conflict with applicable zoning and other regulations governing scenic quality would occur if the Proposed Project were to introduce a new visible element that would be inconsistent with regulations governing the overall scenic quality, scale, and character of surrounding development. The new element would also need to be consistent with the City Zoning Ordinance, Menlo Park Municipal Code, and City General Plan policies. The analysis considers consistency with City General Plan policies, zoning, the land use designation, and municipal code regulations governing scenic quality.

Construction Activity

Project construction would involve demolition and removal of all structures on the main Project Site. Demolition activities on Hamilton Avenue Parcel South would remove the service station; targeted demolition would occur on Hamilton Avenue Parcel North. The Proposed Project would also construct an undercrossing (Willow Road Tunnel) to provide tram and bicycle/pedestrian access to the neighboring Meta campuses. Other offsite transportation and utility improvements would be constructed to serve the Proposed Project (refer to Chapter 2, *Project Description*, for more details). Construction vehicles, equipment, and materials would be staged onsite in three key locations, including one offsite location (as shown in Figure 2-18, included in Chapter 2, *Project Description*). Offsite Staging Location 1, at 1520 Willow Road, would be north of the SamTrams corridor and adjacent to the main Project Site. Onsite Staging Location 2 comprises Parcels 4, 5, and C. Staging Location 3 would be located at the 3.5-acre Publicly Accessible Park. Once constructed, the North and South Garages would be used for construction worker parking. Staging for Hamilton Avenue Parcels North and South and road realignment would occur within the proposed new right-of-way (west of Willow Road) and Hamilton Avenue Parcel South. Construction fencing and existing landscaping would provide visual screening and be required to comply with Menlo Park Municipal Code Chapter 16.64, which establishes standards for fences. Although construction equipment would be visible from public view corridors along Willow Road, visual degradation associated with construction would be short term and temporary and would not conflict with applicable regulations governing scenic quality. Therefore, impacts would be ***less than significant***.

Project Operation

The main Project Site is zoned O-B (Office Bonus) and R-MU-B (Residential Mixed-Use Bonus). Under current zoning designations, additional "bonus-level" development is permitted in exchange for providing community amenities that are acceptable to the City Council in the manner provided by the Menlo Park Municipal Code or by entering into a Development Agreement (DA) with the City. Consistent with these requirements, the Project proposes a variety of potential community amenities, including

onsite features such as a Publicly Accessible Park along the southern boundary, Elevated Park, Town Square at the center, and multi-modal transportation facilities for bicyclists, pedestrians, and vehicles on Main Street. Furthermore, the Proposed Project would be subject to the City's architectural control (design review) process, as set forth in the CDP, Sections 16.82.050 through 16.82.100 of the Menlo Park Municipal Code. Through the CDP, the subsequent architectural control applications would be required to demonstrate consistency with the Menlo Park Municipal Code, including compliance with Zoning Ordinance development regulations (16.43.050 and 16.45.050) and design standards (16.43.130 and 16.45.120). Section 16.68.020 of the Menlo Park Municipal Code establishes the requirements for architectural control approval. Each application for a building permit for construction or alternation of a building must be accompanied by architectural drawings showing elevations, landscaping or other ground treatments, and the design of parking facilities, including access points. The architectural control process would determine the specifics of each building's architectural design and configuration to ensure consistency with existing visual character. Upon review of the architectural drawings prepared for the Proposed Project, the Planning Commission or City Council, as applicable, would make findings regarding neighborhood character, orderly growth, and neighborhood desirability. Therefore, development on the main Project Site would be required to comply with requirements set forth for the designated zoning districts.

Regarding Hamilton Avenue Parcels North and South, the redeveloped service station and other amenities proposed in this area would be similar in size and massing to existing development. The Neighborhood Commercial District, Special (C-2-S) zoning designation establishes a maximum FAR of 50 percent and provides for setbacks, heights, distances between buildings, lot coverage, parking requirements, and landscaping requirements to be established by the Planning Commission for each development**.** In addition, the proposed improvements to the Hamilton Avenue Parcels North and South would be subject to architectural control review, through which the City would ensure compliance with the applicable requirements. Therefore, development on Hamilton Avenue Parcels North and South would comply with requirements set forth for the designated zoning district.

The main Project Site and Hamilton Avenue Parcels North and South currently include 925 trees, which are planted mainly in parkways and pavement cutouts adjacent to buildings, parking lots, and streets. Of the existing onsite trees, 821 trees are proposed for removal, 269 of which qualify as heritage trees, per the City's Heritage Tree Ordinance (Chapter 13.24). Consistent with Chapter 13.24 of the Menlo Park Municipal Code, the Proposed Project would obtain a permit to remove protected trees and pay applicable fees. Furthermore, the proposed landscape plan for the main Project Site includes approximately 822 new trees, which is more that the number of trees proposed for removal. Heritage tree replacements would meet the City's replacement value requirements, based on the valuation of the existing heritage trees proposed for removal. Therefore, the Proposed Project would comply with requirements set forth in Chapter 13.24 of the Menlo Park Municipal Code.

The City General Plan includes policies adopted to minimize impacts on aesthetic resources and preserve scenic quality. Consistent with City General Plan Policy LU-2.3, which directs the City to allow mixed-use projects with residential units, the Proposed Project would provide a mixed-use neighborhood. Consistent with City General Plan Policy LU-6.2, which directs the City to require development projects to provide ample open space, the Proposed Project would provide a minimum of 360,000 sf of publicly accessible open space. The illustrative design depicted in the CDP includes 392,372 sf of publicly accessible open space and a Town Square. Consistent with Policy LU-6.8, the Proposed Project's landscape plan includes replacement trees and water-efficient varieties of plants. Policy LU-6.11 directs the City to allow development near the Bay only on already-developed parcels. Consistent with this policy, the Proposed Project would redevelop an existing industrial site and an existing retail site. The approximately 2.0-acre publicly accessible Elevated Park would

include well-designed bicycle and pedestrian facilities, consistent with Policy OSC1.12. As noted previously, the Proposed Project would comply with Chapter 13.24 of the Menlo Park Municipal Code, consistent with Policy OSC1.15. Therefore, the Proposed Project would comply City General Plan policies adopted to minimize impacts on aesthetic resources and preserve scenic quality.

Summary

Based on the development standards and conceptual designs included in the CDP, the Proposed Project on the main Project Site would comply with applicable zoning code regulations (Sections 16.43.050 and 16.45.050) and design standards (Sections 16.43.130 and 16.45.120), with the exception of one mixed-use/residential building that would exceed the maximum height limit by up to 5 feet, subject to approval of an adjustment through the CDP. Development on Hamilton Parcels North and South would comply with the maximum FAR of the Neighborhood Commercial District, Special (C-2-S) zoning designation as well as the setbacks, heights, distances between buildings, lot coverage, parking requirements, and landscaping requirements established by the Planning Commission for the parcels. The Proposed Project would undergo the City's architectural control process to ensure that the final designs comply with applicable development and design standards, as outlined in the City Zoning Ordinance and the CDP. The proposed landscape plan would replace heritage trees in accordance with Chapter 13.24 of the Menlo Park Municipal Code. In addition, compliance with City General Plan policies, as listed above, would minimize potential adverse impacts on aesthetic resources. Therefore, the Proposed Project would not conflict with applicable zoning and other regulations governing scenic quality. Impacts would be ***less than significant***, consistent with the ConnectMenlo EIR. No mitigation is required.

Impact AES-3: New Sources of Light and Glare. The Proposed Project would not create a new source of substantial light or glare that could adversely affect daytime or nighttime views in the area (LTS)

Construction Light and Glare

During Project construction, glare would be produced from sources such as reflective surfaces on construction vehicles. However, these sources would be temporary, occurring only during construction. Glare would depend on the time of day. It would also be transient and distributed as vehicles move through the Project Site.

Work conducted during evenings and on weekends would be limited to reduce potential disruptions within the broader neighborhood. Low-level safety lighting may be needed for construction site security. However, the safety lighting would be temporary. Furthermore, the lighting would be low to the ground and, therefore, shielded from nearby development. As a result, temporary construction glare and nighttime lighting impacts would be ***less than significant,*** consistent with the ConnectMenlo EIR. No mitigation is required.

Project Light and Glare

As noted in the Existing Conditions section, existing sources of light on the main Project Site include the light fixtures on buildings, along walkways, and along internal circulation routes. Similarly, sources of light on Hamilton Avenue Parcels North and South include the light fixtures on buildings and along pathways as well as the street lighting in public rights-of-way, at the location for the Willow Road Tunnel, and at the PG&E substation. Sources of daytime glare on the main Project Site and on Hamilton Avenue Parcels North and South include reflected sunlight from buildings, glass doors, and parked vehicles. Sources of nighttime glare include vehicle headlights and street lighting. Dense vegetation and fencing on the main Project Site aid in minimizing light trespass from the area.

The Proposed Project includes nighttime lighting along the perimeter of the site as well as internal circulation routes for bicyclists, and pedestrians, and vehicles. Proposed buildings would include safety lighting along pathways and near entrances. Project lighting would be visible to individuals traveling along Willow Road and Bayfront Expressway as well as recreationalist using the Bay Trail during evening hours.

Because of the urbanized nature of surrounding areas east, south, and west of the Project Site, a substantial amount of ambient nighttime lighting currently exists. However, areas to the north—which include Bayfront Expressway, Meta East Campus, salt ponds, marshes, the Refuge, and Bay—contain minimal nighttime lighting. Proposed lighting would be required to comply with the Building Energy Efficiency Standards outlined in the California Code of Regulations (Title 24, Parts 1 and 6). Specifically, all fixtures would be energy efficient and designed to reduce glare and unnecessary light spillage. Occupancy controls for non-emergency lighting would be required, as would safety lighting for vehicles and pedestrians. Light fixtures throughout the main Project Site would be designed for bicyclists, pedestrians, and vehicles. Therefore, impacts related to nighttime light and glare would be ***less than significant***, consistent with the ConnectMenlo EIR. No mitigation is required. In addition, the less than significant impact would be further reduced with Mitigation Measure BIO-5.3, *Lighting Design Requirements.* As discussed in Section 3.9, *Biological Resources*, implementation of Mitigation Measure BIO-5.3 would require the Project Sponsor to implement measures to reduce lighting impacts on birds. Specifically, the Proposed Project would be required to install fully shielded lighting to avoid illumination from shining upward, minimize exterior lighting consistent with the International Dark Sky Association, and require temporary lighting for nighttime social events to be switched off no later than midnight.

Glare is caused by light reflected from pavement, vehicles, and building materials, such as reflective glass and polished surfaces. During the daytime, the amount of glare depends on the intensity and direction of the sunlight. Daytime glare can create hazards for individuals traveling along Willow Road and Bayfront Expressway as well as recreationalists on the Bay Trail. The exact materials to be included in the building façades are not known at this time. However, as noted above, the Proposed Project would be required to comply with the City's bird-safe design requirements, as set forth in Section 16.43.140(6) and 16.45.130(6) of the Menlo Park Municipal Code. Specifically, the Proposed Project would avoid the installation of highly reflective glass and instead install opaque glass or treated glass that would reduce daytime glare. In addition, City General Plan Policy LU-2.3 directs the City to allow mixed-use projects with residential units if the design addresses potential compatibility issues, such as light spillover. Therefore, impacts related to daytime glare would be ***less than significant,*** consistent with the ConnectMenlo EIR. No mitigation is required.

Cumulative Impacts

Impact C-AES-1: Cumulative Aesthetics Impacts. Cumulative development would result in a less than significant cumulative aesthetic impact, and thus the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact to aesthetics (LTS).

Summary of Analysis in the ConnectMenlo EIR

The cumulative impact analysis included in Chapter 4.1, *Aesthetics*, of the ConnectMenlo EIR considered growth projected by ConnectMenlo within the study area,[15] in combination with impacts from projected growth in the rest of San Mateo County and the surrounding regions, as forecast by the Association of Bay Area Governments (ABAG). The cumulative setting for visual impacts included potential future development under ConnectMenlo combined with effects of development on lands adjacent to Menlo Park within East Palo Alto, Palo Alto, Stanford, Atherton, North Fair Oaks, and Redwood City.

The ConnectMenlo EIR determined that the new development would alter the visual environment of Menlo Park and surrounding areas. However, given the existence of previously approved projects with greater heights, future development would be consistent with existing conditions. Furthermore, the ConnectMenlo EIR determined that impacts associated with scenic resources, visual character, and increased light and glare would generally be site specific and would not contribute to cumulative impacts through compliance with applicable general plan and municipal code policies.

The ConnectMenlo EIR determined that, because of the developed nature of the overall study area and Bayfront Area, future development under ConnectMenlo in combination with other new development would not contribute to a significant cumulative impact with respect to the visual resources. Individual development projects would continue to be subject to applicable general plan policies and municipal code provisions related to aesthetics, including potential project-level design review. In addition, as part of the approval process, potential new development under ConnectMenlo would be subject to architectural review and design standards, as applicable, to ensure that development would be aesthetically pleasing and compatible with adjoining land uses. With these development review mechanisms in place, approved future development under ConnectMenlo would not be anticipated to result in substantial impacts on visual resources, resulting in a ***less-than-significant*** cumulative impact with respect to aesthetics.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative aesthetic impacts with the Proposed Project includes development in the ConnectMenlo study area in combination with impacts from projected growth in the rest of San Mateo County and the surrounding regions.

As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at the 123 Independence Drive and East Palo Alto projects. As shown in Figure 3.0-1, these additional projects are not close to the Project Site, nor are the other projects in the rest of San Mateo County and surrounding regions. Given the distance from the Project Site and the developed nature of the

[15] The ConnectMenlo EIR study area consists of all land within Menlo Park and its sphere of influence (i.e., where the City maintains a role in land use and transportation decisions through future annexations of unincorporated areas) and a proposed planning area (i.e., where the City believes the Menlo Park community should be able to participate in influencing land use and transportation decisions).

Bayfront Area, the 123 Independence Drive Project and East Palo Alto projects, as well as other more distant projects, would not be visible from the Project viewshed. Therefore, these additional projects would not alter the cumulative impact determination stated in the ConnectMenlo EIR, and the cumulative impact with respect to scenic resources, visual character, and increased light and glare would remain less than significant.

The Proposed Project would not result in a substantial change in the ConnectMenlo project. It would not be a cumulatively considerable contributor to a significant aesthetic impact and would not cause new or substantially more severe significant aesthetic impacts than those analyzed in the ConnectMenlo EIR. Therefore, the Proposed Project in combination with other past, present, and reasonably foreseeable future projects would result in a ***less-than-significant cumulative impact*** with respect to aesthetics. No mitigation measures would be required.

3.3 Transportation

This section discusses the results of the transportation impact analysis (TIA) conducted for the Proposed Project. Specifically, this section describes existing and future transportation and circulation within the study area, describes the analysis methodology and regulatory framework, identifies potential transportation-related impacts of the Proposed Project, and identifies the recommended mitigation measures for identified significant impacts.

For purposes of disclosing potential transportation impacts, projects in Menlo Park use the City of Menlo Park's (City's) current TIA Guidelines to ensure compliance with both State and local requirements[1]. Up until July 1, 2020, the City's TIA Guidelines used roadway congestion or level of service (LOS) as the primary study metric for planning and environmental review purposes. However, the passage of Senate Bill (SB) 743 required the Governor's Office of Planning and Research (OPR) to establish a new metric for identifying and mitigating transportation impacts under CEQA in an effort to meet the State's goals to reduce GHG emissions, encourage infill development, and improve public health through more active transportation (non-driving transportation modes such as walking and biking). CEQA Section 21099(b)(2) states that upon certification of the revised guidelines for determining transportation impacts pursuant to CEQA Section 21099(b)(1), automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA. OPR identified vehicle miles traveled (VMT) as the required CEQA transportation metric for determining potentially significant environmental impacts[2]. In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the section implementing SB 743 (CEQA Guidelines Section 15064.3). OPR developed a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures[3]. The transportation analysis in this EIR complies with the City's TIA Guidelines, which require use of the City's VMT threshold for CEQA transportation impact analysis.

Adoption of a local VMT threshold requires City Council approval and on June 23, 2020, the City Council approved local VMT thresholds for incorporation into the updated TIA Guidelines. The City Council, however, retained the requirement that the TIA also analyze LOS for local planning purposes. On January 11, 2022 the City Council approved changes to the local VMT thresholds, and this EIR uses these updated thresholds. Per the TIA Guidelines, the TIA includes both an assessment of VMT impacts using the current local VMT thresholds included in the updated TIA Guidelines for purposes of determining potentially significant environmental impacts pursuant to CEQA, and a summary of the LOS analysis for assessment of local congestion for planning purposes. However, in accordance with SB 743 for purposes of determining potentially significant environmental impacts, this EIR will focus only on VMT as the threshold of significance. Because the City Council-approved TIA Guidelines also require an analysis of LOS for local planning purposes, that information is summarized in the Non-CEQA Analysis at the end of this section of this EIR.

---

1 Menlo Park, City of. 20222. Transportation Impact Analysis Guidelines Update, Staff Report (Pg227-255). Website: https://beta.menlopark.org/files/sharedassets/public/agendas-and-minutes/city-council/2022-meetings/agendas/20220111-city-council-agenda-packet.pdf (accessed March 18, 2022)

2 California Office of Planning and Research (OPR). 2016. Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013). January 20.

3 OPR. 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. Website: opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. December 18.

The information in this chapter is based on travel demand modeling, analyses, and identification of mitigations, if any, developed by Hexagon Transportation Consultants, Inc. The analyses were conducted in accordance with the current standards and methodologies required by law and set forth by the City of Menlo Park (in the TIA Guidelines), the City of East Palo Alto, and the City/County Association of Governments of San Mateo County (C/CAG). The technical appendices are included in Appendix 3.3, Transportation, of this EIR. The appendices include the LOS analysis summary, turning movement volumes, intersection lane configurations, and intersection and roadway LOS results.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable issues that were identified include Project-related trip generation, distribution, and assignment; an expanded list of study intersections; multimodal transportation analysis for school routes; need for Dumbarton Rail Analysis; creation of a Transportation Demand Management program; mitigation measures; impacts on residents of East Palo Alto; and the project's fair share contribution as part of mitigation measures.

Existing Conditions

Environmental Setting

This section describes the existing conditions for transportation facilities in the vicinity of the site, including roadway network, transit service, and pedestrian and bicycle facilities.

Existing Roadway Network

Regional access to the Project Site is provided via US 101 and SR 84. Major arterials in the Project Site vicinity include Willow Road, University Avenue, and Marsh Road. Local access to the Project Site is currently provided on Hamilton Avenue, Willow Road, and Adams Court. These roadways are described below. Many streets in the study area run at a diagonal compared to the ordinal directions. For the purposes of this study, US 101 and all parallel streets are considered to run north to south. Conversely, University Avenue and all streets parallel are defined as running east to west. Descriptions of all roadways in the project area are provided below using roadway classifications defined in the Menlo Park General Plan Circulation Element followed by the Federal Highway Administration (FHWA) category.

Bayshore Freeway (US 101) is a north-south freeway in the vicinity of the Project Site with a posted speed limit of 65 miles per hour (mph). US 101 extends northward through San Francisco and southward through San Jose. Within Menlo Park and East Palo Alto, US 101 has three general-purpose travel lanes, one high-occupancy vehicle (HOV) lane, and one auxiliary lane in each direction. Access to and from the Project Site is provided via full-access interchanges at Willow Road and at University Avenue. The Willow Road interchange is partly in Menlo Park and East Palo Alto, and the University Avenue interchange is in East Palo Alto.

Bayfront Expressway (SR 84) is a six-lane expressway that extends along the eastern edge of Menlo Park with a posted speed limit of 50 mph near the Project Site. SR 84 extends southward across the Dumbarton Bridge into Alameda County and northward through San Mateo County. Bayfront Expressway provides access to the Project Site via Willow Road and University Avenue. In the vicinity of the Project Site, Bayfront Expressway does not have any on-street parking or sidewalks. The San Francisco Bay trail runs parallel to Bayfront Expressway along the west side of Bayfront Expressway south of Willow Road, and along the east side of Bayfront Expressway north of Willow Road.

Willow Road (SR 114) is a four-lane east-west boulevard (primary arterial) that serves as a border between Menlo Park and East Palo Alto in some sections, while the majority of the roadway is within the city limits of Menlo Park. Willow Road extends from Alma Street in the west to Bayfront Expressway in the east. Bike lanes are provided on Willow Road between Bayshore Expressway and Bay Road south of US 101. There are no sidewalks currently present along the north side of the road between Hamilton Avenue and Ivy Drive (but sidewalks along this segment would be installed as part of the development project currently under construction along the northern edge of Willow Road at this location) and no on-street parking is allowed on the road. In the vicinity of the Project Site, Willow Road is designated as State Route 114 with posted speed limit of 40 mph. Direct access to the Project Site would be provided off Willow Road.

University Avenue (SR 109) is an east-west four-lane boulevard (primary arterial) that extends from Stanford University in Palo Alto to Bayfront Expressway in Menlo Park. East of Notre Dame Avenue, University Avenue is a state route with a posted speed limit of 35 mph. Within Menlo Park and East Palo Alto, University Avenue is a four-lane divided roadway with no on-street parking. West of Bay Road, University Avenue has continuous sidewalks on both sides of the street. Between Bay Road and Purdue Avenue, University Avenue has a sidewalk on only one side of the street. Class II bicycle lanes exist on University Avenue starting just east of Donohoe Street and extending to the location of the future loop road. Between the future loop road and Bayfront Expressway, there is a bike lane on the south side of University Avenue and a separate bikeway on the north side of University Avenue. The posted speed limit on University Avenue east of Notre Dame Avenue is 25 mph.

Marsh Road is an east-west, four-lane primary arterial in the Proposed Project area, extending from SR 84/Bayshore Expressway in the west to Middlefield Road in the east. Marsh Road is a part of the state highway between Bayfront Expressway and the US 101 southbound ramp. The posted speed limit in the Proposed Project area is 35 mph. Sidewalks are present on both sides of Marsh Road between Bayshore Expressway and Scott Drive. A Class III bike route is designated between Bay Road and Scott Drive. On-street parking is permitted on the north side of Marsh Road between Fair Oaks Avenue and Rolison Road.

Hamilton Avenue is a north-south, two-lane collector street in the Proposed Project area, extending from Market Place in the north to a cul-de-sac in the south near Hamilton Court. The posted speed limit in the Proposed Project area is 25 mph. Sidewalks are present on both sides of Hamilton Avenue north of Willow Road and crosswalks are provided at major intersections. Sidewalks are missing south of Willow Road, but this section would be removed as part of the project. Bicycle facilities are only provided at the intersection of Willow Road and Hamilton Avenue. On-street parking is permitted on both sides of Hamilton Avenue between Willow Road and Carlton Avenue and on the west side of the road north of Carlton Avenue.

O'Brien Drive is a north-south, two-lane collector street in the Proposed Project area, extending from Willow Road in the north to University Avenue in the south. The posted speed limit in the Proposed Project area is 30 mph. Sidewalks are missing on most road segments, but pedestrian crosswalks are provided at some intersections. Bicycle facilities are not provided. On-street parking is permitted along certain segments of O'Brien Drive. Access to the Project Site would be provided via a new public right-of-way through the southern portion of the Project Site on O'Brien Drive.

Ivy Drive is a north-south, two-lane divided roadway in the Proposed Project area, extending from Ringwood Avenue in the north to Willow Road. The Menlo Park City Library parking and entrance area interrupts Ivy Drive, making the roadway discontinuous. The posted speed limit is 25 mph. Sidewalks are present on both sides of Ivy Drive. Pedestrian crosswalks are provided at the intersections closest to the City Library and at the traffic circle near Ringwood Avenue. Bicycle facilities are not provided. On-street parking is permitted on both sides of Ivy Drive. Access to the Project Site is provided via Willow Road.

Bay Road is a north-south, two-lane to four-lane collector street in the Proposed Project area, extending from Cooley Landing in the south to Saratoga Avenue in the north. Bay Road restarts west of US 101 at Willow Road and continues northward to its termination near Fourteenth Avenue. The posted speed limit in the Project Site vicinity is 25 mph. Sidewalks are present on both sides between Saratoga Avenue and Menalto Avenue and between Ralmar Avenue and Pulgas Avenue. Sidewalks are present on the west side of Bay Road between Menalto Avenue and Ralmar Avenue. Sidewalks are not provided south of Pulgas Avenue. Crosswalks are provided at major intersections. A Class III bicycle route is designated in the northbound direction between Fordham Street and Gloria Way. On-street parking is permitted on both sides of Bay Road between Saratoga Avenue and Newbridge Street and south of Gloria Way. On-street parking is permitted on the east side of the road between Newbridge Street and Gloria Way.

Newbridge Street is a north-south, two-lane roadway in the Proposed Project area, extending from Pierce Road in the north to Bay Road in the south. The posted speed limit is 25 mph. Sidewalks are present on both sides of Newbridge Street, and crosswalks are provided at major intersections. A Class III bicycle route is designated in the northbound direction between Bay Road and Menalto Avenue. On-street parking is permitted on the west side of Newbridge Street between Bay Road and Poplar Avenue and on both sides on most segments north of Poplar Avenue. Access to the Project Site is provided via Willow Road.

Chilco Street is a two-lane connector street in the Proposed Project area, extending from Bayshore Freeway in the west to Windermere Avenue in the east. The posted speed limit is 25 to 40 mph. Sidewalks are present on both sides of Chilco Street between Windermere Avenue and the Menlo Park Fire District Station No. 77. A sidewalk is present on the south side of Chilco Street between Constitution Drive and Bayfront Expressway. A Class IV separated bikeway is present along Chilco Street between the fire station and Constitution Drive. Class II bike lanes are provided on both sides between Constitution Drive and Bayfront Expressway and in the westbound direction between Constitution Drive and the fire station. On-street parking is permitted on both sides of Chilco Street between Windermere Avenue and Hamilton Avenue.

E. Bayshore Road is a north-south, two-lane to four-lane roadway in the Proposed Project area, extending from Saratoga Avenue to San Antonio Road, where it transitions into Bayshore Parkway. E. Bayshore Road is interrupted by Donohoe Street between Euclid Avenue and Cooley Avenue. The posted speed limit in the Proposed Project vicinity is 25 mph. A sidewalk is present on the west side between Saratoga Avenue and Menalto Avenue. Crosswalks are provided at signalized intersections. A Class III bicycle route is designated on E. Bayshore Road between Pulgas Avenue and Embarcadero Road. In the Proposed Project vicinity, on-street parking is permitted on the west side of E. Bayshore Road on most segments.

Existing Bicycle and Pedestrian Facilities

- The City's existing bicycle facilities are classified according to the State's system of classification as identified in the Menlo Park General Plan Circulation Element:
- Class I (bike path) – A Class I bicycle facility is completely separated from vehicles on a paved right-of-way and is commonly known as a bike path.
- Multi-use Pathway – A Multi-use Pathway is a Class I bicycle facility that allows both bicyclists and pedestrians to use the facility.
- Class II (bike lane) – A Class II bicycle facility is a striped and stenciled lane on an existing right-of-way shared with vehicles and is commonly known as a bike lane.

- Class III (bike route) – A Class III bicycle facility is identified through signage and/or pavement markings called "sharrows" indicating that bicyclists and drivers share the same travel lane and is commonly referred to as a bike route.
- Class IV (protected bike lane) – A Class IV bicycle facility is a striped lane with a vertical and physical separation, such as parking or bollards, from the vehicle travel lane and is commonly referred to as a protected bike lane.

Existing bicycle facilities near the Project Site are shown in Figure 3.3-1, Existing Bicycle Facilities.

The San Francisco Bay Trail, a Class I bike trail, runs parallel to University Avenue east of Purdue Avenue. The path provides connections to the East Bay, East Palo Alto, and Redwood City. Class I bike paths are also located on Bayfront Expressway, between Marsh Road and Marshlands Road across the Dumbarton Bridge; and recreational trails at Bedwell Bayfront Park, Facebook along Hacker Way, and on the Bay Trail near the Ravenswood Preserve.

Class II facilities (bike lanes) are provided on Willow Road between Bayshore Expressway and Bay Road west of US 101; University Avenue between Donohoe Street and Bayfront Expressway; Chilco Street on both sides between Constitution Drive and Bayfront Expressway; and Bay Road on the west side of US 101.

Class III facilities (bike routes) are provided on Bay Road in the northbound direction between Fordham Street and Gloria Way; Newbridge Street in the northbound direction between Bay Road and Menalto Avenue; E. Bayshore Road between Pulgas Avenue and Embarcadero Road; and Hacker Way.

Class IV facilities (protected bike lanes) are provided on Willow Road between the US 101 NB and SB ramps and on Chilco Street between Menlo Park Fire District Station No. 77 and Constitution Drive.

Overall, the existing bicycle facilities in the Proposed Project vicinity provide some connection for bicycles along major thoroughfares.

Pedestrian facilities consist of sidewalks, crosswalks, and pedestrian signals at signalized intersections. The Project Site is located in a commercial and industrial area, and pedestrian facilities are very limited. There are no sidewalks along any of the surrounding local streets including Adams Court, Adams Drive, and O'Brien Drive. Sidewalks are provided only along the south side of University Avenue between Notre Dame Avenue and Purdue Avenue. Sidewalks are available on both sides of University Avenue for a small section between Notre Dame Avenue and Kavanaugh Drive. South of Kavanaugh Drive, a sidewalk is available only along the north side of University Avenue.

Crosswalks are found on one or more approaches at some of the signalized study intersections. Signalized intersections along Willow Road between Newbridge Street and Hamilton Avenue have crosswalks across all approaches. The intersections on University Avenue at Notre Dame Avenue and at Kavanaugh Drive have crosswalks only on the east and west approaches, respectively. The intersection at University Avenue/O'Brien Drive does not have crosswalks. The intersection of University Avenue and Bay Road has crosswalks on all approaches.

Crosswalks are only available at one of the unsignalized intersections in the vicinity of the Project Site. The all-way stop-controlled intersection at Adams Drive and O'Brien Drive has crosswalks on all approaches. The two unsignalized intersections of Adams Drive/Adams Court and University Avenue/Adams Drive do not have crosswalks.

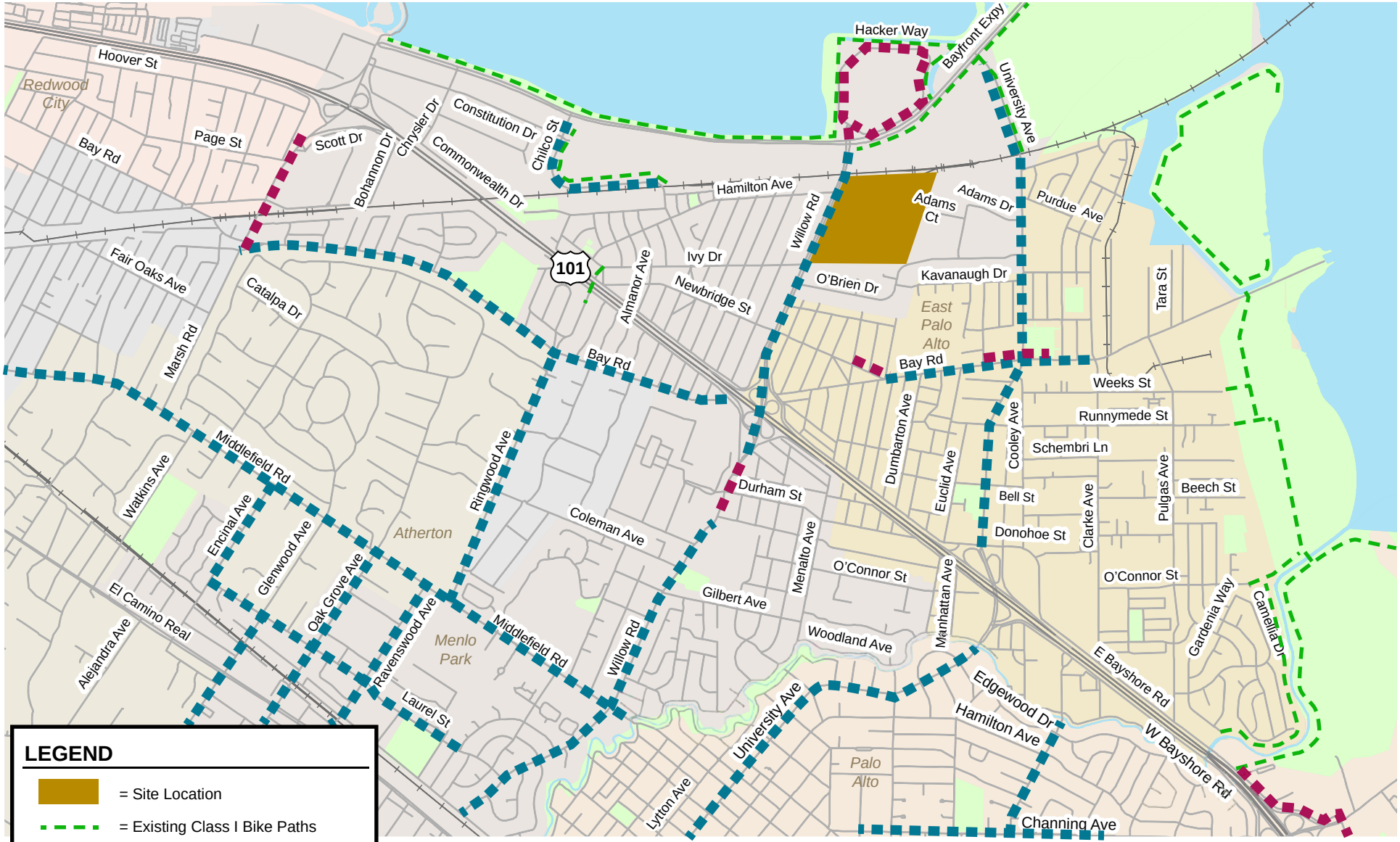


Figure 3.3-1
Existing Bicycle Facilities

Existing Transit Service

Existing transit service to the Project Area is provided by the San Mateo County Transit District (SamTrans), AC Transit, and the Menlo Park Shuttle Service. The bus routes that provide services near the Project Site in 2019 prior to the start of the Covid-19 pandemic are shown in Figure 3.3-2, Existing Transit Facilities, and described in Table 3.3-1. Services are shown that have a bus stop within ¼ mile of the Project Site, which is considered the typical walking distance for bus services.

Analysis Scope and Methodology

For purposes of disclosing potential transportation impacts, projects in Menlo Park use the City's current TIA Guidelines to ensure compliance with both State and local requirements.[4] Up until July 1, 2020, the City's TIA Guidelines used roadway congestion or LOS as the primary study metric. However, SB 743 required OPR to establish a new metric for identifying and mitigating transportation impacts within CEQA in an effort to meet the State's goals to reduce GHG emissions, encourage infill development, and improve public health through use of more active transportation (bicycles and walking). OPR identified VMT as the required transportation metric.

The City updated its Transportation Impact Analysis Guidelines in July 2020 to include guidelines on evaluating VMT. The local VMT threshold was subsequently modified by the City Council on January 11, 2022 and those thresholds are included in this analysis. Therefore, this analysis evaluates VMT impacts using local VMT thresholds included in the updated TIA Guidelines for purposes of determining potentially significant environmental impacts.

VMT is the total miles of travel by personal motorized vehicles (cars and light trucks) that a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle-trips that originate or end within the project. Heavy duty trucks are not included in the VMT modeling. According to OPR guidelines, the VMT of heavy-duty trucks can be excluded from analysis under SB 743.

The project VMT was estimated using the City's travel demand model. The model estimates the Proposed Project's effect on total daily VMT in accordance with the City's TIA Guidelines. The evaluated daily VMT accounts for the entire distance of a trip associated with the Proposed Project. For example, the entire length of a trip made by an employee coming from and returning to their home would be captured in the daily VMT analysis. The model is used to estimate average daily VMT within the City's transportation analysis zones (TAZs) and to determine VMT thresholds for residential and commercial land uses that are identified in the City's TIA Guidelines. Per the City VMT guidelines adopted in July 2020, mixed-use projects will have each component analyzed independently against the appropriate thresholds. As recommended by OPR's *Technical* Advisory on VMT evaluation, internal capture will be credited for mixed-use projects. The project proposes office and accessory uses[5] (e.g. meeting and collaboration space), residential, hotel, retail, restaurant, entertainment, and park land uses.

The Menlo Park travel demand model encompasses the nine Bay Area counties divided into thousands of TAZs. Each TAZ is comprised of several streets, neighborhoods, or city blocks depending on the geographical features and surrounding land uses. There are approximately 80 TAZs within the boundaries of Menlo Park. As such, when adding or subtracting a project from a TAZ, the internal interactions within the model will impact the entire TAZ as well as surrounding TAZs.

---

4 Menlo Park, City of. 2020a, op. cit.

5 Accessory uses could include the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitor center, product demonstration areas, film studio, gathering terraces and private gardens, and space for other Meta accessory uses. Accessory uses could occur in spaces located anywhere throughout the Campus District.

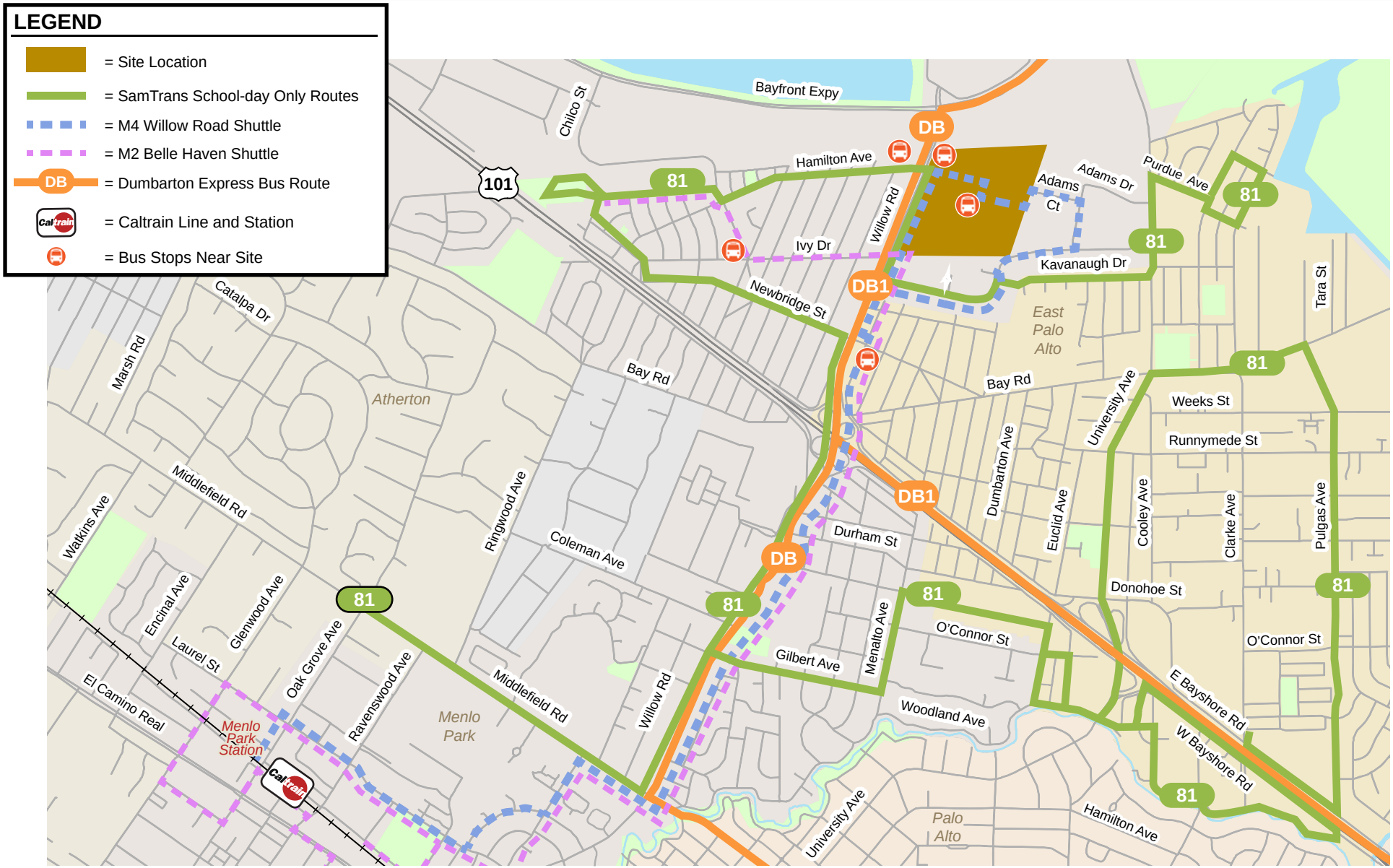


Figure 3.3-2
Existing Transit Services

Table 3.3-1. Existing Transit Service

Bus Route	Route Description	Travelled Roadways	Weekday Hours of Operation	Headway
Dumbarton Express Line DB	Union City BART to Stanford University	Dumbarton Bridge, Bayfront Expressway, Willow Road, Middlefield Road	5:20 AM - 8:45 PM	15 - 75 min
Dumbarton Express Line DB1	Union City BART to Stanford Research Park	Dumbarton Bridge, Bayfront Expressway, Willow Road, US 101	5:25 AM - 8:35 PM	15 - 65 min
SamTrans Route 81	Menlo-Atherton High School to Clarke & Bayshore	Middlefield Road, Willow Road, University Avenue, Pulgas Avenue, Kavanaugh Drive, Hamilton Avenue	6:45 AM - 9:10 AM 3:25 PM - 4:10 PM	55 - 95 min
M2 Belle Haven Shuttle	Menlo Park Senior Center to Partridge & Kennedy	Middlefield Road, Willow Road, Ivy Drive, Chilco Street, Terminal Avenue	6:40 AM - 5:45 PM	90 - 120 min
M4 Willow Road Shuttle	Menlo Park Caltrain Station to Adams Court	Willow Road, O'Brien Drive, Hamilton Avenue, Hamilton Court, Adams Court	7:00 AM - 10:00 AM 3:20 PM - 6:15 PM	45 - 90 min

Notes:
Approximate weekday operation hours and headways during peak commute periods in the Project Area, as of 2019, prior to Covid-19.

Regulatory Setting

The following Federal, State, regional, County of San Mateo, and local transportation plans, policies, and regulations guide transportation planning in Menlo Park.

Federal Regulations

This section summarizes applicable Federal regulations guiding transportation planning in Menlo Park.

Federal Highway Administration. The Federal Highway Administration (FHWA) is the agency of the United States Department of Transportation responsible for the federally funded roadway system, including the interstate highway network and portions of the primary State highway network, such as Interstate 280 (I-280) and US 101.

Americans with Disabilities Act. The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the US Access Board, an independent Federal agency created in 1973 to ensure accessibility for people with disabilities, has created accessibility guidelines for public rights-of-way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide in the last decade. The guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, and pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way. These guidelines would apply to proposed roadways in the study area.

State Regulations

This section summarizes applicable State regulations guiding transportation planning in Menlo Park.

California Department of Transportation. Caltrans is responsible for planning, design, construction, and maintenance of all interstate freeways and State routes. Caltrans sets design standards for State roadways that may be used by local governments. Caltrans requirements are described in their Guide for Preparation of Traffic Impact Studies[6], which covers the information needed for Caltrans to review the impacts to State highway facilities; including freeway segments, on- and off-ramps, and signalized intersections.

Senate Bill 375. As a means to achieve the Statewide emission reduction goals set by AB 32 ("The California Global Warming Solutions Act of 2006"), SB 375 ("The Sustainable Communities and Climate Protection Act of 2008") directs the California Air Resources Board (CARB) to set regional targets for reducing GHG emissions from cars and light trucks. Using the template provided by the State's Regional Blueprint program to accomplish this goal, SB 375 seeks to align transportation and land use planning to reduce VMT through modified land use patterns.

There are five basic directives of the bill: 1) creation of regional targets for GHG emissions reductions tied to land use; 2) a requirement that regional planning agencies create a Sustainable Communities Strategy (SCS) to meet those targets (or an Alternative Planning Strategy if the strategies in the SCS would not reach the target set by CARB); 3) a requirement that regional transportation funding decisions be consistent with the SCS; 4) a requirement that the Regional Housing Needs Allocation numbers for

[6] California Department of Transportation. . Transportation Impact Study Guide. May 2020.

municipal general plan housing element updates must conform to the SCS; and 5) CEQA exemptions and streamlining for projects that conform to the SCS. The implementation mechanism for SB 375 that applies to land uses in Menlo Park is "Plan Bay Area 2050" adopted by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) in 2021 (see below). However, Plan Bay Area 2050 has been challenged in court, and this analysis also references Plan Bay Area 2040.

Senate Bill 743. Senate Bill 743 (CEQA section 21099(b)(1)) requires that the State Office of Planning and Research develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." CEQA section 21099(b)(2) states that upon certification of the revised guidelines for determining transportation impacts pursuant to CEQA section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.

In January 2016, the OPR published for public review and comment a Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA recommending that transportation impacts for projects be measured using a VMT metric[7]. In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the section implementing SB 743 (section 15064.3). OPR developed a Technical Advisory on Evaluating Transportation Impacts in CEQA, which contains OPR's technical recommendations regarding assessment of VMT, thresholds of significance, and mitigation measures.[8]

Regional Regulations

This section summarizes applicable regional regulations guiding transportation planning in Menlo Park.

Metropolitan Transportation Commission. The Metropolitan Transportation Commission (MTC) is responsible for planning, coordinating, and financing transportation projects in the nine county Bay Area. The local agencies that comprise these nine counties help the MTC prioritize projects based on need, feasibility, and conformance with federal and local transportation policies. In addition to coordinating with local agencies, the MTC distributes State and federal funding through the Regional Transportation Improvement Program (RTIP).

Plan Bay Area. Plan Bay Area 2050 is a state-mandated, integrated long-range transportation and land use plan. As required by SB 375, all metropolitan regions in California must complete a Sustainable Communities Strategy as part of a Regional Transportation Plan. This strategy integrates transportation, land use and housing to meet greenhouse gas reduction targets set by the California Air Resources Board. The plan meets those requirements. In addition, the plan sets a roadmap for future transportation investments and identifies what it would take to accommodate expected growth. The plan neither funds specific transportation projects nor changes local land use policies.

In the Bay Area, the Metropolitan Transportation Commission and the Association of Bay Area Governments adopted the latest plan in 2021. Under Plan Bay Area 2050's strategies, just under half of all Bay Area households would live within one half-mile of frequent transit by 2050, with this share increasing to over 70% for households with low incomes. Transportation and environmental strategies

[7] OPR. 2016. Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743 (Steinberg, 2013). January 20.

[8] OPR. 2018, op. cit.

that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from 50% in 2015 to 33% in 2050. Greenhouse gas emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19% reduction in per capita emissions by 2035.

Under the previous Plan Bay Area 2040, to meet the greenhouse gas reduction targets, that plan identifies priority development areas. The agencies estimate approximately 77 percent of housing and 55 percent of job growth will occur in the priority development areas between 2010 and 2040. The Project Site is not located within a priority development area.

City/County Association of Governments of San Mateo County (C/CAG) Congestion Management Program. The purpose of the Congestion Management Plan (CMP) is to identify strategies to respond to future transportation needs, develop procedures to alleviate and control congestion, and promote countywide transportation solutions. The CMP is required to be consistent with the MTC planning process that includes regional goals, policies, and projects for the RTIP. In order to monitor attainment of the CMP, the C/CAG adopted the roadway LOS standards. The LOS standards established for San Mateo County vary by roadway segments and conform to current land use plans and development differences among the coast, bayside, older downtowns, and other areas of San Mateo County. While the intersections associated with the development of the Proposed Project are monitored by C/CAG for compliance with CMP standards, most of the intersections are within the Cities of Menlo Park and East Palo Alto city limits and are subject to the more stringent standards implemented by the Cities.

The CMP also requires new development projected to generate 100 or more peak hour trips to implement Travel Demand Management (TDM) measures that would reduce project impacts. The Proposed Project would generate more than 100 peak hour trips. Based on the requirements of the C/CAG, the project would be required to develop and implement TDM measures to reduce vehicle trips.

San Mateo County Comprehensive Bicycle and Pedestrian Plan. The San Mateo County Comprehensive Bicycle and Pedestrian Plan was developed by C/CAG with support from the San Mateo County Transportation Authority to address the planning, design, funding, and implementation of bicycle and pedestrian projects countywide. The following are the relevant goals and policies:

Goal 2: More People Riding and Walking for Transportation and Recreation

> **Policy 2.6**: Serve as a resource to county employers on promotional information and resources related to bicycling and walking.

Goal 4: Complete Streets and Routine Accommodation of Bicyclists and Pedestrians

> **Policy 4.1**: Comply with the complete streets policy requirements of Caltrans and the Metropolitan Transportation Commission concerning safe and convenient access for bicyclists and pedestrians, and assist local implementing agencies in meeting their responsibilities under the policy.
>
> **Policy 4.5**: Encourage local agencies to adopt policies, guidelines, standards and regulations that result in truly bicycle-friendly and pedestrian-friendly land use developments, and provide them technical assistance and support in this area.
>
> **Policy 4.6**: Discourage local agencies from removing, degrading or blocking access to bicycle and pedestrian facilities without providing a safe and convenient alternative.

City of Menlo Park

This section summarizes applicable City regulations guiding transportation planning in the city.

Menlo Park General Plan. Transportation-related policies are included in the Circulation Element of the General Plan. This section was added to the General Plan to provide a framework for transportation planning within the city and was most recently updated in 2016 when the City updated its Land Use and Circulation Elements (commonly referred to as ConnectMenlo). The framework is based on existing practices and future considerations in land use, population, and regional transportation. The General Plan Circulation Element establishes a vision for the city with goals related to sustainability, reliability, and safety for all modes of transportation. The transportation goals and policies for Menlo Park adopted to avoid or mitigate environmental impacts that relate to the Proposed Project include:

Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park

> **Policy CIRC-1.7: Bicycle Safety.** Support and improve bicyclists safety through roadway maintenance and design efforts.
>
> **Policy CIRC-1.8: Pedestrian Safety.** Maintain and create a connected network of safe sidewalks and walkways within the public right of way ensuring that appropriate facilities, traffic control, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.

Goal CIRC-2: Increase accessibility for and use of streets by pedestrian, bicyclists, and transit riders.

> **Policy CIRC-2.1: Accommodating All Modes.** Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.
>
> **Policy CIRC-2.2: Livable Streets.** Ensure that transportation projects preserve and improve the aesthetics of the city.
>
> **Policy CIRC-2.3: Street Classification.** Utilize measurements of safety and efficiency for all travel modes to guide the classification and design of the circulation system, with an emphasis on providing "complete streets" sensitive to neighborhood context.
>
> **Policy CIRC-2.4: Equity.** Identify low-income and transit-dependent districts that require pedestrian and bicycle access to, from, and within their neighborhoods.
>
> **Policy CIRC-2.7: Walking and Biking.** Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the City's Transportation Master Plan (following completion; until such time the Comprehensive Bicycle Development Plan, Sidewalk Master Plan and the El Camino Real/Downtown Specific Plan represent the City's proposed walking and bicycling networks).
>
> **Policy CIRC-2.8 Pedestrian Access at Intersections.** Support full pedestrian access across all legs of signalized intersections.
>
> **Policy CIRC-2.9 Bikeway System Expansion.** Expand the citywide bikeway system through appropriate roadway design, maintenance, effective traffic law enforcement, and implementation of the City's Transportation Master Plan (following completion; until such time the Comprehensive Bicycle Development Plan and the El Camino Real/Downtown Specific Plan represent the City's proposed bicycle network).

Policy CIRC-2.11 Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children..

Policy CIRC-2.14 Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., vehicle miles traveled (VMT) per service population or other efficiency metric) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and improvements in proportion with the scale of Proposed Projects; and facilitate appropriate or adequate response times and access for emergency vehicles.

Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.

Policy CIRC-3.1 Vehicle Miles Traveled. Support development and transportation improvements that help reduce per service population (or other efficiency metric) vehicle miles traveled.

Policy CIRC-3.2 Greenhouse Gas Emissions. Support development, transportation improvements, and emerging vehicle technology that help reduce per capita (or other efficiency metric) greenhouse gas emissions.

Policy CIRC-3.3 Emerging Transportation Technology. Support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options.

Goal CIRC-4: Improve Menlo Park's overall health, wellness, and quality of life through transportation enhancements.

Policy CIRC-4.1 Global Greenhouse Gas Emissions. Encourage the safer and more widespread use of nearly zero-emission modes, such as walking and biking, and lower emission modes like transit, to reduce greenhouse gas emissions.

Policy CIRC-4.2 Local Air Pollution. Promote non-motorized transportation to reduce exposure to local air pollution, thereby reducing risks of respiratory diseases, other chronic illnesses, and premature death.

Policy CIRC-4.3 Active Transportation. Promote active lifestyles and active transportation, focusing on the role of walking and bicycling, to improve public health and lower obesity.

Policy CIRC-4.4 Safety. Improve traffic safety by reducing speeds and making drivers more aware of other roadway users.

Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.

Policy CIRC-5.2 Transit Proximity to Activity Centers. Promote the clustering of as many activities as possible within easy walking distance of transit stops, and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.

Goal CIRC-6: Provide a range of transportation choices for the Menlo Park community.

Policy CIRC-6.3 Shuttle Service. Encourage increased shuttle service between employment centers and the Downtown Menlo Park Caltrain station.

Policy CIRC-6.4 Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.

Menlo Park Municipal Code

The Proposed Project is located in the Office (O) zoning district and the Residential Mixed Use District (R-MU). The Zoning Ordinance requires the development and implementation of a Transportation Demand Management (TDM) plan:

Chapters 16.43.100 and 16.45.090 Transportation Demand Management. As stated in Chapters 16.43.100 (applicable to the O Office District) and 16.45.090 (applicable to the R-MU Residential Mixed Use District) of the City's Zoning Ordinance, all new construction, regardless of size, and building additions of 10,000 or more square feet of gross floor area, or a change of use of 10,000 or more square feet of gross floor area shall develop a TDM plan necessary to reduce associated vehicle trips to at least 20 percent below standard generation rates for uses on the main Project Site.

The Transportation Demand Management Program Guidelines[9] provide options for the City to mitigate the traffic impacts of new developments. The guidelines include an extensive list of TDM measures accompanied with the number of trips credited to each measure and the rationale for each measure. The list of recommended measures and the associated trip credit is maintained by C/CAG as part of the San Mateo County CMP.

- Pursuant to the City's Zoning Ordinance, eligible TDM measures may include but are not limited to those listed below.
- Participation in a local transportation management association (TMA) that provides documented, ongoing support for alternative commute programs;
- Appropriately located transit shelter(s);
- Preferred parking for carpools or vanpools;
- Designated parking for car share vehicles;
- Paid parking;
- Public and/or private bike share program; Provision or subsidy of carpool, vanpool, shuttle, or bus service, including transit passes for site occupants;
- Required alternative work schedules and/or telecommuting for nonresidential uses;
- Passenger loading zones for carpools and vanpools at main building entrance;
- Safe, well-lit, accessible, and direct route to the nearest transit or shuttle stop or dedicated, fully accessible bicycle and pedestrian trail;
- Car share membership for employees or residents;
- Emergency ride home programs;
- Green trip certification.
- Pursuant to the City's Zoning Ordinance, measures receiving TDM credit shall be:
- Documented in a TDM plan developed specifically for each project and noted on Project Site plans, if and as appropriate;

[9] Menlo Park, City of. 2015. *Transportation Demand Management Program Guidelines*. Website: www.menlopark.org/DocumentCenter/View/303/Transportation-Demand-Management-TDM-Guidelines (accessed September 24, 2020). Adopted July 15.

- Guaranteed to achieve the intended reduction over the life of the development, as evidenced by annual reporting provided to the satisfaction of the City's transportation manager;
- Required to be replaced by appropriate substitute measures if unable to achieve intended trip reduction in any reporting year;
- Administered by a representative whose updated contact information is provided to the transportation manager.

Complete Streets Policy. The Complete Streets Policy was adopted by the City in 2013. The policy confirms the City's commitment to provide safe, comfortable, and convenient travel along and across streets for all users. Complete Streets infrastructure should be considered for incorporation into all significant planning, funding, design, approval, and implementation processes for new, maintenance, and retrofit construction.

Neighborhood Traffic Management Plan. The Neighborhood Traffic Management Plan was developed to mitigate the adverse effects of increased vehicle speeds and vehicle volumes on neighborhood streets. The primary goal of this plan is to correct unsafe conditions at prioritized locations with higher incidences and higher speeds. The plan recommends two levels of measures, Level I "Express" and Level II. Level I "Express" measures include education and enforcement initiatives, and Level II measures are traffic management features that can be implemented to divert traffic and to restrict access to certain properties. The traffic management measures that need to be implemented are recommended by City staff at the request of the community.

Transportation Master Plan. The Transportation Master Plan identifies appropriate projects to enhance the transportation network and prioritizes projects based on need for implementation. It includes an update to the City's Bicycle and Sidewalk Plans.

Transportation Impact Fee. The City of Menlo Park initiated a Transportation Impact Fee (TIF) codified in Municipal Code Chapter 13.26 to help fund transportation improvements as new development occurs in the city. New development and redevelopment projects are subject to the TIF to contribute to the cost of new transportation infrastructure associated with the development. The types of developments that are subject to the TIF are:

- All new development in all land use categories identified in the City's zoning ordinance
- Any construction adding additional floor area to a lot with an existing building
- New single-family and multi-family dwelling units
- Changes of use from one land use category to a different land use category that requires Planning Commission approval.

The TIF provides a mechanism to modernize the City's fee program to collect funds towards construction of the improvements identified and prioritized in the Transportation Master Plan.

Transportation Impact Analysis Guidelines. The City's TIA Guidelines specify which projects must complete a TIA prior to obtaining approval from the City. The City requires that a TIA be prepared by a qualified consultant selected by the City and paid for by the project applicant. The TIA Guidelines also specify the requirements of the analyses that must be included in a TIA. The TIA Guidelines require analysis of both VMT and LOS transportation metrics independently using the methodologies approved by the City for all projects except those meeting established exemption criteria.

Impacts and Mitigation Measures

This section analyzes the potential of the Proposed Project to result in impacts on the transportation network. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The analysis below makes reference to, and tiers from, the ConnectMenlo Final EIR, where appropriate. The findings presented in the ConnectMenlo Final EIR are presented prior to the project impact analysis. The latter part of this section presents the impacts associated with implementation of the Proposed Project and identifies mitigation measures, as appropriate.

Significance Criteria

The Proposed Project would result in a significant effect related to transportation if it would:

- Conflict with an applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- Exceed an applicable VMT threshold of significance;
- Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g farm equipment); or
- Result in inadequate emergency access.

ConnectMenlo Final EIR Impacts

The following provides an overview of impacts to transportation and circulation and required mitigation measures as identified in the ConnectMenlo Final EIR. Transportation and circulation impacts assessed in the ConnectMenlo Final EIR included the development potential that is proposed at the Project Site as part of the city-wide analysis.

Roadway Segments

As noted in the Regulatory Framework discussion above, CEQA no longer considers automobile delay (including roadway segment LOS) to be an environmental impact. The following ConnectMenlo Final EIR impact summary is provided for informational purposes.

The ConnectMenlo Final EIR found that the implementation of ConnectMenlo would generate additional motor vehicle trips on the local roadway network, resulting in significant impacts on some study segments. Mitigation Measure TRANS-1a would require the widening of impacted roadway segments at appropriate locations throughout the city to add travel lanes and capacity to accommodate the increase in net daily trips. Implementation of Mitigation Measure TRANS-1a would reduce the impacts but not to a less than significant level. Implementation of Mitigation Measure TRANS-1a could require additional right-of-way to add travel lanes that is not under the jurisdiction of the City and is considered infeasible in most locations. Additionally, widening of roadways may lead to other secondary impacts such as induced travel demand. Wider roadways also result in a degradation of pedestrian and bicycle facilities. Furthermore, fully mitigating the impact to less than significant levels would be infeasible because it would require eliminating most of the year 2040 traffic growth on impacted segments, including background traffic growth and regional traffic growth outside the control of the City. For these reasons, impacts to roadway segments were considered significant and unavoidable.

Intersections

As noted in the Regulatory Framework discussion above, CEQA no longer considers automobile delay (including intersection LOS) to be an environmental impact. The following ConnectMenlo Final EIR impact summary is provided for informational purposes.

The ConnectMenlo Final EIR found that the implementation of ConnectMenlo would generate additional motor vehicle trips on the local roadway network and result in increased delay to peak hour motor vehicle traffic, resulting in significant impacts on some study intersections. Mitigation Measure TRANS-1b would update the City's TIF program to secure a funding mechanism for future roadway and infrastructure improvements to mitigate impacts from future projects (based on the current standards at the time the Final EIR was certified), but would not reduce the impact to less than significant levels. The City could not guarantee improvements at the impacted intersections because the nexus study (for development impact fees under AB 1600) had not been prepared, some improvements could cause secondary environmental impacts that would need to be addressed prior to construction, and some impacted intersections are within the jurisdiction of the City of East Palo Alto and Caltrans. For these reasons, impacts to intersections were considered significant and unavoidable. Subsequently, the City's TIF program was recently updated and approved by the City Council. The City's Transportation Master Plan has been updated and was adopted by the City Council on November 17, 2020. The identified roadway improvements would not fully mitigate the intersection impacts identified in the ConnectMenlo Final EIR.

Routes of Regional Significance

As noted in the Regulatory Framework discussion above, CEQA no longer considers automobile delay (including routes of regional significance) to be an environmental impact. The following ConnectMenlo Final EIR impact summary is provided for informational purposes.

The ConnectMenlo Final EIR found that the implementation of ConnectMenlo would generate additional motor vehicle trips on the local roadway network, resulting in significant impacts on routes of regional significance. Mitigation Measure TRANS-1a would require the widening of impacted roadway segments at appropriate locations throughout the city to add travel lanes and capacity to accommodate the increase in net daily trips. Implementation of Mitigation Measure TRANS-1a would reduce the impacts but not to a less-than-significant level. Implementation of Mitigation Measure TRANS-1a could require additional right-of-way to add travel lanes that is not under the jurisdiction of the City and is limited by downstream capacity on facilities such as US 101 and Dumbarton Bridge. As such, the mitigation was considered infeasible in most locations. For these reasons, impacts to routes of regional significance were considered significant and unavoidable.

Bicycle and Pedestrian Facilities

The ConnectMenlo Final EIR found that the new development potential under ConnectMenlo would generate new transit riders, bicyclists, and pedestrians. Implementation of ConnectMenlo and other existing City standards and regulations would include goals, policies, and programs that provide for an integrated network of bicycle and pedestrian facilities as well as for the needs of transit users. Further, future development would be concentrated on sites either already developed and/or in close proximity to existing development, and would be served by existing transit, bicycle, and pedestrian infrastructure. However, much of the anticipated development under the proposed project would occur in the Bayfront Area, including properties located east of US 101 that are not adequately connected to the pedestrian and bicycle circulation network locally or west of US 101, and properties bordering existing streets such as

Constitution Drive that lack continuous sidewalks. Therefore, the ConnectMenlo EIR found that implementation of ConnectMenlo would not provide adequate pedestrian or bicycle facilities to connect to the area-wide circulation system. Mitigation Measure TRANS-6a would update the City's TIF program to secure a funding mechanism for future pedestrian and bicycle improvements to mitigate impacts from future projects (based on the current standards at the time the Final EIR was certified), but would not reduce the impact to less than significant levels. The nexus study (pursuant to AB 1600) had not yet been prepared, the City could not guarantee improvements, and no additional mitigation measures were feasible and available. For these reasons, implementation of ConnectMenlo would not provide adequate pedestrian or bicycle facilities to connect to the area-wide circulation system and impacts were considered significant and unavoidable. Subsequently, the City's TIF program was updated and approved by the City Council. The City's Transportation Master Plan has been updated, and the City Council approved the updated plan on November 17, 2020. The identified bicycle and pedestrian improvements would not be fully funded by the TIF, and therefore the ConnectMenlo impact would remain significant and unavoidable.

Transit

The ConnectMenlo Final EIR found that implementation of ConnectMenlo would generate a substantial increase in transit riders that could not be adequately serviced by existing public transit services, and the implementation of ConnectMenlo would generate demand for transit services at sites more than one-quarter mile from existing public transit routes. Mitigation Measure TRANS-6b would update the City's existing Shuttle Fee program to guarantee funding for operations of City sponsored shuttle service that is necessary to mitigate impacts from future projects based on the then-current City standards. Implementation of Mitigation Measure TRANS-6b would reduce the impacts but not to a less than significant level. The nexus study (pursuant to AB 1600) had not yet been prepared, the City could not guarantee improvements, and no additional mitigation measures were feasible and available. For these reasons, impacts to transit were considered significant and unavoidable.

The ConnectMenlo Final EIR found that implementation of ConnectMenlo would result in increased peak hour traffic delay at intersections on Bayfront Expressway, University Avenue, and Willow Road that could decrease the performance of transit service and increase the cost of transit operations. Mitigation Measure TRANS-6c could potentially result in the provision of transit service on the Dumbarton Corridor to mitigate the impact. However, because provision of Dumbarton transit service would require approval of other public agencies and is not under the jurisdiction of the City of Menlo Park, implementation of this mitigation could not be guaranteed. No additional mitigation measures were feasible and available. For these reasons, impacts to transit were considered significant and unavoidable.

Vehicle Miles Traveled

Until July 1, 2020, the City's TIA guidelines used roadway congestion or LOS as the primary study metric. While the ConnectMenlo Final EIR did include an evaluation of VMT impacts for information purposes for decision makers to consider, the VMT standards applied in the ConnectMenlo Final EIR differ from those adopted under the updated TIA Guidelines.

The ConnectMenlo Final EIR found that implementation of ConnectMenlo would not exceed the VMT threshold of significance used in that EIR and would result in less than significant impacts with respect to VMT.

Hazards

The ConnectMenlo Final EIR found that future developments and roadway improvements would be designed according to City standards and subject to existing regulations that are aimed at reducing hazardous conditions with respect to circulation. Additionally, future development would be concentrated on sites that are already developed where impacts related to incompatible traffic related land uses would not likely occur. Therefore, the adoption of ConnectMenlo would result in less than significant impacts with respect to hazards due to design features or incompatible uses.

Emergency Access

The ConnectMenlo Final EIR found that ConnectMenlo and other City standards and regulations would include policies that would ensure efficient circulation and adequate access are provided in the city, which would help facilitate emergency response. Additionally, future development would be concentrated on sites that are already developed where impacts related to inadequate emergency access would not likely occur. Implementation of ConnectMenlo would result in less than significant impacts with respect to inadequate emergency access.

Cumulative Conditions

The ConnectMenlo Final EIR found that the cumulative impacts to the transportation network would be the same as those identified above for each topic.

Proposed Project

As discussed in Chapter 2.0, Project Description, the Proposed Project would redevelop an approximately 59-acre industrial site plus two parcels north of Willow Road[10] (collectively, the Project Site) as a mixed-use development. The Proposed Project would demolish all existing onsite buildings and landscaping on the 59-acre portion of the Project Site and construct new buildings, provide open space areas, and install infrastructure within a new Residential/Shopping District, Town Square District, and Campus District. In addition, the Proposed Project would alter two parcels (Hamilton Avenue Parcels North and South[11]) to accommodate realignment of Hamilton Avenue at Willow Road for Project Site access.

The Proposed Project would provide up to 1.6 million sf of space for office and accessory use (consisting of up to 1.25 million sf of office uses and the balance (350,000 square if office use is maximized) of accessory uses) and up to 200,000 sf of commercial/retail space. The Proposed Project would also include up to 1,730 multi-family housing units, an up to 193-room hotel, and open spaces, including publicly accessible parks (e.g. 3.5 acre publicly accessible park, elevated linear park, town square, and dog park).

The Project Site would be bisected by a new north–south street (Main Street) and an east–west street, which would provide access to all three districts. It would include a circulation network for vehicles, bicycles, and pedestrians, inclusive of both public rights-of-way and private streets, that would be generally aligned to an east-to-west and a north-to-south grid. The Proposed Project would also alter parcels north of the industrial site, across Willow Road, on both the east and west sides of Hamilton Avenue (Hamilton Avenue Parcels North and South) to support realignment of the Hamilton Avenue right-

[10] For transportation analysis, "North/South" is aligned to be parallel to US 101. Hence, Willow Road and University Avenue are considered east-west streets, whereas Hamilton Road and Bayfront Expressway are considered north-south streets.

[11] Hamilton Avenue Parcels North and South consider Hamilton Avenue an east to west street, which differs from the compass directions used for the transportation analysis discussion.

of-way and provide access to the new elevated park. This would require demolition and reconstruction of an existing service station (Chevron gas station) and potentially an increase in 1,000 sf on Hamilton Avenue Parcel South and enable the potential addition of up to 6,700 sf of retail uses at the existing neighborhood shopping center on the Hamilton Avenue Parcel North. A total of 7,700 sf could be added to the Hamilton Avenue Parcels.

Trip Generation

Trip generation estimates for the mixed-use development are based on standard trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition manual[12]. Below is a general discussion of the trip generation estimation methodology (see Table 3.3-2). Detailed trip generation analysis is provided in Appendix 3.3, Transportation, of this EIR.

Gross Proposed Project Trips

A description of the source of trip generation rates for each land-use is provided below:

- ***Office***. Initial trip estimates for office and accessory uses are based on "ITE Land Use code 710: General Office Building".
- ***Residential.*** The trip estimate is based on the "ITE Land Use code 221: Multifamily Housing (Mid-Rise)", which includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three to ten levels. Some of the apartments are designated as senior housing, which could have a lower trip rate. Thus, the trip generation estimate for the apartments is conservative.
- ***Retail.*** Trip estimates are based on "ITE Land Use code 820: Shopping Center", which includes several types of retail uses like restaurants, movie theaters, bowling alleys etc. that are typically present in shopping centers.
- ***Hotel.*** Trip estimates are based on "ITE Land Use code 310: Hotel".
- ***Publicly Accessible Park.*** Trip estimates are based on "ITE Land Use code 488: Soccer Complex". The programmatic design of the park has not been determined. In order to provide a conservative estimate of potential traffic generation and allow for flexible programming for the project through the project review process, it is assumed that the park will have play structures and open field areas for warm-ups or casual play.

Transportation Demand Management (TDM)

The City of Menlo Park requires all new developments in the R-MU and O zoning districts to reduce their trip generation by 20 percent from standard trip generation rates via TDM strategies. The City has in practice applied the 20 percent reduction after crediting for any trip reductions based on a project's proximity to complimentary land uses, alternative transportation facilities, as well as reductions based on a project's mixed-use characteristics (see Appendix 3.3, Transportation, of this EIR). As implemented by the City, this TDM ordinance is applied to daily trips, AM peak hour trips, and PM peak hour trips.

[12] The ITE *Trip Generation,* 11th Edition was published in September 2021, after this analysis had commenced.

Table 3.3-2. Trip Generation Estimates - Project Buildout (Main Project Site)

Land Use	ITE Land Use Code[1]	Size	Unit	Daily Rate[1]	Daily Total	AM Peak Hour Rate[1]	AM Peak Hour IN	AM Peak Hour OUT	AM Peak Hour Total	PM Peak Hour Rate[1]	PM Peak Hour IN	PM Peak Hour OUT	PM Peak Hour Total
Campus District													
Office	710	6,950	emps	3.28	22,796	0.37	2,135	437	2,572	0.40	556	2,224	2,780
TDM Reductions [2]					*(4,559)*		*(765)*	*(137)*	*(902)*		*(171)*	*(939)*	*(1,110)*
Office Trip Cap [2]					**18,237**		**1,370**	**300**	**1,670**		**385**	**1,285**	**1,670**
Residential/Shopping and Town Square Districts													
Residential	221	1,730	d.u.	5.44	9,411	0.36	162	461	623	0.44	464	297	761
Retail	820	200	ksf	37.75	7,550	0.94	117	71	188	3.81	366	396	762
Hotel	310	193	rooms	8.36	1,613	0.47	54	37	91	0.60	59	57	116
Publicly Accessible Park[3]	488	3	fields	71.33	214	0.99	2	1	3	16.43	32	17	49
Subtotal					18,788		335	570	905		921	767	1,688
TDM Reductions [4]					*(3,762)*		*(67)*	*(112)*	*(179)*		*(245)*	*(206)*	*(451)*
***Residential/Shopping and Town Square* Districts Trips (MU)**					**15,026**		**268**	**458**	**726**		**676**	**561**	**1,237**
Project Trips *after* TDM Reductions (Office + MU)					33,263		1,638	758	2,396		1,061	1,846	2,907
Retail Pass-By Reductions [5]					*(1,026)*		*0*	*0*	*0*		*(92)*	*(96)*	*(188)*
Total New Trips Generated by the Project					**32,237**		**1,638**	**758**	**2,396**		**969**	**1,750**	**2,719**
Existing Trip Generation Credit [6]					(11,700)		(699)	(286)	(985)		(250)	(555)	(805)
Net New Trips Generated on Roadway Network					**20,537**		**939**	**472**	**1,411**		**719**	**1,195**	**1,914**

Notes

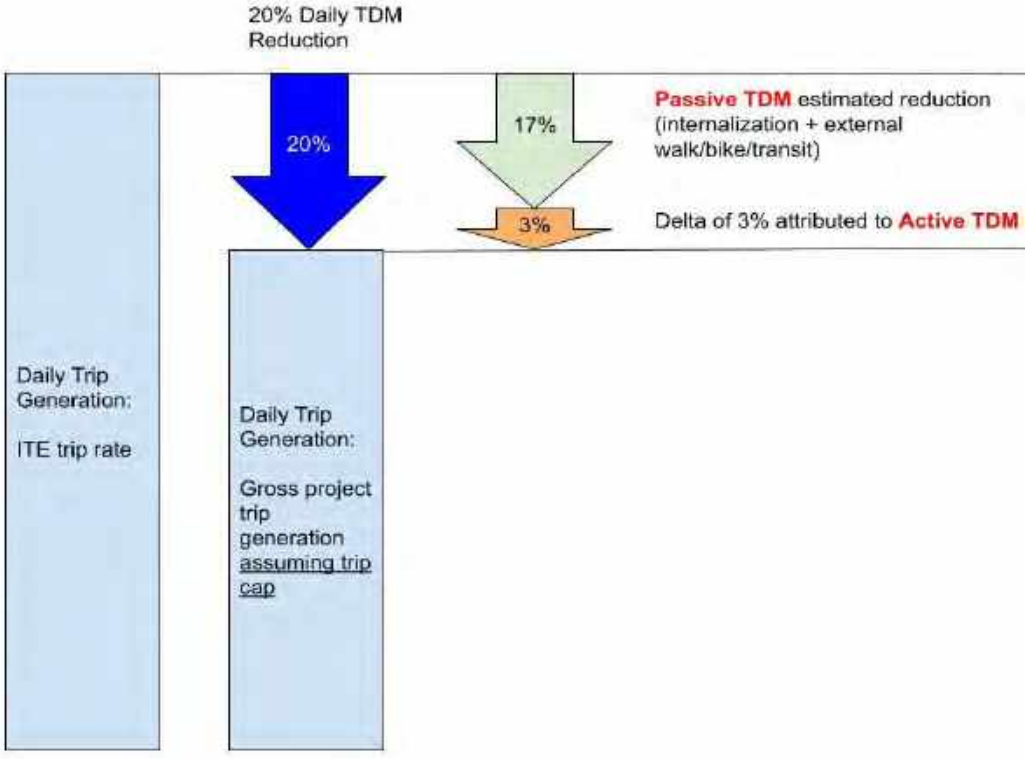
d.u. = dwelling unit, ksf = 1,000 s.f., emps = employees

1. Daily, AM, and PM peak hour average rates published in ITE Trip Generation Manual, 10th Edition, 2017 were used for each land use.
2. Office trip generation and TDM reductions reflect the proposed daily, AM and PM peak hour trip caps.
3. The publicly accessible park is assumed to be programmable. ITE Land Use "Soccer Field" is analyzed as a proxy. Number of soccer fields was estimated based on the size of a standard soccer field. The programmatic design of the park has not been determined. In order to provide a conservative estimate of potential traffic generation, it is assumed that the park will have play structures and open field areas for warm-ups or casual play. The park is planned for approximately 3.5 acres. Number of soccer fields on 3.5 acres of land was estimated based on the size of a standard soccer field.
4. The applicant proposes a TDM plan that achieves 20% trip reduction for the Residential/Shopping and Town Square Districtsfor all daily, AM and PM peak hours. This trip reduction includes reductions due to Project's location efficiency and Project mixed-use characteristics (i.e. internalization).
5. Pass-by trip reduction is based on the average pass-by trip reduction rate published in the ITE Trip Generation Handbook, 3rd Edition. Hexagon assumes no pass-by trip reduction during the AM peak hour and half of the PM peak pass-by reduction for daily trip generation.
6. Existing Use trip estimates based on driveway counts conducted over three days in September 2019 per Facebook Willow Traffic Counts Memorandum, Fehr & Peers, March 26, 2020. 8-9 AM in the AM peak period and 4-5 PM in the PM peak period have been considered as peak hours since they have the highest trips.

Per the Willow Village Adjustment Request: Transportation Demand Management, submitted by the applicant team, the applicant is proposing the following regarding TDM:

- For the Campus District, the applicant proposes a daily trip cap of 18,237 trips, and a trip cap of 1,670 trips during the AM and PM peak hours.
    - The daily trip cap represents a 20 percent reduction from gross ITE trip generation (see Figure 3.3-3).
    - The peak hour trip cap represents a 35-40 percent reduction from gross ITE trip generation.
- For the Residential/Shopping and Town Square Districts, the applicant proposes a 20 percent reduction from gross ITE trip generation for daily, and a 20 percent and 27 percent reduction from gross ITE trip generation during the AM and PM peak hours of commute, respectively.

Figure 3.3-3. Graphical Representation of How the Transportation Analysis Modeled Daily Trip Generation for All Land Uses



Note: the TDM program would achieve a higher reduction, but only a 3% reduction from active TDM measures is needed to achieve a 20% reduction off of gross trip generation estimated using ITE trip generation rates (see discussion above).

TDM Monitoring

The City incorporates monitoring requirements into project conditions. The project's TDM plan is anticipated to be monitored annually to ensure effectiveness of the TDM plan. The details of the TDM monitoring plan will be developed as part of CDP, and will detail frequency and duration of monitoring for each land use, as well as the methodology to conduct monitoring. The monitoring plan will also specify corrective measures if the TDM plan is not achieving its stated effectiveness.

Net Project Trip Generation

The project trip generation assumes the applicant's proposed TDM plans for the Campus District as well as for the Residential/Shopping and Town Square Districts. It should be noted that the trip reductions due to the applicant proposed TDM plans already accounted for trip reductions due to the Proposed Project's location efficiency, as well as internal capture due to the Proposed Project's mixed use nature (see Appendix 3.3, Transportation, of this EIR).

As shown in Table 3.3-2, the proposed project trips generated by the proposed land uses after accounting for the proposed TDM plans at the main Project Site would be 33,263 daily trips, 2,396 AM peak hour trips, and 2,907 PM peak hour trips.

Net project trip generation represents the number of new project trips added to the surrounding roadway network. The following categories of trips are credited from the site-specific trip cap to derive the net project trip generation.

Pass-By

The retail uses would attract some of their customers from people who are passing by the site on Willow Road or Bayfront Expressway heading towards their destination. These customers would not need to make a separate vehicle trip to come to the Project Site. Such vehicle trips are categorized as pass-by trips as they are not new trips generated on the roadway network and should be credited from the project trip generation. A pass-by trip reduction for retail trips was applied based on the average pass-by reduction rate published in the ITE Trip Generation Handbook, 3rd Edition. Pass-by data are typically available only for the PM peak hour. Hexagon assumed no pass-by trip reduction for the AM peak hour and half of the PM peak pass-by trip reduction for daily trip generation.

Existing Uses

Trips associated with the existing uses on the Project Site were credited against the new trip generation. The trips generated by the existing buildings on the site were estimated based on driveway counts conducted over three days in September 2019 per Facebook Willow Traffic Counts Memorandum, Fehr & Peers, March 26, 2020. The existing uses on the site generated an average of 11,700 trips daily, including 985 trips in the AM peak hour (699 inbound and 286 outbound trips), and 805 trips in the PM peak hour (250 inbound and 555 outbound trips).

As shown in Table 3.3-2, the net Proposed Project trips generated by the main Project Site on the roadway network would be 20,537 daily trips, including 1,411 AM peak hour trips (939 inbound trips and 472 outbound trips), and 1,914 PM peak hour trips (719 inbound trips and 1,195 outbound trips). As shown in Table 3.3-3, the net trips generated by the Hamilton Parcels are estimated to be 218 daily trips, including 6 AM peak hour trips (3 inbound trips and 3 outbound trips), and 18 PM peak hour trips (9 inbound trips and 9 outbound trips).[13]

[13] The Hamilton Parcels are located within C-2-S zoning, which does not require implementation of a TDM Plan. Therefore, no TDM reductions were applied.

Table 3.3-3. Trip Generation Estimates - Project Buildout (Hamilton Parcels)

			Daily		AM Peak Hour				PM Peak Hour			
Land Use	**ITE Code[1]**	**Size**	**Rate**	**Trips**	**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
General Retail	820	7.7	37.75	291	0.94	4	3	7	3.81	14	15	29
External Walk, Bike, and Transit[2]		ksf		*(28)*		*(1)*	*0*	*(1)*		*(1)*	*(1)*	*(2)*
Retail Pass-By Reduction (34%)[3]				*(45)*		*0*	*0*	*0*		*(4)*	*(5)*	*(9)*
Net Project Trips on Project Network				**218**		**3**	**3**	**6**		**9**	**9**	**18**

Notes:

ksf = 1,000 square feet

[1]Daily, AM, and PM peak hour average rates published in *ITE Trip Generation Manual, 10th Edition, 2017* were used for each land use.

[2]External walk, bike, and transit reduction developed using *US EPA Mixed Use Trip Generation Model v.4, 2010*.

[3]Pass-by trip reduction is based on the average pass-by trip reduction rate published in the ITE Trip Generation Handbook, 3rd Edition. Hexagon assumes no pass-by trip reduction during the AM peak hour and half of the PM peak pass-by reduction for daily trip generation.

Project Impacts

This section analyzes potential Proposed Project-specific and cumulative impacts to the transportation and circulation network in the study area.

TRA-1. The Proposed Project would not conflict with an applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. (LTS)

This section discusses the Proposed Project's impacts related to conflicts with applicable plans, ordinances, and policies. As discussed in more detail below, for CEQA purposes, the Proposed Project would be consistent with applicable plans, ordinances, and policies that address the circulation system as shown on Table 3.3-4; therefore, impacts would be ***less than significant*** **(LTS).**

Table 3.3-4. Project Compliance with Applicable Transportation-Related Plans, Ordinances, and Policies

Plan/Ordinance/Policy	Proposed Project Consistency
Plan Bay Area 2040 and 2050[14]	***Consistent.*** The Proposed Project would be consistent with the Plan Bay Area 2040 and 2050 goals and performance targets for transportation system effectiveness. Specifically, the Proposed Project would increase non-auto mode share. The Proposed Project is mixed-use and would develop a new office, residential, retail, hotel, and public park, reducing the demand for travel by single occupancy vehicles. The Proposed Project would also develop and implement a TDM plan to provide trip reduction measures and reduce vehicle traffic in and around the Project Site. In addition, the Project area is served by public transit facilities and would provide bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single occupancy vehicles.
C/CAG Congestion Management Program	***Consistent.*** The Proposed Project is evaluated in this section for compliance with the C/CAG CMP roadway LOS and freeway segment capacity standard. As summarized in the TIA, the Proposed Project would contribute to deficiencies in CMP intersections and freeway segments near the Project Site. The Project would pay TIF and fair-share payments to address its contribution to these deficiencies. These are no longer CEQA thresholds and this analysis is provided for informational and planning purposes only. The Proposed Project would generate more than 100 peak-hour trips. Therefore, it is required to implement a TDM Plan, which it has proposed to do as shown in Table 3.3-5 and Table 3.3-6.

[14] Plan Bay Area 2050 was adopted by the MTC and ABAG in October 2021; however, the 2050 plan has been challenged in court. This EIR evaluates both Plan Bay Area 2040 and Plan Bay Area 2050.

Plan/Ordinance/Policy	Proposed Project Consistency
San Mateo County Comprehensive Bicycle and Pedestrian Plan	
Policy 2.6: Serve as a resource to county employers and residents on promotional information and resources related to bicycling and walking.	***Consistent***. The Proposed Project would implement TDM plans for the Campus District and mixed-use components that include measures such as an online kiosk with transportation information, carpool/vanpool matching services, bike storage and lockers, showers/changing rooms, subsidized transit tickets (Caltrain), shuttle program, and preferential carpool parking. As such, the Proposed Project would serve as a resource to employers and residents on promotional information and resources related to bicycling and walking.
Policy 4.1: Comply with the complete streets policy requirements of Caltrans and the Metropolitan Transportation Commission concerning safe and convenient access for bicyclists and pedestrians and assist local implementing agencies in meeting their responsibilities under the policy	***Consistent.*** The Proposed Project would provide safe and convenient access for bicyclists and pedestrians and comply with the complete streets policy requirements of Caltrans and MTC.
City of Menlo Park Circulation Element of the General Plan	
Circ-1.7: Bicycle Safety. Support and improve bicyclist safety through roadway maintenance and design efforts.	***Consistent.*** The Proposed Project would provide safe and convenient access for bicyclists and improve bicyclist safety through design efforts, including provision of secure short- and long-term on-site parking.
Circ-1.8: Pedestrian Safety. Maintain and create a connected network of safe sidewalks and walkways within the public right of way ensure that appropriate facilities, traffic control, and street lighting are provided for pedestrian safety and convenience, including for sensitive populations.	***Consistent.*** The Proposed Project would provide safe and convenient access for pedestrians and improve pedestrian safety through design efforts. Within the Project Site, pedestrian walkways would be incorporated around the buildings to connect the Project Site with the public streets.
Circ-2.1: Accommodating All Modes. Plan, design and construct transportation projects to safely accommodate the needs of pedestrians, bicyclists, transit riders, motorists, people with mobility challenges, and persons of all ages and abilities.	***Consistent.*** The Proposed Project would plan, design, and construct site access and circulation to provide safe and convenient access for pedestrians, bicyclists, transit riders, drivers, people with mobility challenges, and people of all ages and abilities. The Proposed Project includes a subgrade pedestrian, bicycle, and tram connection between the Project Site and the Meta Bayfront Campus known as the Willow Road Tunnel. It also proposes high visibility crosswalks, wider sidewalks, wider medians, increased pedestrian crossing time, curb ramps, bulbouts, bike signals, bikes lanes and protected bike lanes in the vicinity of the Project Site. The Proposed Project also would include an elevated park across Willow Road that would provide pedestrians and bicyclists grade-separated access between the Belle Haven community and the Project site.

Plan/Ordinance/Policy	Proposed Project Consistency
	The Proposed Project would make no change to existing public transit facilities. However, by adding vehicle trips and increasing delay at intersections along bus routes, it would increase bus travel time. Bus services that would be affected in the vicinity of the Project Site include bus routes (DB, M2 Belle Haven Shuttle, M4 Willow Road Shuttle, SamTrans Route 81) along Willow Road, University Avenue, and O'Brien Drive. There are planned intersection improvements on the corridor that would improve intersections and reduce bus delay. However, the bus delay would still be higher than existing conditions. SamTrans and the City of Menlo Park do not have any standards for transit delay.
Circ-2.2: Livable Streets. Ensure that transportation projects preserve and improve the aesthetics of the city.	***Consistent.*** The Proposed Project would plan, design, and construct site improvements that preserve and improve the aesthetics of the Project Site.
Circ-2.7: Walking and Biking. Provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate roadway design and maintenance, effective traffic law enforcement, and implementation of the Transportation Master Plan.	***Consistent.*** The Proposed Project would provide for the safe, efficient, and equitable use of streets by pedestrians and bicyclists through appropriate design and maintenance. The Proposed Project would provide safe and convenient access for bicyclists and improve bicyclist safety through design efforts, including provision of short- and long-term on-site parking. The Proposed Project would provide safe and convenient access for pedestrians and improve pedestrian safety through design efforts. Within the Project Site, pedestrian walkways and bicycle facilities would be incorporated around the main Project Site to connect the Project Site with the public streets.
Circ-2.8: Pedestrian Access at Intersections. Support full pedestrian access across all legs of signalized intersections.	***Consistent.*** The Proposed Project would not introduce features that preclude or interfere with pedestrian access at signalized intersections. The Proposed Project would add high visibility crosswalks, wider sidewalks, wider medians, increased pedestrian crossing time, curb ramps, and bulbouts at intersections along Willow Road.
Circ-2.11: Design of New Development. Require new development to incorporate design that prioritizes safe pedestrian and bicycle travel and accommodates senior citizens, people with mobility challenges, and children.	***Consistent.*** The Proposed Project would plan, design, and construct site access and circulation to provide safe and convenient access for pedestrians, bicyclists, transit riders, drivers, people with mobility challenges, and people of all ages and abilities.
Circ-2.14: Impacts of New Development. Require new development to mitigate its impacts on the safety (e.g., collision rates) and efficiency (e.g., VMT per service population or other efficiency metric) of the circulation system. New development should minimize cut-through and high-speed vehicle traffic on residential streets; minimize the number of vehicle trips; provide appropriate bicycle, pedestrian, and transit connections, amenities and	***Consistent.*** The Proposed Project is evaluated in this EIR for impacts on safety through an assessment of site access and circulation for all modes and for impacts on VMT, as well as emergency response times. As discussed, impacts on VMT would be considered less than significant with mitigation (implementation of a TDM program achieving 19% active TDM trip reduction) for the residential land use, and less than significant for the other land uses (office, retail, and hotel). Impacts on safety would be considered less than significant. The Proposed Project would implement TDM plans to provide trip reduction measures and reduce vehicle traffic in and around the Project Site. The Proposed Project would provide shuttle, bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single occupancy vehicles.

Plan/Ordinance/Policy	Proposed Project Consistency
improvements in proportion with the scale of Proposed Projects; and facilitate appropriate or adequate response times and access for emergency vehicles.	
Circ-3.1: Vehicle Miles Traveled. Support development and transportation improvements that help reduce per service population (or other efficiency metric) vehicle miles traveled.	***Consistent.*** The Proposed Project would be mixed-use and would locate employees near residential and commercial uses, reducing the demand for travel by single occupancy vehicles. The Proposed Project would also develop and implement TDM plans to provide trip reduction measures and reduce vehicle traffic in and around the Project Site. In addition, the Proposed Project would provide shuttle, bicycle and pedestrian facilities, which would also help to reduce the demand for travel by single occupancy vehicles.
Circ-3.2: Greenhouse Gas Emissions. Support development, transportation improvements, and emerging vehicle technology that help reduce per capita (or other efficiency metric) greenhouse gas emissions.	***Consistent.*** The Proposed Project is evaluated for compliance with SB 375 requirements through an analysis of greenhouse gas emissions in Section 4.4, Greenhouse Gas Emissions of this EIR. All impacts related to greenhouse gas emissions would be less than significant.
Circ-3.3: Emerging Transportation Technology. Support efforts to fund emerging technological transportation advancements, including connected and autonomous vehicles, emergency vehicle pre-emption, sharing technology, electric vehicle technology, electric bikes and scooters, and innovative transit options.	***Consistent.*** The Proposed Project would provide electric vehicle charging stations on site.
Circ-3.4: Level of Service. Strive to maintain level of service (LOS) D at all City-controlled signalized intersections during peak hours, except at the intersection of Ravenswood Avenue and Middlefield Road and at intersections along Willow Road from Middlefield Road to US 101. The City shall work with Caltrans to ensure that average stopped delay on local approaches to State-controlled signalized intersections does not exceed LOS E.	***Consistent.*** The Proposed Project is evaluated for compliance with the Level of Service policy. As summarized in the TIA, some intersections surrounding the Project Site would exceed the applicable LOS level under existing, near term, near term plus Project, and cumulative conditions. However, the Project would pay the TIF and fair-share payments and/or construct improvements to address its contribution to these deficiencies. Further, LOS is no longer a CEQA threshold, and this analysis is provided for informational purposes.
Circ-4.1: Global Greenhouse Gas Emissions. Encourage the safer and more widespread use of nearly zero-emission modes, such as walking and biking, and lower emission modes like transit, to reduce greenhouse gas emissions.	***Consistent***. The Proposed Project would develop and implement TDM plans and provide shuttle, bicycle and pedestrian facilities to encourage the safer and more widespread use of nearly zero-emission modes, such as walking and biking, and lower emission modes like transit, to reduce greenhouse gas emissions.

Plan/Ordinance/Policy	Proposed Project Consistency
Circ-4.2: Local Air Pollution. Promote non-motorized transportation to reduce exposure to local air pollution, thereby reducing risks of respiratory diseases, other chronic illnesses, and premature death.	***Consistent.*** The Proposed Project would develop and implement TDM plans and provide bicycle and pedestrian facilities to promote non-motorized transportation to reduce exposure to local air pollution, thereby reducing risks of respiratory diseases, other chronic illnesses, and premature death.
Circ-4.3: Active Transportation. Promote active lifestyles and active transportation, focusing on the role of walking and bicycling, to improve public health and lower obesity.	***Consistent.*** The Proposed Project would develop and implement TDM plans and provide bicycle and pedestrian facilities to promote active lifestyles and active transportation, focusing on the role of walking and bicycling, to improve public health and lower obesity.
Circ-4.4: Safety. Improve traffic safety by reducing speeds and making drivers more aware of other roadway users.	***Consistent.*** The Proposed Project would include multiple bicycle and pedestrian connections. It would include a network of new paths for pedestrian access throughout all three districts, including sidewalks and internal intersection crossings. The pedestrian walkways and bicycle facilities would be incorporated around the Project Site to connect to the public streets and would be constructed to increase visibility of people walking and improve traffic safety. The Proposed Project also would include an elevated park across Willow Road that would provide pedestrians and bicyclists grade-separated access between the Belle Haven community and the Project site.
Circ-5.2: Transit Proximity to Activity Centers. Promote the clustering of as many activities as possible within easy walking distance of transit stops, and locate any new transit stops as close as possible to housing, jobs, shopping areas, open space, and parks.	***Consistent.*** The Proposed Project is mixed-use and would develop a new office, residential, retail, hotel, and public park. It is located within ¼ mile of bus stops servicing the Dumbarton Express Lines, SamTrans Route 81, and Menlo Park Belle Haven and Willow Road shuttles.
Circ 6.3: Shuttle Service. Encourage increased shuttle service between employment centers and Downtown Menlo Park Caltrain Station.	***Consistent.*** The Proposed Project would develop and implement a TDM plan to provide trip reduction measures and encourage the use of public transit. These measures include an online kiosk which will provide information on nearby transit services and subsidized transit tickets.
Circ-6.4: Employers and Schools. Encourage employers and schools to promote walking, bicycling, carpooling, shuttles, and transit use.	***Consistent.*** The Proposed Project would develop and implement TDM plans that include measures encouraging employees to walk, bike, carpool, and use transit.
City of Menlo Park Municipal Code, Sections 16.43.100 and 16.45.090	***Consistent.*** The Proposed Project would develop and implement TDM plans that reduce vehicle trips to at least 20 percent below standard generation rates for uses on the Project Site and include measures such as: an online kiosk with transportation information, carpool services, long-term bicycle parking spaces in secured bike storage rooms, short-term bicycle parking spaces outdoors, subsidized transit tickets, showers and changing rooms, shuttle services, and new sidewalks with street trees along the Proposed Project's internal streets.

Plan/Ordinance/Policy	Proposed Project Consistency
	The City Council will determine whether the Project as proposed is consistent with the Code sections and can be approved as proposed or will require additional TDM.
City of Menlo Park Transportation Master Plan	***Consistent.*** The proposed Project does not include any modifications that would conflict with projects and recommendations identified in the Transportation Master Plan. At locations where the proposed project would cause an intersection to operate in non-compliance with General Plan Policy CIRC-3.4, modifications are identified consistent with recommendations identified in the Transportation Master Plan.
City of Menlo Park Transportation Impact Fee	***Consistent.*** The Proposed Project is subject to the TIF to contribute to the cost of new transportation infrastructure associated with the development.

Table 3.3-5. C/CAG Checklist: Large Non-Residential (Office) (500+ ADT, 50,000+ sq. ft.), Non-Transit Proximate

Category	Measure	Provided by Project (Y/N)	C/CAG Point Value	C/CAG Estimated Trip Reduction
Required TDM Measures (Non-Transit Proximate)				
Parking Management for Ridesharing	Free/Preferential Parking for Carpools	Y	1	1.0%
TDM Management and Admin	TDM Coordinator/Contact Person	Y	1	0.5%
	Actively Participate in Commute.org, or Transportation Management Association (TMA) Equivalent	Y	8	6.5%
	Certified participation in Commute.org, or equivalent program such as TMA	Y [1]	*2*	*4.0%*
	Commute assistance and ride-matching	Y	*4*	*1.0%*
	Guaranteed Ride Home	Y	*1*	*0.5%*
	Orientation, Education, Promotional Programs and/or Materials	Y	*1*	*1.0%*
Shuttles, Transit & Ridesharing	Carpool or Vanpool Program	Y	3	2.0%
	Transit or Ridesharing Passes/Subsidies	Y	8	10.0%
	Pre-Tax Transportation Benefits	Y	3	1.0%
Active Transportation	Secure Bicycle Storage	Y	1	1.0%
	Showers, Lockers, and Changing Rooms for Cyclists	Y	2	2.0%
Site Design Initiatives	Design Streets to Encourage Bike/Ped Access	Y	1	1.0%
Required TDM Measures Total (Non-Transit Proximate)			**28**	**25.0%**

Category	Measure	Provided by Project (Y/N)	C/CAG Point Value	C/CAG Estimated Trip Reduction
Additional TDM Measures (Non-Transit Proximate)				
Employee Programs	Flex Time, Compressed Work Week, Telecommute	Y	5	5.0%
Transit, Shuttles & Ridesharing	Car Share On-Site	Y	3	1.0%
	Land Dedication or Capital Improvements for Transit	Y	6	3.0%
	Bus Pullout Space	Y	*2*	*1.0%*
	Visual/Electrical Improvements (i.e. Lighting, Signage)	Y	*2*	*1.0%*
	Other (i.e. Micromobility Parking Zone, TNC Loading Zone)	Y	*2*	*1.0%*
	Shuttle Program/Shuttle Consortium/Fund Transit Service	Y	5	10.0%
Active Transportation	Bike/Scooter Share On-Site	Y	2	1.0%
	Gap Closure	Y	5	7.0%
Site Design Initiatives	Bike Repair Station	Y	1	0.5%
	Pedestrian Oriented Uses & Amenities on Ground Floor	Y	4	3.0%
Additional TDM Measures Total (Non-Transit Proximate)			**31**	**30.5%**
Required & Additional TDM Measures Total			**59**	**55.5%**
C/CAG Trip Reduction Target				**35%**

Notes:

1. A TDM coordinator will provide the TDM services for the office and accessory uses within the Campus District. This includes providing commute assistance and ride-matching, providing Guaranteed Ride Home, and supplying orientation, education, and promotional programs and/or materials.

Table 3.3-6. C/CAG Checklist: Large Residential (500+ ADT, 50+ units), Non-Transit Proximate

Category	Measure	Provided by Project (Y/N)	C/CAG Point Value	C/CAG Estimated Trip Reduction
Required TDM Measures (Non-Transit Proximate)				
Parking Management for Ridesharing	Free/Preferential Parking for Carpools	Y	1	1.0%
TDM Management and Admin	TDM Coordinator/Contact Person	Y	1	0.5%
	Actively Participate in Commute.org, or Transportation Management Association (TMA) Equivalent	Y	6	5.0%
	Certified participation in Commute.org, or equivalent program such as TMA	Y	*2*	*4.0%*
	Commute assistance and ride-matching	Y	*4*	*1.0%*
Shuttles, Transit & Ridesharing	Transit or Ridesharing Passes/Subsidies	Y	8	10.0%
Active Transportation	Secure Bicycle Storage	Y	1	1.0%
Site Design Initiatives	Design Streets to Encourage Bike/Ped Access	Y	1	1.0%
Required TDM Measures Total (Non-Transit Proximate)			**18**	**18.5%**
Additional TDM Measures (Non-Transit Proximate)				
Employee Programs	Delivery Amenities	Y	1	1.0%
Transit, Shuttles & Ridesharing	Car Share On-Site	Y	3	1.0%
	Land Dedication or Capital Improvements for Transit	Y	6	3.0%
	Bus Pullout Space	Y	*2*	*1.0%*
	Visual/Electrical Improvements (i.e. Lighting, Signage)	Y	*2*	*1.0%*
	Other (i.e. Micromobility Parking Zone, TNC Loading Zone)	Y	*2*	*1.0%*
Active Transportation	Bike/Scooter Share On-Site	Y	2	1.0%
	Gap Closure	Y	5	7.0%
Site Design Initiatives	Bike Repair Station	Y	1	0.5%
	Pedestrian Oriented Uses & Amenities on Ground Floor	Y	4	3.0%
Additional TDM Measures Total (Non-Transit Proximate)			**22**	**16.5%**
Required & Additional TDM Measures Total			**40**	**35.0%**
C/CAG Trip Reduction Target				**35%**

As part of the City's entitlement process, the Proposed Project would be required to comply with existing regulations, including General Plan policies and Zoning Ordinance regulations. The Proposed Project would be reviewed in accordance with the City's Public Works Department Transportation Program standards and guidelines, and the department would provide oversight engineering review to ensure that the Proposed Project is constructed according to City specifications.

The Proposed Project would provide adequate bicycle and pedestrian infrastructure and would represent an overall improvement to bicycle and pedestrian access and circulation. Within the Project Site, pedestrian walkways and bicycle facilities would be incorporated.

The Proposed Project would promote bicycle use by providing long-term and short-term bicycle parking spaces and showers/changing rooms. The Proposed Project would meet the Zoning Ordinance requirements for vehicle and bicycle parking and implement transportation demand management measures in an effort to reduce project-generated vehicle trips and encourage travel by other modes.

The proposed amendment to the ConnectMenlo Circulation Element merely allows for updates to the Proposed Project's site-specific circulation plan. The amendment would establish locations for new street connections to the surrounding roadway network, as well as the locations of public rights-of-way and the proposed multi-use pathway (in lieu of the paseo from the adopted Zoning Map) within the main Project Site. With the amendment to the Circulation Element, the Proposed Project will encourage alternative forms of transportation, including walking and biking, by providing internal public rights of way and a multi-use pathway that connect residential units with office uses. For these reasons, the Proposed Project would be consistent for CEQA purposes with applicable plans, ordinances, and policies addressing the circulation system and this impact would be ***less than significant*** **(LTS)**.

TRA-2. The Proposed Project would exceed an applicable VMT threshold of significance. (LTS/M)

This section discusses the Proposed Project's impacts related to VMT. As discussed in more detail below, implementation of the Proposed Project as modeled for the transportation analysis (i.e., assuming only 3 percent active TDM) would exceed the applicable residential VMT threshold of significance. Implementation of a TDM program as discussed below would fully mitigate the impact. This impact would be less than significant with mitigation (LTS/M)**.**

Per the City of Menlo Park VMT guidelines adopted in July 2020 and updated in January 2022, mixed-use projects will have each component analyzed independently against the appropriate thresholds. The Project proposes office, residential, hotel and retail land uses. OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* recommends that VMT analysis for a mixed-use project should account for internal capture. Internal capture is defined as walking, bicycling, and tram trips between the various types of land use within the Project. By reducing external vehicle trips, internal capture reduces VMT for a mixed-use project in comparison to single-use developments. The project proposes office, residential, hotel and retail land uses. Each of the Project's land uses' VMT threshold of significance is listed below:

- An office project is considered to have a significant impact on VMT if the project's VMT exceeds a threshold of 15 percent below the regional average VMT per employee.
- A residential project is considered to have a significant impact on VMT if the project's VMT exceeds a threshold of 15 percent below the regional average VMT per capita.
- Hotel and retail projects are considered to have a significant impact on VMT if the project results in a net increase in total City VMT.

It should be noted that the City's VMT guidelines exempt local serving retail projects (defined as 50,000 square feet or less) from carrying out a VMT analysis. However, this project exceeds that size.[15]

VMT Evaluation Methodology

Travel Demand Model

Project VMT is defined as the total distance traveled by vehicles traveling to and from the Proposed Project over a typical day. In order to estimate VMT for the various land use components, the citywide travel demand forecast model was used. The citywide model is the best available model to represent travel within the City of Menlo Park, and serves as the primary forecasting tool for the City. The model is a mathematical representation of travel within the nine Bay Area counties, as well as the Santa Cruz, San Benito, Monterey and San Joaquin counties. The base model structure was developed by the Metropolitan Transportation Commission (MTC) and further refined by the City/County Association of Governments and Santa Clara Valley Transportation Authority for use within San Mateo County and Santa Clara County. The City further refined this model for application with Menlo Park to add more detail to the zone structure and transportation network. The model has a base year of year 2019 (see Appendix 3.3, Transportation, of this EIR for the model's calibration and validation memo).

There are four main components of the model: 1) trip generation, 2) trip distribution, 3) mode choice, and 4) trip assignment. The model uses socioeconomic inputs (i.e., population, income, employment) aggregated into geographic areas, called transportation analysis zones (TAZ) to estimate travel within the model area. There are 80 TAZs within the model to represent the City of Menlo Park. The model was used to estimate the Proposed Project's effect on VMT in accordance with the City's VMT guidelines.

VMT Evaluation

The most readily available long-range forecast year is the year-2040 conditions, which assumes the buildout of the City of Menlo Park General Plan and any pending General Plan Amendments, the buildout of the pending developments in the City of East Palo Alto (as of December 2020), and regional growth projected by the Association of Bay Area Governments (ABAG), modified by VTA/C/CAG for model land use inputs. Therefore, the project's VMT analysis was conducted under year-2040 conditions.

Office and Residential

According to the City's VMT guidelines, office land use is evaluated based on a daily VMT per employee metric. Using the model, this metric is calculated only for home-based work trips, per OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA. Based on the latest citywide travel demand model, the regional average office VMT is 15.9 per employee. Therefore, City's office VMT impact threshold, at 15% below regional average, would be 13.6 daily VMT per employee.

According to City VMT guidelines, the evaluation of residential land use is based on a daily VMT per capita metric. Using the model, this metric is calculated only for home-based trips, per OPR's technical advisory. Based on the latest citywide travel demand model, regional average residential VMT is 13.1 per capita. Therefore, the City's residential VMT impact threshold, at 15% below regional average, would be 11.2 daily VMT per capita.

[15] The VMT for the main Project Site was evaluated. The reconstruction of the service station would not increase VMT, and the modest increase in retail square footage at Hamilton Avenue Parcel North would be operated as a separate project and would be substantially below the City's threshold. Therefore, VMT was not studied for the reconstruction of the service station and the potential increase in square footage at Hamilton Parcel North.

Office and residential land uses were evaluated using the city-wide model. For the Campus District, the applicant proposed a daily trip cap of 18,237 trips, which would be 20% below the gross ITE trip generation estimate. The model was adjusted to account for the proposed trip cap. As shown in Table 3.3-7, the project's Campus District land use would generate VMT at the City's VMT impact threshold and would thus not have a VMT impact.

Table 3.3-7. Office and Residential VMT Analysis Summary

Land Use	Regional Average	VMT Threshold	Project VMT	VMT Impact	Additional TDM Mitigation needed to eliminate VMT impact
Office[1]	15.9	13.6	13.6	No	-
Residential[2]	13.1	11.2	13.3	Yes	16%

Notes:
All data referenced the latest Menlo Park citywide travel demand forecasting model.
[1]VMT for office land uses is reported in VMT per employee
[2] VMT for residential land uses is reported in VMT per capita

For the residential land use, trip generation was adjusted to account for the Project's expected 2.03 people per unit compared to the ITE average of 2.46 people per unit. The VMT analysis also accounted for the applicant proposed TDM Plan for the mixed-use district. The TDM Plan proposed a 20% trip reduction from gross ITE trip generation through a combination of passive TDM measures and active TDM measures. Passive TDM measures include the project's proximity to complementary land uses, proximity to alternative transportation infrastructure, and the project's mixed-use nature. As discussed in Appendix 3.3, Transportation, of this EIR, it is estimated that the passive TDM measures would achieve a 17% trip reduction from the gross ITE trip generation. Active TDM measures include TDM programs to be implemented to further promote alternative modes of travel. These TDM measures generally include providing transit, biking, and carpooling information to residents, assisting in ride-matching programs for residents, and could also include transit subsidies and other measures. To represent the applicant proposed 20% trip reduction goal and given that passive TDM measures are assumed to achieve a 17% trip reduction, the balance of 3% (20%-17%) trip reduction due to active TDM measures was assumed for the VMT analysis.

The Project's residential land use would require a 16% reduction in VMT to mitigate the significant VMT impact. The VMT analysis, as discussed above, already assumed 3% trip reduction due to active TDM measures. Therefore, mitigation of the VMT impact would require implementing a TDM Plan for the residential component that achieves at least 19% (3% + 16%) trip reduction via active TDM measures (see Figure 3.3-3 above) or increases the effectiveness of passive TDM measures. According to the Project's proposed TDM Plan dated July 2021 and attached in Appendix 3.3, Transportation, of this EIR, the proposed active TDM measures for the residential component could achieve at least a 19% reduction in trips, with an estimated reduction between 11% and 36%[16]. This range represents the potential low to high range of effectiveness of the proposed TDM measures, as calculated by research data from the California Air Pollution Control Officers Association (CAPCOA). This range depends on how each TDM measure is eventually implemented. Therefore, it is feasible for the Project to mitigate its residential VMT impact by implementing its proposed TDM Plan.

[16] Willow Village TDM Plan. Prepared for Peninsula Innovation Partners. Fehr & Peers, Inc. July 2021

The Proposed Project would exceed the applicable VMT threshold of significance for the residential land use. As shown in Table 3.3-7, the Proposed Project's residential land use VMT is estimated to be 13.3 daily miles per capita, which would exceed the VMT threshold and result in a VMT impact. The mitigation measure TRA-2 identified below would fully mitigate this impact.

Mitigation Measure TRA-2: The residential land use of the Project Site will be required to implement a TDM Plan achieving a 36% reduction from gross ITE trip generation rates (for the Proposed Project, this reduction equals 6,023 daily trips). Should a different number of residential units be built, the total daily trips will be adjusted accordingly. The required residential TDM Plan will include annual monitoring and reporting requirements on the effectiveness of the TDM program. The Project applicant submitted a draft residential TDM Plan, which contained specific measures that would meet this trip reduction requirement. The draft TDM Plan is subject to City review and approval . If the annual monitoring finds that the TDM reduction is not met, the TDM coordinator will be required to work with City staff to detail next steps to achieve the TDM reduction. With the implementation of the required residential TDM Plan, the residential VMT impact would be **less than significant with mitigation (LTS/M)**.

Hotel

Hotel land uses are not explicitly represented in the model. Therefore, the hotel rooms and jobs expected for the Proposed Project are accounted for separately. Hotel employees are represented in the model by service employees. To reflect trips by hotel patrons, residential land use was used as a proxy, as it most closely resembles the behavior pattern of a hotel guest. Trip making characteristics for these proxy residential land uses were restricted to offices and restaurants/shops to mimic patron activities at a typical business hotel (home-based work and home-based shopping trips). Other types of trip-making typical to an actual home such as school trips generally are not applicable to hotel guests. Given the model would only explicitly represent hotel employee VMT without this adjustment, this proxy evaluation provides a conservative analysis as it attributes more VMT (hotel guest VMT) to the Proposed Project. This methodology is undertaken only for VMT purposes.

Project Study Area

Based on consultation with the City and applicant, the hotel is expected to have a service area of approximately three (3) miles in radius. This means that most of the destinations of hotel patrons are expected to be within three miles of the hotel. While some trips are expected to be longer than three miles, the majority of the change in VMT is expected to occur within this three-mile radius. The evaluated daily VMT includes the entire length of the trip even when it extends beyond the three-mile radius.

Scenario Evaluation

The hotel VMT analysis was conducted using the City's transportation model. To evaluate the effect of the hotel component on total daily VMT, the analysis compared two scenarios: 1) with project, and 2) with project without the hotel component (or the "no hotel" scenario).

It was assumed that new hotels would not increase trips overall but would reorient existing trips. Therefore, when hotel trips were added in one zone, they must be subtracted from other zones. This process was represented in the model by redistribution of the hotel attractions from nearby existing hotels. Eleven comparable hotels were found within the area for this redistribution effort (see Figure 3.3-4, Locations of Comparable Hotel Land Use). The proposed hotel would be located within very close proximity to major employment in the Bayfront area, such that hotel patrons may enjoy shorter travel distances to their business destinations. Its location within a mixed-use project, including complementary retail space, also would allow hotel patrons to shop/dine within walking distance.

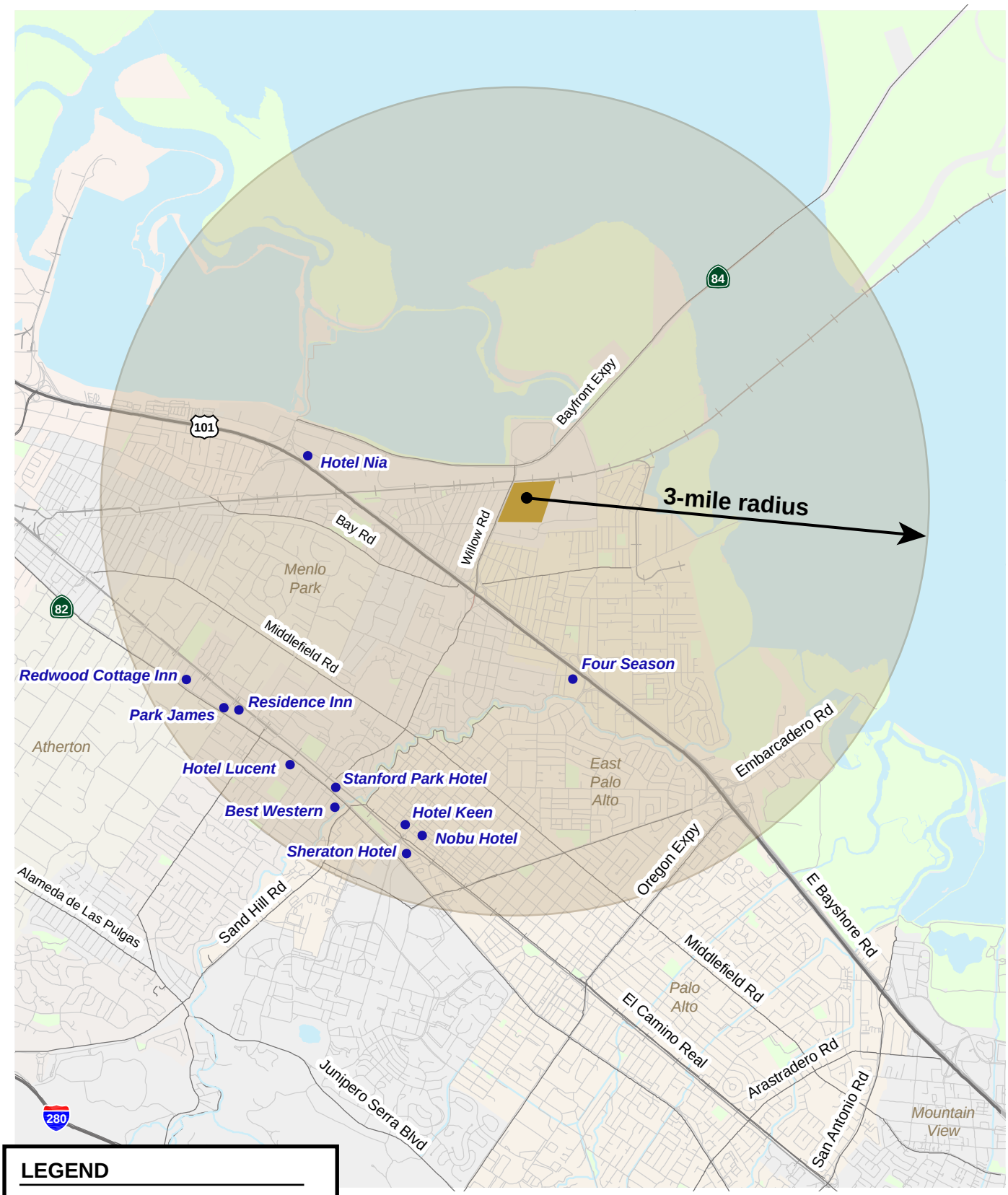


Figure 3.3-4
Locations of Comparable Hotel Land Use

Service employees were coded in the model under "no hotel" conditions for the zones representing the eleven existing hotels. Under the "with-project" model run, service employees at these zones were shifted to the project zone. According to the project applicant, the hotel would have 210 employees. Thus, approximately 19 service employees were shifted from each of the existing zones to the project zone under the "with-project" model run.

The zones representing the eleven existing hotels do not include any residential land use as a proxy for hotel patrons under the "no hotel" scenario. Thus, residential dwelling units were first added to these zones under the "no hotel" model run, so that under the "with-project" model run, shifting these residential land uses to the project zone would still maintain the same model-wide total land uses. Approximately 270 households were needed at the project zone in addition to the 210 service employees under the "with-project" model run for the model to compute trip generation roughly equivalent to the daily trip generation estimated for the hotel component based on ITE rates. Therefore, under the "no hotel" model run, 270 households were evenly distributed to the eleven zones with existing hotels. It should be noted that the project's proposed TDM plan is accounted for in the daily trip generation estimates.

VMT Evaluation

The total daily VMT generated by land uses within a three-mile radius was compared under the "no hotel" and "with project" scenarios. As shown in Table 3.3-8, the proposed hotel component of the project was shown to slightly reduce the total daily VMT generated by land uses within a three-mile radius of the Project Site. Since the proposed hotel would be located within very close proximity to major employment in the Bayfront area, hotel patrons would enjoy shorter travel distances to their business destinations. It's location within a mixed-use project, including complementary retail space, also would allow hotel patrons to shop/dine within walking distance.

Table 3.3-8. Hotel VMT Analysis Summary

	3-Mile Radius Area of Project Site		
	No Hotel Conditions[2]	**With Project Conditions[2]**	**%Change**
Total Daily VMT[1]	6,656,914	6,629,443	-0.4%

Notes:

[1]Total daily VMT includes VMT generated by all trips having at least one-trip-end in the analysis area, as estimated by the citywide travel demand model.
[2]"No hotel conditions" represent conditions with the Proposed Project except the hotel component. "With project conditions" represent conditions with the Proposed Project including the hotel component.

Because the proposed hotel component of the Project would not cause an increase in total VMT generated within the analysis area, it is concluded that the proposed hotel component of the Project would have a less than significant impact on vehicle miles travelled.

Retail

The project has two areas of retail development. The main Project Site includes up to 200,000 s.f. of retail space within a mixed use development. North of Willow Road, as a result of the proposed Hamilton Avenue realignment, the two retail parcels adjacent to Hamilton Avenue at the intersection with Willow Road ("Hamilton Avenue Parcels") would be reconfigured. The Project proposes to increase the total retail square footage at the Hamilton Avenue parcels by up to 7,700 s.f. to approximately 23,400 s.f. Because the retail at the Hamilton Avenue Parcels will require a separate use permit and would be operated as a separate retail use from the retail uses at the main Project Site, the Hamilton Avenue Parcels retail is evaluated separately from the retail component of the main Project Site. According to the City's VMT policy, local serving retail (defined as having total square footage less than 50,000 s.f.) would be exempt from a VMT analysis. The Project's proposed net 7,700 s.f. of potential retail development at the Hamilton Avenue Parcels would thus be exempt from VMT analysis. The discussion below is focused on the 200,000 s.f. of retail space at the main Project Site.

Project Study Area

Based on the types of retail being proposed as well as nearby comparable retail stores, it is expected that the proposed retail would have a service area of approximately five (5) miles in radius. The 5-mile radius service area was selected based on engineering judgement, as it would cover most of Menlo Park, Palo Alto, as well as downtown Redwood City, and would include a mix of retail shops and restaurants comparable to the three cities. Assuming equal services, it is expected that people would patronize the closer store or restaurant. The five-mile radius service area also means that most of the destinations of the Project's retail patrons are expected to be within five miles of the project. While some trips are expected to be longer than five miles, the majority of the change in VMT is expected to occur within this five-mile radius.

Scenario Evaluation

The retail VMT analysis was conducted using the City's transportation model. To evaluate the effect of the retail component on total daily VMT, the analysis compared two scenarios: 1) with project, and 2) with project without the retail component (or the "no retail" scenario).

Similar to the hotel evaluation methodology discussed above, retail employees were redistributed from existing retail locations for the purpose of the VMT analysis. Six (6) comparable retail sites were found within the area for this redistribution effort (see Figure 3.3-5, Locations of Comparable Retail Land Use).

Retail employees were coded in the model under "no retail" conditions for the zones representing the six existing retail sites. Under the "with-project" model run, retail employees at these zones were shifted to the project zone. The retail land use is expected to generate 571 employees based on the City's default retail employees-per-square-foot conversion rate (1 employee per 350 square feet). Retail employees were shifted from each of the existing zones to the project zone under the "with-project" model run. The number of retail employees shifted from each existing zone was proportionally based on each zone's existing retail employment size (see Figure 3.3-6, Retail Employment Shifts for VMT Analysis).

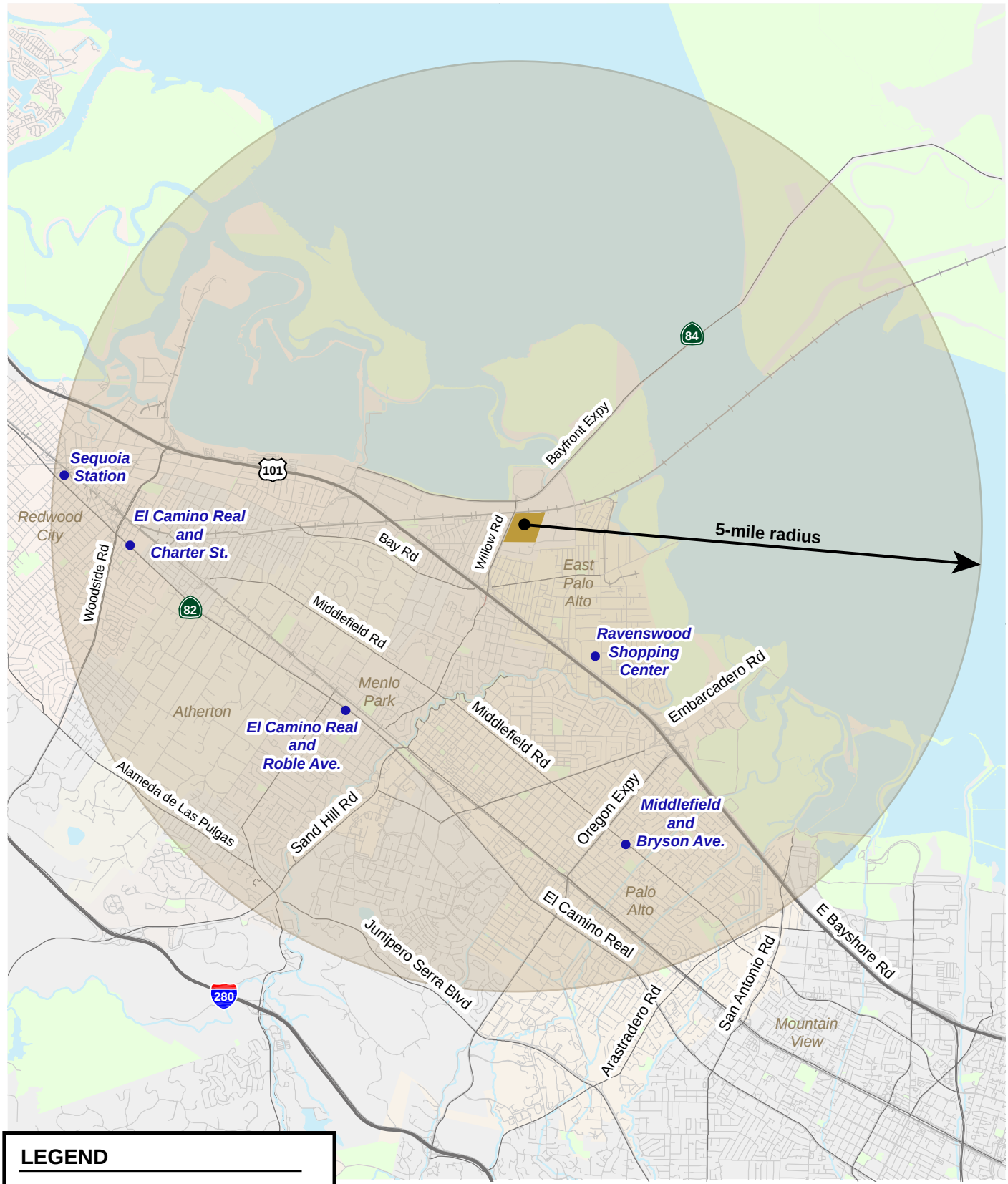


Figure 3.3-5
Locations of Comparable Retail Land Use

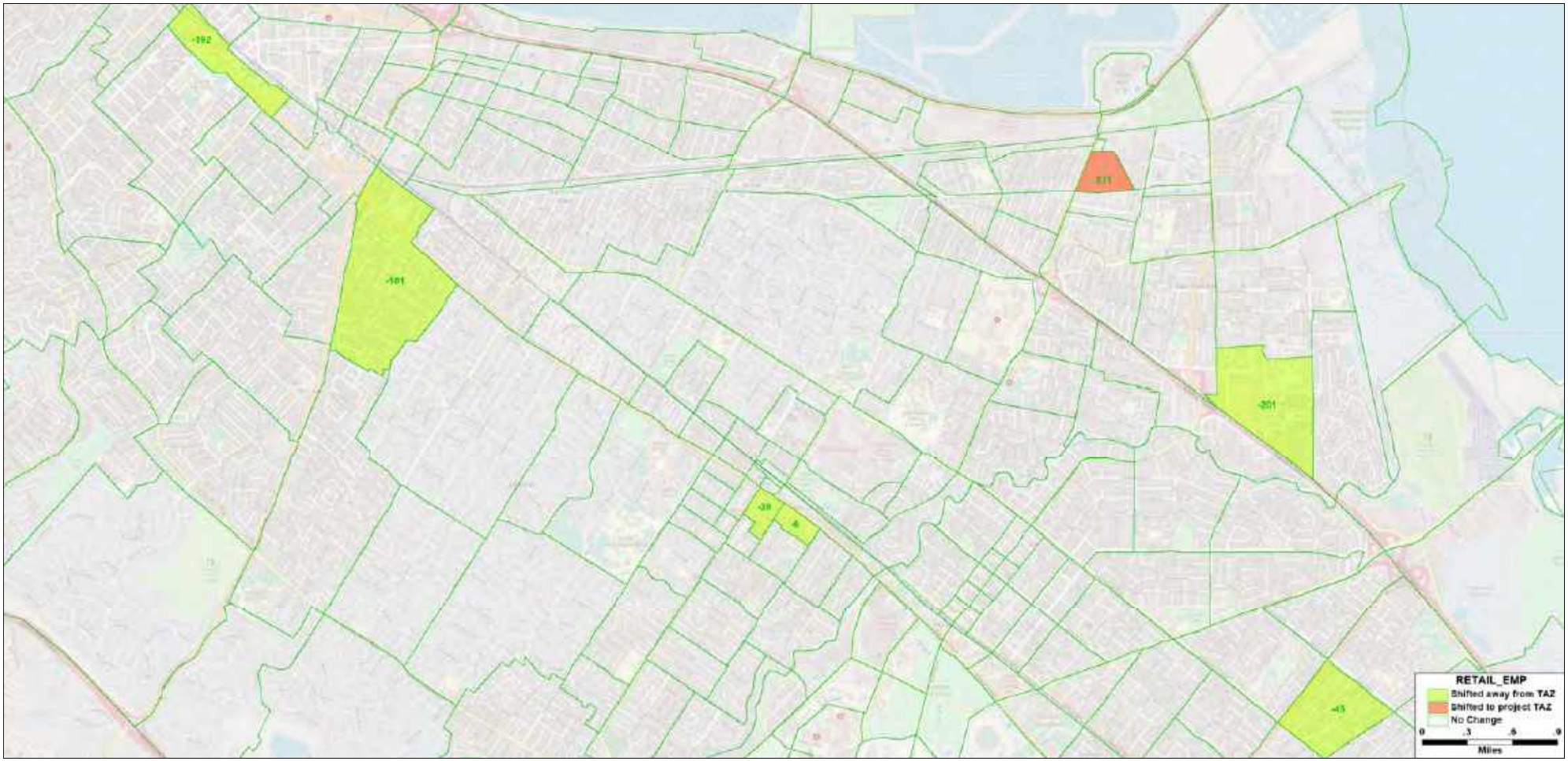


Figure 3.3-6
Retail Employment Shifts for VMT Analysis

VMT Evaluation

The total daily VMT generated by land uses within a five-mile radius was compared under the "no retail" and "with project" scenarios. As shown in Table 3.3-9, the proposed retail component of the project was shown to slightly reduce the total daily VMT generated by land uses within a five-mile radius of the Project Site. Since the proposed retail space would be located in close proximity to the Belle Haven neighborhood, a large number of offices and life sciences buildings in the Bayfront area, as well as the project's proposed residential land uses, the proposed retail component would provide retail stores closer to homes for nearby residents and closer to jobs for nearby workers.

Because the proposed retail component of the Project would not cause an increase in total VMT generated by the analysis area, it is concluded that the proposed retail component of the Project would have a less than significant impact on vehicle miles travelled.

Table 3.3-9. Retail VMT Analysis Summary

	5-Mile Radius Area of Project Site		
	No Retail Conditions[2]	**With Project Conditions[2]**	**%Change**
Total Daily VMT[1]	14,360,590	14,334,067	-0.2%

Notes:
[1]Total daily VMT includes VMT generated by all trips having at least one-trip-end in the analysis area, as estimated by the citywide travel demand model.
[2]"No retail conditions" represent with the Proposed Project except the retail component. "With project conditions" represent with the Proposed Project, including the retail component.

Event VMT

The Campus District would consist of up to 1.6 million square feet of space for office and accessory uses, consisting of up to 1.25 million sf of office uses and the balance (350,000 sf if office uses were maximized) of accessory uses[17]. In addition to serving as a gathering space for the surrounding campuses, the applicant proposes to host approximately 55 events per year, that would attract majority non-Menlo Park Meta workers and/or guests. Ten of these events are envisioned as large-sized events with attendance varying between 2,500 and 5,000 people. 15 of these events are envisioned as medium-sized events with attendance varying between 1,000 and 2,500 people. The remaining 30 events would be small-sized events with attendance lower than 1,000 people. It is anticipated that the small-sized events would generate a minimal number of trips that would not exceed the proposed Campus District trip cap. The Project is proposing an allowance of up to 25 exceptions to the trip cap for days when there are medium-size or large-size events. Due to the limited number of events that would exceed the proposed trip cap, it is deemed that such events are not typical conditions and do not require a VMT analysis for CEQA purposes. This impact would be ***less than significant***.

[17] Accessory uses could include the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitor center, product demonstration areas, film studio, gathering terraces and private gardens, and space for other Meta accessory uses. Accessory uses could occur in spaces located anywhere throughout the Campus District.

While some of these events could potentially generate substantial traffic that could affect intersection operations in the Project area, specific event details are not known. While congestion is not a CEQA impact, the Project would be required, as a condition of Project approval, to submit event traffic plans for large events for City approval to demonstrate measures that would be taken to minimize the events' effect on roadway traffic conditions.

TRA-3. The Proposed Project would substantially increase hazards due to a design feature or incompatible uses. (LTS/M)

This section discusses the potential of the Proposed Project to substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g farm equipment). As described below, the Proposed Project includes a design feature that could increase hazards. The mitigation measure discussed below would fully mitigate this impact. Therefore, the impact would be ***less than significant with mitigation (LTS/M)*.**

For purposes of CEQA, hazards refer to engineering aspects of a project (e.g., speed, turning movements, complex designs, substantial distance between street crossings, sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. This analysis focuses on hazards that could reasonably stem from the project itself, beyond collisions that may result from non-engineering aspects or the transportation system as a whole. Therefore, the methodology qualitatively addresses the potential for the project to exacerbate an existing or create a new potentially hazardous condition to people walking, bicycling, or driving, or for public transit operations. The Proposed Project would reconfigure the intersection of Willow Road and Hamilton Avenue, would add a new intersection – Willow Road and Park Street, and would add a new roundabout on O'Brien Drive, which would provide access to the Project Site. The Proposed Project would add high visibility crosswalks, wider sidewalks, wider medians, increased pedestrian crossing time, and curb ramps at intersections along Willow Road. The Proposed Project would provide adequate bicycle and pedestrian infrastructure and would represent an overall improvement to bicycle and pedestrian access and circulation. The Proposed Project would not generate activities that would create potentially hazardous conditions for people walking, bicycling, or driving, or for public transit operations. Additionally, as with current practice, the Proposed Project would be designed and reviewed in accordance with the City's Public Works Department Transportation Program and the department would provide oversight engineering review to ensure that the project is constructed according to City specifications.

The proposed project includes a design feature that could increase hazards. While the driveway designs generally comply with applicable standards and would not present hazards, the Project's proposed eastern driveway at the "North Garage" would be directly adjacent to a sharp roadway curve. The roadway curve would restrict sight distance to approximately 50 feet, which would provide inadequate sight distance for vehicles exiting the garage (See Appendix 3.3, Transportation, of this EIR).

Mitigation Measure TRA-3: Revise the North Garage access design to provide adequate sight distance for the eastern driveway or incorporate other design solutions to reduce hazards to the satisfaction of the Public Works Director. Potential solutions that would reduce hazards to a less than significant level include restricting the eastern driveway to inbound vehicles only or prohibiting exiting left turns, modifying landscaping or relocating the driveway to the west to allow for adequate sight distance for exiting vehicles, or installing an all-way stop or signal. With one of these improvements, as approved by the Public Works Director, this potentially significant impact would be **less than significant with mitigation (LTS/M)**.

TRA-4. The Proposed Project would not result in inadequate emergency access. (LTS)

This section discusses the potential of the Proposed Project to result in inadequate emergency access. As described below, the project would not result in inadequate emergency access. This impact **is less than significant (LTS)**. Emergency access to the Project Site and nearby hospitals would be similar to existing conditions. Menlo Park Fire District Station 77 is located on Chilco Street, approximately 1 mile north of the Project Site. Although there would be a general increase in vehicle traffic from the Proposed Project, the Proposed Project would not inhibit emergency access to the Project Site or materially affect emergency vehicle response out of the station. Development of the Project Site, and associated increases in vehicles, pedestrians, and bicycle travel would not substantially affect emergency vehicle response times or access to other buildings or land uses in the area or to hospitals. The Proposed Project would be designed and built according to local Fire District standards and State Building Code standards, and building and site plans would be reviewed by City Planning, Engineering and Building Departments as well as the Menlo Park Fire Protection District for compliance with the Zoning and Building Code and Engineering Standards, and the Fire Code further ensuring that emergency access by fire or emergency services personnel would not be impaired.

Emergency response vehicles would access the Project Site from the intersections on Willow Road, O'Brien Drive, and Adams Court and would use the internal roadway network. Emergency response vehicles would access the Campus District buildings via Emergency Vehicle Access Easements along the perimeter and through the secure Campus District.

The project proposes five primary loading docks at three buildings in the Campus District. Deliveries for other buildings in the Campus District would use on-street loading zones or the loading docks at other buildings. A grocery loading bay would be located within the parking garage of building RS2 (See Appendix 3.3, Transportation, of this EIR). Trucks would enter the garage via Willow Road, back into the diagonal loading bay near the grocery store and exit the garage via West Street. Rideshare and other delivery vehicles would use the provided on-street parking and loading spaces (Appendix 3.3, Transportation, of this EIR). The on-street parking and loading spaces would be located throughout the interior of the Project Site and would not be expected to create queuing issues onto Willow Road.

In addition to serving as a gather space for the surrounding campuses, the applicant proposes to host approximately 55 events per year, with a majority of non-Menlo Park Meta workers and/or guests. Ten of these events are envisioned as large-sized events with attendance varying between 2,500 and 5,000 people. 15 of these events are envisioned as medium-sized events with attendance varying between 1,000 and 2,500 people. The remaining 30 events would be small-sized events with attendance lower than 1,000 people. It is anticipated that the small-sized events would generate a minimal number of trips that would not exceed the proposed Campus District trip cap. The Project is proposing an allowance of up to 25 exceptions to the trip cap for days when there are medium-size or large-size events. The Project would be required, as a condition of Project approval, to submit event traffic plans for large events for City approval to demonstrate measures that would be taken to minimize the events' effect on roadway traffic conditions and ensure adequate emergency vehicle access.

For these reasons, the Proposed Project would have a **less than significant (LTS)** impact with respect to emergency access or circulation.

Cumulative Impacts

This section discusses potential cumulative impacts to the transportation and circulation network in the study area. As summarized in this section, the Proposed Project, in combination with cumulative projects, would have a **less than significant (LTS) impact** with respect to conflicts with applicable plans hazards, and

emergency access. The residential land uses of the Proposed Project would exceed the applicable residential vehicle miles travelled threshold. The residential land uses would implement TDM measures to mitigate its individual impact to **less than significant (LTS/M)** and would be consistent with Connect Menlo.

Conflicts with Applicable Plans, Ordinances, or Policies

Future development would be required to comply with existing regulations, including General Plan policies and zoning regulations that have been prepared to minimize impacts related to transportation and circulation. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the City to annually update the Capital Improvement Program to reflect City and community priorities for physical projects related to transportation for all travel modes and bi-annually update data regarding travel patterns for all modes to measure circulation system efficiency (e.g., VMT per capita, traffic volumes) and safety (e.g., collision rates) standards, amongst others as listed above. Furthermore, implementation of zoning regulations would support adequate facilities and access to transportation and future development would be consistent with the City's Transportation Master Plan. For these reasons, the Proposed Project, in combination with cumulative projects, would have a **less than significant (LTS)** cumulative impact with respect to conflicting with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

Vehicle Miles Traveled

Consistent with OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA[18], a project's cumulative impacts are based on an assessment of whether the "incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects". A project that falls below an efficiency-based threshold that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. An efficiency-based threshold applies only to the Proposed Project without regard to the VMT generated by the previously existing land use. Efficiency metrics cannot be summed because they employ a denominator.

The Proposed Project would be consistent with the development assumptions included in ConnectMenlo. Implementation of the land use and transportation changes described in ConnectMenlo would create a built environment that supports a live/work/play environment with increased density and diversity of uses and a street network that supports safe and sustainable travel, and is expected to reduce VMT per capita and VMT per employee within the study area where the Project Site is located. Consistent with the findings of the ConnectMenlo Final EIR, the Proposed Project, in combination with cumulative projects, would have a **less-than-significant (LTS/M)** cumulative impact with mitigation with respect to VMT.

Hazards or Incompatible Uses

Overall, cumulative land use development and transportation projects would promote accessibility for people walking to and through the site by conforming to General Plan policies and zoning regulations, and by adhering to planning principles that emphasize providing convenient connections and safe routes for people walking, bicycling, driving, and taking transit. Additionally, as with current practice, projects would be designed and reviewed in accordance with the City's Public Works Department Transportation Program and the department would provide oversight engineering review to ensure that the project is constructed according to City specifications.

[18] OPR. 2018, op. cit.

Assuming implementation of Mitigation Measure TRA-3, this Project, in combination with cumulative projects, consistent with the findings of the ConnectMenlo Final EIR, would have a **less-than-significant (LTS)** cumulative impact with respect to hazards or incompatible uses.

Emergency Access

Future development, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and zoning regulations that have been prepared to minimize impacts related to emergency access. The City, throughout the 2040 buildout horizon, would implement the General Plan programs that require the City's continued coordination with MPPD and MPFPD to establish circulation standards, adopt an emergency response routes map, and equip all new traffic signals with pre-emptive traffic signal devices for emergency services. Furthermore, the implementation of the zoning regulations would help to minimize traffic congestion that could impact emergency access. As mentioned above, the Project would be required, as a condition of Project approval, to submit event traffic plans for large events for City approval to demonstrate measures that would be taken to minimize the events' effect on roadway traffic conditions and ensure adequate emergency vehicle access.

For these reasons, the Proposed Project, in combination with cumulative projects, would have a **less-than-significant (LTS)** cumulative impact with respect to emergency access.

Non-CEQA Analysis

Intersection Level of Service (LOS) Analysis

The findings of the intersection LOS compliance analysis are summarized in this section for informational purposes. The analysis scope and methodology, analysis scenarios, data collection, and level of service policy standards are detailed in Appendix 3.3, Transportation, of this EIR.

As stated above, LOS is no longer a CEQA threshold. However, the General Plan and City's TIA Guidelines require that the TIA also analyze LOS for local planning purposes (per General Plan Program Circ-3.A Transportation Impact Metrics):

Supplement Vehicle Miles Traveled (VMT) and greenhouse gas emissions per service population (or other efficiency metric) metrics with Level of Service (LOS) in the transportation impact review process, and utilize LOS for identification of potential operational improvements, such as traffic signal upgrades and coordination, as part of the Transportation Master Plan.

The LOS analysis would determine whether the project traffic would cause an intersection LOS to exceed the City's LOS thresholds or cause either the average delay or average critical delay to exceed the City's intersection delay thresholds under near term and cumulative conditions. The LOS and delay thresholds vary depending on the street classifications as well as whether the intersection is on a State route or not.

The City's TIA Guidelines further require an analysis of the Proposed Project in relation to relevant policies of the Circulation Element and consideration of specific measures to address noncompliance with local policies which may occur as a result of the addition of project traffic. The TIA identifies measures that could be applied as conditions of approval that would bring operations back to pre-Project levels. Although not included in the TIA for purposes of this EIR, an analysis may be prepared separately to determine if there are potential measures that could bring the Proposed Project into conformance with the LOS goals of Circulation Policy 3.4. Implementation of any such measures would require review and approval by City decision makers.

Intersection Level of Service Standards and Adverse Effect Criteria

City of Menlo Park Definition of Adverse Effect

The following thresholds are from the City of Menlo Park's TIA Guidelines and the Proposed Project's compliance with local policies was evaluated based on these thresholds.

- A project is considered potentially noncompliant with local policies if the addition of project traffic causes an intersection on a collector street operating at LOS "A" through "C" to operate at an unacceptable level (LOS "D," "E" or "F") or have an increase of 23 seconds or greater in average vehicle delay, whichever comes first. Potential noncompliance shall also include a project that causes an intersection on arterial streets or local approaches to State controlled signalized intersections operating at LOS "A" through "D" to operate at an unacceptable level (LOS "E" or "F") or have an increase of 23 seconds or greater in average vehicle delay, whichever comes first.
- A project is also considered potentially noncompliant if the addition of project traffic causes an increase of more than 0.8 seconds of average delay to vehicles on all critical movements for intersections operating at a near-term LOS "D" through "F" for collector streets and at a near-term LOS "E" or "F" for arterial streets. For local approaches to State controlled signalized intersections, a project is considered to be potentially noncompliant if the addition of project traffic causes an increase of more than 0.8 seconds of delay to vehicles on the most critical movements for intersections operating at a near-term LOS "E" or "F."

State (Caltrans) Controlled Intersections Definition of Adverse Effect

For signalized intersections involving two state routes, the proposed project is considered potentially non-compliant with local policies if for any peak hour:

- The level of service degrades from an acceptable LOS D or better under existing conditions to an unacceptable LOS E or F under existing plus project conditions, and the average delay per vehicle increases by four seconds or more, or
- The level of service is an unacceptable LOS E or F under existing conditions and the addition of project trips causes an increase in the average control delay at the intersection by four seconds or more.

City of East Palo Alto Definition of Adverse Effect

The following thresholds are used in East Palo Alto, and the proposed project's compliance with local policies was evaluated based on these thresholds:

At a signalized intersection, the project is considered to have an adverse effect if it:

- Causes operations to degrade from LOS D (or better) to LOS E or F; or
- Exacerbates LOS E or F conditions by both increasing critical movement delay by four or more seconds and increasing volume-to-capacity ratio (V/C ratio) by 0.01 at an intersection evaluated using the TRAFFIX software; or
- Increases the V/C ratio by > 0.01 at an intersection that exhibits unacceptable operations, even if the calculated LOS is acceptable; or
- Causes planned future intersections to operate at LOS E or F.

At an unsignalized intersection, the proposed project is considered to have an adverse effect if it:

- Causes operations to degrade from LOS D or better to LOS E or F; or
- Exacerbates LOS E or F conditions by increasing control delay by five or more seconds; and
- Causes volumes under project conditions to exceed the Caltrans Peak-Hour Volume Warrant Criteria.

Near-Term (2025) Plus Project Intersection Levels of Service

The results of the intersection level of service analysis under near term (2025) plus project conditions are summarized in Table 3.3-10 and 3.3-11. The Willow Road corridor and 101/University Avenue interchange were analyzed using the Simtraffic microsimulation model as described in Appendix 3.3, Transportation, of this EIR. The microsimulation model indicates that the intersections would experience capacity issues where the demand cannot be served by the intersections. Oversaturated conditions would operate at LOS F and are indicated using 'OVERSAT' in the tables below. Vistro and Traffix were used to calculate critical delay and volume to capacity ratio at the Willow Road and 101/University Avenue intersections, respectively. The intersection LOS calculation sheets are included in Appendix 3.3, Transportation, of this EIR. Under near-term plus project conditions, the following intersections (see Figure 3.3-7, Near-Term [2025] Plus Project Intersection Level of Service Summary) would be non-compliant with the TIA Guidelines during either the AM or the PM peak hour as compared to near term conditions:

1. Marsh Road and Bayfront Expressway (AM peak hour)

13. Chilco Street and Hamilton Avenue (PM peak hour)

16. Willow Road and Bayfront Expressway (AM peak hour)

17. Willow Road and Hamilton Avenue (AM and PM peak hours)

18. Willow Road and Park Street (AM and PM peak hours)

21. Willow Road and Newbridge Street (AM and PM peak hours)

23. Willow Road and US 101 Southbound Ramps (AM peak hour)

24. Willow Road and Bay Road (AM peak hour)

30. O'Brien Drive and Kavanaugh Drive (AM and PM peak hours)

32. Adam's Drive and O'Brien Drive (AM and PM peak hours)

39. University Avenue and Bay Road (PM peak hour)

42. University Avenue and Donohoe Street (AM peak hour)

43. US 101 Northbound Off-Ramp and Donohoe Street (AM and PM peak hours)

44. Cooley Avenue and Donohoe Street (AM and PM peak hours)

45. University Avenue and US 101 Southbound Ramps (AM peak hour)

47. E. Bayshore Road and Donohoe Street (AM and PM peak hours)

Bold indicates intersections that already (i.e., without the Proposed Project) operate unacceptably under near-term conditions.

Table 3.3-10. Near-Term (2025) Intersection Levels of Service (Menlo Park)

				Near-Term (2025) Conditions								
				No Project		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
1	Marsh Road & Bayfront Expressway*	AM	Signal	52.0	D	**56.2**	**E**	**4.2**	**5.4**	50.2	D	-
	Haven Avenue Southbound			***71.2***	***E***	***70.6***	***E***	***<4***	***<0.8***			
		PM	Signal	34.9	C	38.7	D	<4	4.7	38.9	D	-
	Haven Avenue Southbound			***66.9***	***E***	***65.6***	***E***	***<4***	***<0.8***			
2	Marsh Road & US 101 Northbound Off-Ramp	AM	Signal	23.1	C	39.0	D	15.9	25.1			
		PM		15.8	B	16.8	B	<4	1.6			
3	Marsh Road & US 101 Southbound Off-Ramp	AM	Signal	20.7	C	20.7	C	<4	<0.8			
		PM		17.6	B	17.6	B	<4	<0.8			
4	Marsh Road & Scott Drive	AM	Signal	20.3	C	20.5	C	<4	<0.8			
		PM		15.9	B	15.9	B	<4	<0.8			
5	Marsh Road & Bohannon Drive/Florence Street	AM	Signal	40.0	D	41.6	D	<4	2.3			
		PM		36.3	D	37.3	D	<4	2.2			
6	Marsh Road & Bay Road	AM	Signal	23.6	C	25.2	C	<4	2.8			
		PM		18.7	B	19.1	B	<4	<0.8			
7	Chrysler Drive & Bayfront Expressway	AM	Signal	9.1	A	9.4	A	<4	<0.8			
		PM		17.3	B	18.3	B	<4	1.5			
8	Chilco Street & Bayfront Expressway	AM	Signal	23.7	C	25.6	C	<4	5.3			
		PM		34.1	C	35.9	D	<4	4.5			
9	MPK 21 Driveway & Bayfront Expressway	AM	Signal	7.3	A	7.4	A	<4	<0.8			
		PM		13.7	B	15.0	B	<4	1.4			

				Near-Term (2025) Conditions								
				No Project		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
10	MPK 20 Driveway (east) & Bayfront Expressway	AM	Signal	7.3	A	7.5	A	<4	<0.8			
		PM		9.7	A	9.4	A	<4	<0.8			
11	Chrysler Drive & Constitution Drive	AM	Signal	**59.8**	**E**	**55.1**	**E**	**<4**	**<0.8**			
		PM		28.5	C	30.4	C	<4	1.6			
12	Chilco Street & Constitution Drive/MPK 22 Driveway[2]	AM	Signal	24.8	C	24.6	C	<4	<0.8			
		PM		**42.9**	**D**	**54.3**	**D**	**11.4**	**11.4**			
13	Chilco Street & Hamilton Avenue	AM	AWSC	10.5	B	10.8	B	<4	<0.8	*Traffic signal potentially feasible*		
		PM		19.0	C	**38.0**	**E**	**19.0**	**19.0**			
14	Ravenswood Avenue & Middlefield Road	AM	Signal	43.1	D	44.9	D	<4	3.0			
		PM		17.6	B	17.9	B	<4	<0.8			
15	Ringwood Avenue & Middlefield Road	AM	Signal	13.2	B	13.7	B	<4	<0.8			
		PM		15.2	B	15.4	B	<4	<0.8			
16	Willow Road & Bayfront Expressway*[1]	AM	Signal	**OVER SAT**	**F**	**OVERSAT**	**F**	**14.0**	**6.7**	***No feasible Improvement***		
		PM		**OVER SAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
17	Willow Road & Hamilton Avenue[1]	AM	Signal	**OVER SAT**	**F**	**OVERSAT**	**F**	**44.1**	**54.0**	***No feasible Improvement***		
	Hamilton Avenue Southbound			***64.9***	***E***	***>120***	***F***	***117.9***	***<0.8***			
	Main Street Northbound			***83.3***	***F***	***113.7***	***F***	***30.4***	***>120***			
		PM	Signal	**OVER SAT**	**F**	**OVERSAT**	**F**	**>120**	**>120**	***No feasible Improvement***		

				Near-Term (2025) Conditions								
				No Project		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
	Hamilton Avenue Southbound			***>120***	***F***	***>120***	***F***	***>120***	***<0.8***			
	Main Street Northbound			***>120***	***F***	***>120***	***F***	***<4***	***>120***			
18	Willow Road & Park Street (future intersection)[1]	AM	Signal	Project Intersection		**OVERSAT**	**F**	**36.8**	**53.0**	***No feasible Improvement***		
		PM				**OVERSAT**	**F**	**17.5**	**23.1**			
19	Willow Road & Ivy Drive[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**20.9**	**46.6**			
	Ivy Drive Southbound	*AM*		***88.2***	***F***	***75.0***	***E***	***<4***	***<0.8***			
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**50.1**	**70.9**			
	Ivy Drive Southbound	*PM*		***68.4***	***E***	***66.1***	***E***	***<4***	***<0.8***			
20	Willow Road & O'Brien Drive[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	O'Brien Drive Northbound			***72.6***	***E***	***66.4***	***E***	***<4***	***<0.8***			
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	O'Brien Drive Northbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
21	Willow Road & Newbridge Street[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**40.3**	**49.7**	**OVERSAT**	**F**	
	Newbridge Street Southbound			***69.3***	***E***	***104.2***	***F***	***34.9***	***43.0***	***79.6***	***F***	***9.0***
	Newbridge Street Northbound			***>120***	***F***	***>120***	***F***	***4.4***	***64.0***	*42.1*	*D*	*<0.8*
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**	**OVERSAT**	**F**	
	Newbridge Street Southbound			***60.8***	***E***	***59.1***	***E***	***<4***	***1.5***	***74.5***	***E***	***26.0***
	Newbridge Street Northbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***	*51.3*	*D*	*<0.8*

				Near-Term (2025) Conditions								
				No Project		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
22	Willow Road & US 101 Northbound Ramps[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**11.5**			
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
23	Willow Road & US 101 Southbound Ramps[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**18.3**	**<0.8**	***No feasible Improvement***		
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
24	Willow Road & Bay Road[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**38.3**	**OVERSAT**	**F**	
	Bay Road Southbound			***104.3***	***F***	***>120***	***F***	***31.7***	***31.7***	*27.0*	*C*	*<0.8*
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**6.6**	**6.7**	**OVERSAT**	**F**	
	Bay Road Southbound			*49.2*	*D*	*53.5*	*D*	*4.3*	*4.3*	*23.9*	*C*	*<0.8*
25	Willow Road & Hospital Plaza/Durham Street[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	VA Medical Center Southbound			***73.2***	***E***	***69.5***	***E***	***<4***	***<0.8***			
	Durham Street Northbound			***93.6***	***F***	***79.6***	***E***	***<4***	***<0.8***			
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	VA Medical Center Southbound			***72.2***	***E***	***70.2***	***E***	***<4***	***<0.8***			
	Durham Street Northbound			***84.6***	***F***	***79.8***	***E***	***<4***	***<0.8***			
26	Willow Road & Coleman Avenue	AM	Signal	25.1	C	23.9	C	<4	<0.8			
		PM		11.0	B	10.8	B	<4	<0.8			

				Near-Term (2025) Conditions								
				No Project		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
27	Willow Road & Gilbert Avenue	AM	Signal	20.0	C	19.9	B	<4	<0.8			
		PM		13.0	B	12.4	B	<4	<0.8			
28	Willow Road & Middlefield Road	AM	Signal	**62.3**	**E**	**62.5**	**E**	**<4**	**<0.8**			
	Middlefield Road Southbound			***69.8***	***E***	***70.1***	***E***	***<4***	***<0.8***			
	Middlefield Road Northbound			***67.7***	***E***	***67.7***	***E***	***<4***	***<0.8***			
		PM	Signal	34.5	C	34.7	C	<4	<0.8			
	Middlefield Road Southbound			*34.5*	*C*	*34.7*	*C*	*<4*	*<0.8*			
	Middlefield Road Northbound			*34.3*	*C*	*34.7*	*C*	*<4*	*<0.8*			
29	O'Brien Drive/Loop Road & Main Street/O'Brien Drive (future intersection)	AM	Rdbt	Project Intersection		7.4	A	7.4	7.4			
		PM				9.2	A	9.2	9.2			
30	O'Brien Drive & Kavanaugh Drive	AM	AWSC	12.7	B	**107.7**	**F**	**95.0**	**95.0**	*Traffic signal potentially feasible*		
		PM		**29.6**	**D**	**73.7**	**F**	**44.1**	**44.1**			
31	Adams Drive & Adams Court	AM	TWSC	11.5	B	11.6	B	<4	<0.8			
		PM		11.9	B	11.9	B	<4	<0.8			
32	Adams Drive & O'Brien Drive	AM	TWSC	17.6	C	**62.5**	**F**	**44.9**	**44.9**	*Traffic signal potentially feasible*		
		PM		**34.0**	**D**	**>120**	**F**	**>120**	**>120**			
33	University Avenue & Bayfront Expressway*	AM	Signal	13.9	B	12.1	B	<4	<0.8			
		PM		**105.8**	**F**	**108.7**	**F**	**<4**	**3.0**			

* Denotes CMP Intersection

				Near-Term (2025) Conditions								
				No Project		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]

AWSC - All Way Stop Control; TWSC - Two Way Stop Control; Rdbt - Roundabout

[1] Average delay is reported for signalized and AWSC intersections. For TWSC intersections, the delay for the worst stop-controlled movement is reported

"OVERSAT" indicates that the SimTraffic microsimulation model indicates that the intersection would experience capacity issues where the demand cannot be served by the intersection. Oversaturated intersections would operate at LOS F.

[1]Intersections were analyzed using Synchro/SimTraffic software due to the close proximity of these intersections. Changes in average delay and critical delay calculated using Vistro.

[2]The intersection is not considered as non-compliant under background plus project conditions because the critical movement of the local approach shifts with the addition of project traffic.

Bold indicates substandard level of service

Bold	indicates noncompliance. The project exceeds thresholds in the City of Menlo Park's TIA Guidelines. These are not CEQA thresholds.

Table 3.3-11. Near-Term (2025) Intersection Levels of Service (East Palo Alto)

				Near-Term (2025) Conditions							
				No Project		with Project				With Improvement	
#	Intersection	Peak Hour	Traffic Control	Avg Delay (secs)[1]	LOS	Avg Delay (secs)[1]	LOS	Incr. in Avg/Crit Delay (sec)[1]	Incr. in Crit V/C	Avg Delay (secs)[1]	LOS
34	University Avenue & Purdue Avenue	AM	TWSC	19.7	C	29	D		0.118		
		PM		**>120**	**F**	**>120**	**F**	**3.8**	**-0.033**		
35	University Avenue & Adams Drive	AM	TWSC	**91.5**	**F**	**>120**	**F**	**0.4**	**0.084**		
		PM		**>120**	**F**	**>120**	**F**	**-2.8**	**-0.070**		
36	University Avenue & O'Brien Drive	AM	Signal	9.5	A	28.9	C	26.1	0.261		
		PM		15.4	B	30.5	C	16.7	0.275		
37	University Avenue & Notre Dame Avenue	AM	Signal	4.1	A	7.8	A	5.0	0.093		
		PM		9.4	A	10.2	B	1.4	0.012		
38	University Avenue & Kavanaugh Drive	AM	Signal	6.9	A	7.9	A	1.3	0.014		
		PM		15.1	B	16.5	B	1.6	0.015		
39	University Avenue & Bay Road	AM	Signal	52.4	D	54.7	D	6.7	0.046	40.4	D
		PM		**60.9**	**E**	**70.6**	**E**	**18.6**	**0.063**	**57.0**	**E**
40	University Avenue & Runnymede Street	AM	Signal	6.4	A	6.6	A	1.5	0.053		
		PM		8.8	A	8.8	A	-0.1	-0.009		
41	University Avenue & Bell Street	AM	Signal	11.7	B	11.6	B	0.0	0.006		
		PM		18.3	B	18.8	B	1.1	0.038		
42	University Avenue & Donohoe Street*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**7.1**	**0.017**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**3.0**	**0.008**		
43	US 101 Northbound Off-Ramp & Donohoe Street*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**71.7**	**0.171**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**56.4**	**0.130**		
44	Cooley Avenue & Donohoe Street*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**8.7**	**0.091**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**18.8**	**0.074**		
45	University Avenue & US 101 Southbound Ramps*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**7.8**	**0.019**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**1.6**	**0.004**		

				Near-Term (2025) Conditions							
				No Project		with Project				With Improvement	
#	Intersection	Peak Hour	Traffic Control	Avg Delay (secs)[1]	LOS	Avg Delay (secs)[1]	LOS	Incr. in Avg/Crit Delay (sec)[1]	Incr. in Crit V/C	Avg Delay (secs)[1]	LOS
46	University Avenue & Woodland Avenue*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**0.1**	**0.000**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**-7.8**	**-0.018**		
47	University Avenue & Middlefield Road	AM	Signal	34.8	C	34.8	C	0.0	-0.001		
		PM		35.3	D	35.4	D	0.2	0.007		
48	Lytton Avenue & Middlefield Road	AM	Signal	49.3	D	49.2	D	-0.1	-0.001		
		PM		**69.1**	**E**	**70.6**	**E**	**1.6**	**0.006**		
47	E. Bayshore Road & Donahoe Street*	AM	Signal	**OVERSAT**	**F**	**>120**	**F**	**5.7**	**0.013**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**>120**	**F**	**5.8**	**0.015**		
48	E. Bayshore Road & Holland Street	AM	TWSC	8.8	A	8.8	A	0.0	0.000		
		PM		10	A	10	A	0.0	0.000		
49	Saratoga Avenue & Newbridge Street	AM	TWSC	17.9	C	18.2	C	0.9	0.074		
		PM		22.0	C	21.0	C	0.0	-0.024		
50	E. Bayshore Road & Euclid Avenue*	AM	AWSC	**OVERSAT**	**F**	**OVERSAT**	**F**	**3.6**	**0.028**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**-2.5**	**-0.016**		
51	Clarke Avenue & E. Bayshore Road	AM	Signal	13.9	B	14	B	0.2	0.008		
		PM		10.7	B	12.5	B	1.7	0.031		
52	Puglas Avenue & E. Bayshore Road	AM	Signal	20.9	C	21.7	C	1.7	0.042		
		PM		33.1	C	37.6	D	5.7	0.034		

*Denotes a CMP intersection

AWSC - All Way Stop Control; TWSC - Two Way Stop Control

[1]Average delay is reported for signalized and AWSC intersections. For TWSC intersections, the delay for the worst stop-controlled movement is reported.

[2]Intersection is signalized under cumulative conditions.

"OVERSAT" indicates that the SimTraffic microsimulation model indicates that the intersection would experience capacity issues where the demand cannot be served by the intersection. Oversaturated intersections would operate at LOS F.

*Intersections were analyzed using Synchro/SimTraffic software due to the close proximity of these intersections. Changes in critical delay and v/c calculated using Traffix.

Bold indicates substandard level of service

Bold	indicates adverse effect

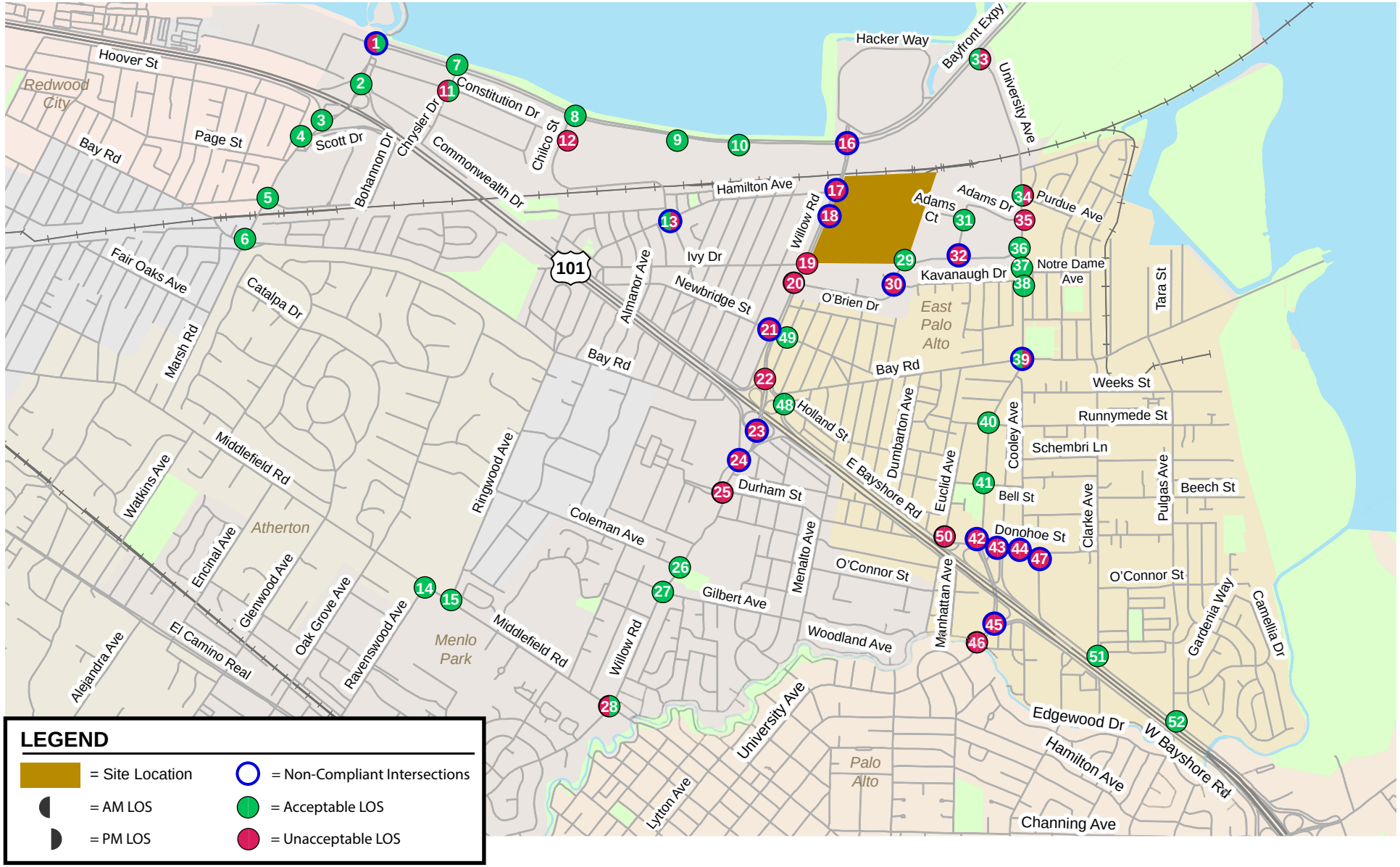


Figure 3.3-7
Near-Term (2025) Plus Project Intersection Level of Service Summary

NORTH
Not to Scale

It should be noted that at some intersections the average delay is shown to decrease with the addition of Project traffic. This occurs because the intersection delay is a weighted average of all intersection movements. When traffic is added to movements with delays lower than the average intersection delay, the average delay for the entire intersection can decrease. Furthermore, the congestion and queue spillback at an adjacent intersection can constrain the traffic volume at some intersections resulting in a small decrease in average delay.

Adverse Effects and Recommended Improvements

The intersection effects and recommended modifications to improve the intersections to pre-Project conditions or better are described below. It should be noted that the intersection analysis accounts for the Project's proposed trip reductions from gross ITE trip generation. The residential component's required TDM reduction to eliminate the VMT impact is partially accounted for as well (peak-hour trip generation assumed 10% active TDM reduction). The additional residential TDM reduction during the peak-hour resulting from the VMT impact mitigation would have resulted in approximately 50 (13 inbound and 37 outbound) fewer trips during the AM peak hour and 56 (34 inbound and 22 outbound) fewer trips during the PM peak hour. This level of trip reduction would not address any intersection adverse effects alone.

Marsh Road and Bayfront Expressway

This intersection is expected to operate at an acceptable LOS D during the AM peak hour and LOS C during the PM peak hour under near term conditions. The addition of Project traffic would cause the level of service at the intersection to worsen to an unacceptable LOS E during the AM peak hour. The intersection would operate at an acceptable LOS D during the PM peak hour. The deterioration of LOS from D to E constitutes non-compliance during the AM peak hour according to the thresholds established by the City of Menlo Park.

The recommended modification for this location is to modify the southbound approach to a shared left-through lane, shared through-right lane, and a right turn only lane. With this improvement, the intersection would operate acceptably at LOS D during both peak hours under near-term plus project conditions. This improvement is in Menlo Park's traffic impact fee (TIF) program. With implementation of these intersection modifications, the intersection would be in compliance with the TIA Guidelines and address the Proposed Project's share of the non- compliant operation.

Chilco Street and Hamilton Avenue

This intersection is expected to operate at an acceptable LOS B during the AM peak hour and LOS C during the PM peak hour under near term conditions. The addition of Project traffic would cause the level of service at the intersection to worsen to an unacceptable LOS E during the PM peak hour. The intersection would operate at an acceptable LOS B during the AM peak hour. The deterioration of LOS from C to E constitutes non-compliance during the PM peak hour according to the thresholds established by the City of Menlo Park.

Since the intersection currently operates as all-way-stop-controlled, potential modification to bring the intersection to pre-project conditions would be to signalize it. However, the intersection does not meet the signal warrant during either peak hour under near term plus project conditions. A traffic signal is not recommended for construction until signal warrants conducted with a future year's actual counts have been met. The recommended improvement includes conducting a signal warrant analyses for a period of five years after full Project completion to determine if a signal would be warranted and if warranted, install a new signal. This improvement is included in the City's TIF program.

Should the City pursue implementation of this improvement, the improvement would include new traffic signal and appropriate pedestrian and bicycle accommodation at this intersection including pedestrian countdown timers, Americans with Disabilities Act (ADA) compliant curbs, and bicycle detection loops. Signalization of this intersection could also encourage cut-through traffic along Chilco Street and on Hamilton Avenue when regional routes such as Bayfront Expressway, Willow Road or US 101 become congested. Potential traffic calming measures should also be considered in conjunction with a traffic signal if signal warrants are met in a future year.

With implementation of these intersection modifications (e.g. signal warrant analysis, potential signal installation, and related bicycle and pedestrian accommodations), the intersection would be in compliance with the TIA Guidelines which would address the Proposed Project's share of the non-compliant operation.

Willow Road Corridor

Willow Road between Bayfront Expressway and Hospital Plaza/Durham Street is expected to experience capacity issues due to unserved demand at the intersections. These intersections would operate unacceptably under near term conditions during both peak hours. With the addition of Project traffic, intersections along the corridor would continue to operate unacceptably during both peak hours.

The intersections of Willow Road and Bayfront Expressway and Willow Road and US 101 southbound ramps would experience an increase in delay of over four seconds with the addition of project traffic in the AM peak hour and PM peak hour, respectively, and would be non-compliant per Menlo Park's guidelines for state-controlled intersections.

The intersections of Hamilton Avenue and Newbridge Street at Willow Road would experience an increase in delay of over 0.8 seconds with the addition of project traffic on the local approach to the intersection in both peak hours and the intersection of Bay Road at Willow Road would experience an increase in delay of over 0.8 seconds with the addition of Project traffic on the local approach to the intersection during the AM peak hour and would be non-compliant per Menlo Park's guidelines. Willow Road and Park Street, which is a new intersection under project conditions is also assumed to be non-compliant during both peak hours due to unserved demand at this intersection as determined in the microsimulation model developed for this corridor and described in Appendix 3.3, Transportation, of this EIR.

The City of Menlo Park is implementing an adaptive traffic signal coordination system on the Willow Road corridor to improve traffic flow. Adaptive traffic control is a technology that automatically adjusts traffic signal timing based on actual traffic demand at an intersection. This measure will improve the intersection operations and could reduce the intersection delay. The reduction in delay due to adaptive signal coordination is not expected to bring the corridor intersections into compliance with the City's TIA guidelines or to substantially reduce the delay caused by the Project.

Physical intersection improvements (identified in the City's TIF program) that would improve intersection operations at the non-compliant intersections are:

- Willow Road and Newbridge Street - The TIF program proposes to modify the signal timing to a protected left-turn phasing operation on Newbridge Street, provide a leading left-turn phase on the southbound movement and a lagging left-turn phase on the northbound movement, and optimize signal timing. With implementation of these intersection modifications under project conditions, the critical movement delay would be reduced for the northbound movement to lower than no project conditions. However, the improvement would not address the southbound deficiency. Further improvements to address the southbound deficiency are not feasible.

- Willow Road and Bay Road – The TIF program proposes to modify the southbound approach at this intersection to two left-turn lanes and one right-turn lane and to modify the westbound approach to add a right-turn lane. With these improvements under project conditions, the critical movement delay at the local approach would be reduced to lower than no project conditions. This improvement would address the adverse effect on the intersection due to Project traffic. With implementation of these intersection modifications, the Willow Road and Bay Road intersection would be in compliance with the TIA Guidelines which would address the Proposed Project's share of the non- compliant operation. With implementation of the recommended improvements from the TIF program for the Willow Road and Bay Road intersection the deficiency attributable to the Proposed Project would be addressed. As mentioned previously, these improvements are included in the City's TIF program.
- The Metropolitan Transportation Commission (MTC) Dumbarton Forward project would restripe Bayfront Expressway to add bus-only lanes on the shoulders during peak periods and implement signal timing improvements. The bus-only lanes would generally help the progression of shuttles and buses along the corridor. The signal timing improvements are also assumed to help with the general progression along Bayfront. However, specific details are unknown at this time regarding the improvements at the Willow Road and Bayfront Expressway intersection. The improvements' effectiveness in addressing the Project traffic generated adverse effect on traffic operations at this intersection cannot be determined. Furthermore, since this project is not led by the City of Menlo Park, implementation cannot be guaranteed.

Physical improvements are considered infeasible due to right-of-way constraints and/or adverse effects on pedestrian and bicycle travel at the intersections of Willow Road and Bayfront Expressway, Willow Road and US 101 southbound ramps, Willow Road and Hamilton Avenue, and Willow Road and Park Street.

The TIF program also proposes multimodal improvements along this section of Willow Road. These include an eastbound Willow Road one-way Class IV separated bikeway between Hamilton Avenue and the US 101/Willow Road Interchange, a westbound Willow Road one-way Class IV separated bikeway between the Dumbarton Rail Corridor and the US 101/Willow Road Interchange, high-visibility crosswalks and pedestrian signals on all legs at the intersection of Willow Road and O'Brien Drive, Class II bicycle lanes on eastbound Willow Road from O'Keefe Street to Bay Road, and Class II bicycle lanes on westbound Willow Road from Bay Road to Durham Street.

Implementing recommended multi-modal facilities along the corridor (from the City's TIF program) could shift some motor vehicle traffic to alternative modes of travel and reduce congestion. With implementation of these multi-modal improvements, the intersection deficiencies could be further reduced and partially address the Proposed Project's share of the non- compliant operations along Willow Road.

O'Brien Drive and Kavanaugh Drive

This intersection is expected to operate at an acceptable LOS B during the AM peak hour and an unacceptable LOS D during the PM peak hour under near term conditions. With the addition of project traffic, the intersection would operate at an unacceptable LOS F during both peak hours. This constitutes non-compliance during both peak hours according to the thresholds established by the City of Menlo Park.

Since the intersection currently operates as all-way-stop-controlled, potential modification to bring the intersection to pre-project conditions would be to signalize it. The intersection would meet the MUTCD signal warrant during both peak hours under project conditions (See Appendix 3.3, Transportation, of this EIR). The intersection lane configuration would need to be modified to a westbound left-turn lane and

through lane, northbound left turn lane and right turn lane, and eastbound shared through-right lane. With this improvement, the intersection would operate acceptably at LOS B during the AM peak hour and LOS C during the PM peak hour under near term plus project conditions.

The recommended improvement to bring this intersection back to pre-Project conditions is the installation of the new traffic signal and appropriate pedestrian and bicycle accommodation. This includes the proposed Class II bicycle lanes along O'Brien Drive between Willow Road and University Avenue, pedestrian countdown timers, Americans with Disabilities Act (ADA) compliant curbs, and bicycle detection loops. However, a decision for signalization should not be made until signal warrants conducted with a future year's actual counts have been met. It is important to note that the intersection would be located approximately 300 feet west of the proposed roundabout at O'Brien Drive and Loop Road. Prior to a decision for signalizing this intersection, further analysis should be conducted to ensure that queues resulting from the signal would not back into the roundabout and cause a gridlock situation.

Alternatively, traffic calming measures could be installed to discourage the use of Kavanaugh Drive, which is a residential street, and encourage vehicles to use O'Brien Drive and Adam's Drive instead. Kavanaugh Drive is located within the City of East Palo Alto, and the City of Menlo Park does not have jurisdiction to install traffic calming along this street. Other measures such as peak period turning movement restrictions could be considered to discourage traffic from using Kavanaugh Drive and improve intersection operations.

Monitoring of traffic operations at this intersection for a period of five years after full Project completion should be conducted to determine if signalization or alternative improvements are needed. If warranted, implementation of the new traffic signal would address the Proposed Project's share of the non-compliant operation and bring the intersection into compliance with the TIA Guidelines. If the alternative measures are implemented, the intersection may or may not be brought into compliance with the TIA Guidelines and address the Proposed Project's share of the non-compliant operation.

Adams Drive and O'Brien Drive

This intersection is expected to operate at an acceptable LOS C during the AM peak hour and an unacceptable LOS D during the PM peak hour under near term conditions. With the addition of Project traffic, the intersection would operate at an unacceptable LOS F during both peak hours. This constitutes non-compliance during both peak hours according to the thresholds established by the City of Menlo Park.

Since the intersection currently operates as two-way-stop-controlled, potential modification to bring the intersection to pre-project conditions would be to signalize it. The intersection would meet the MUTCD signal warrant during the PM peak hour under project conditions (see Appendix 3.3, Transportation, of this EIR). The intersection lane configuration would need to be modified to a westbound shared left-right lane, southbound left-turn lane and through lane, and northbound shared through-right lane. With this improvement, the intersection would operate acceptably at LOS B during the AM peak hour and LOS C during the PM peak hour under near term plus project conditions.

The recommended improvement to bring this intersection back to pre-Project conditions is the installation of the new traffic signal and appropriate pedestrian and bicycle accommodations at this intersection and within the vicinity. This includes the proposed Class II bicycle lanes along O'Brien Drive between Willow Road and University Avenue, pedestrian countdown timers, Americans with Disabilities Act (ADA) compliant curbs, and bicycle detection loops.

The expected intersection operational issues under background plus project conditions would be due to the increased through traffic on O'Brien Drive between the Project Site and University Avenue. Menlo Park's TIF program identifies an improvement to signalize the nearby intersection at University Avenue and Adams Drive in East Palo Alto. This improvement may provide an alternative route for Project vehicles to access the Project Site via University Avenue.

Monitoring of traffic operations at this intersection for a period of five years after full Project completion should be conducted to determine if signalization or alternative improvements are needed. If warranted, implementation of the new traffic signal would address the Proposed Project's share of the non-compliant operation and bring the intersection into compliance with the TIA Guidelines. If the alternative measures are implemented, the intersection may or may not be brought into compliance with the TIA Guidelines and address the Proposed Project's share of the non-compliant operation.

University Avenue and Bay Road

This intersection is expected to operate at an acceptable LOS D during the AM peak hour and an unacceptable LOS E during the PM peak hour under near term conditions. With the addition of Project traffic, the intersection would continue to operate acceptably in the AM peak hour. In the PM peak hour, the increase in the average critical delay would be greater than four seconds. This constitutes non-compliance during the PM peak hour according to the thresholds established by the City of East Palo Alto.

Potential modification to bring the intersection to pre-Project conditions would be to add an exclusive eastbound right-turn lane and a second eastbound left-turn lane on University Avenue, add a second northbound left-turn lane on Bay Road, add a second westbound left-turn lane on University Avenue, and modify signal phasing. This is also a mitigation measure identified in the Ravenswood/4 Corners TOD Specific Plan Environmental Impact Report (February 22, 2013), which would be implemented under cumulative conditions. With this improvement under project conditions, the average delay at the intersection would be better than under near term no project conditions. Since this intersection is located within the City of East Palo Alto, the recommended measure to bring the intersection back to pre-Project conditions and address the Project's share of the non-compliant operation would be to make a fair share (34%) contribution towards this improvement. Fair share is calculated as the percentage of net project traffic generated divided by the overall cumulative traffic growth at this intersection. The Menlo Park TIF includes improvements at the University Avenue and Bay Road intersection, but not sufficient improvements to bring the intersection back to pre-Project conditions, as described above. However, the Project's fair share contribution towards this intersection would be calculated considering credit from its TIF payment.

US 101/University Avenue Interchange

The US 101/University Avenue interchange is expected to experience capacity issues due to unserved demand at the intersections in its vicinity including University Avenue and Donohoe Street, US 101 northbound off-ramp and Donohoe Street, Cooley Avenue and Donohoe Street, University Avenue and US 101 southbound ramps, University Avenue and Woodland Avenue, E. Bayshore Road and Donohoe Street, and E. Bayshore Road and Euclid Avenue. These intersections would operate unacceptably under near term conditions during both peak hours. With the addition of Project traffic, these intersections would continue to operate unacceptably during both peak hours. The increase in delay is expected to be greater than four seconds, and the increase in the volume to capacity ratio is expected to be greater than 0.01 under project conditions at University Avenue and Donohoe Street in the AM peak hour, US 101 northbound off-ramp and Donohoe Street during both peak hours, Cooley Avenue and Donohoe Street during both peak hours, E. Bayshore Road and Donohoe Street during both peak hours, and University Avenue and US 101 southbound ramps in the AM peak hour. This constitutes non-compliance according to the thresholds established by the City of East Palo Alto.

East Palo Alto plans to widen the northbound approach on Donohoe Street at the US 101 northbound off-ramp to accommodate four through lanes to improve the vehicular throughput at this intersection. This improvement will require median modifications and narrowing the southbound Donohoe Street approach to Cooley Avenue to include two through lanes and a full length left-turn lane. In addition, the traffic signals will be coordinated with adjacent traffic signals on Donohoe Street.

East Palo Alto also plans to install a new traffic signal at the US 101 northbound on-ramp and Donohoe Street and Bayshore Road and Euclid Avenue to coordinate with other closely spaced traffic signals along Donohoe Street. Along with new traffic signals, appropriate pedestrian and bicycle accommodation will be provided. This includes pedestrian countdown timers, Americans with Disabilities Act (ADA) compliant curbs, and bicycle detection loops. In order to align with the proposed driveway for the University Plaza Phase II site on the north side of Donohoe Street, the US 101 on-ramp will be shifted approximately 30 feet to the south. In addition, the northbound approach on Donohoe Street will be restriped to accommodate a short exclusive left-turn pocket (approximately 60 feet in length), a shared left-through lane, and a shared through-right lane. These improvements would require widening of the US 101 northbound on-ramp to accommodate two lanes that taper down to a single lane before this ramp connects with the loop on-ramp from eastbound University Avenue. A northbound right turn only will also be added to Bayshore Road and Euclid Avenue. Planned Donohoe Street improvements are included in Appendix 3.3, Transportation, of this EIR.

With these improvements, average delay at these intersections would be below that under near term conditions without the Project. Since this intersection is located within the City of East Palo Alto, the recommended improvement measure to bring the intersection/interchange back to pre-Project conditions and address the Project's share of the non- compliant operation would be for the Project sponsor to make a fair share contribution towards these improvements. Because the improvements in this corridor are all interconnected and dependent on each other to work, the recommended improvement measure would be for the Project sponsor to contribute its fair share to improvements at all six intersections in this corridor. Fair share is calculated as the percentage of net project traffic generated of the overall cumulative traffic growth at this intersection.

- Donohoe Street & Cooley Avenue: 10% fair share
- Donohoe Street & US 101 Northbound Off-Ramp: 24% fair share
- Donohoe Street & University Avenue: 31% fair share
- Donohoe Street & US 101 Northbound On-Ramp: 8% fair share
- Donohoe Street/Bayshore Road & Euclid Avenue: 2% fair share
- US 101 Southbound Ramps & University Avenue: 33% fair share

The Menlo Park TIF includes improvements at the University Avenue and Donohoe Street and University Avenue and US 101 southbound ramps intersections, which funding would go toward the planned coordinated system of intersections. The Project's fair share contribution towards these two intersections would be calculated considering credit from its TIF payment.

Cumulative (2040) Plus Project Intersection Levels of Service

The results of the intersection level of service analysis under cumulative (2040) plus project conditions are summarized in Tables 3.3-12 and 3.3-13. The intersection LOS calculation sheets are included in Appendix 3.3, Transportation, of this EIR. Under cumulative plus project conditions, the following intersections (see Figure 3.3-8, Cumulative [2040] Plus Project Intersection Level of Service Summary) would be non-compliant with City of Menlo Park TIA Guidelines and/or local polices during either the AM or the PM peak hour as compared to cumulative conditions. All of these intersections would already be operating at unacceptable levels of service under cumulative conditions.

5. Marsh Road and Bohannon Drive/Florence Street (AM peak hour)

13. Chilco Street and Hamilton Avenue (AM and PM peak hours)

18. Willow Road and Park Street (AM and PM peak hours)

19. Willow Road and Ivy Drive (PM peak hour)

21. Willow Road and Newbridge Street (AM and PM peak hours)

24. Willow Road and Bay Road (AM and PM peak hours)

25. Willow Road and Hospital Plaza/Durham Street (AM and PM peak hours)

30. O'Brien Drive and Kavanaugh Drive (AM peak hour)

32. Adam's Drive and O'Brien Drive (AM and PM peak hours)

43. US 101 Northbound Off-Ramp and Donohoe Street (AM and PM peak hours)

44. Cooley Avenue and Donohoe Street (PM peak hour)

45. University Avenue and US 101 Southbound Ramps (PM peak hour)

46. University Avenue and Woodland Avenue (AM and PM peak hours)

49. Saratoga Avenue and Newbridge Street (AM peak hour)

50. East Bayshore Road and Euclid Avenue (AM peak hour)

Bold denotes intersections that would be non-compliant under cumulative plus project conditions during either AM or PM peak hours but are compliant under near-term plus project conditions during both peak hours.

It should be noted that at some intersections the average delay is shown to decrease with the addition of Project traffic. This occurs because the intersection delay is a weighted average of all intersection movements. When traffic is added to movements with delays lower than the average intersection delay, the average delay for the entire intersection can decrease. Furthermore, the congestion and queue spillback at an adjacent intersection can constrain the traffic volume at some intersections resulting in a small decrease in average delay.

Table 3.3-12. Cumulative (2040) Intersection Levels of Service (Menlo Park)

				Cumulative (2040) Conditions								
				GP Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
1	Marsh Road & Bayfront Expressway*	AM	Signal	**68.7**	**E**	**65.6**	**E**	**<4**	**<0.8**			
	Haven Avenue Southbound			***71.2***	***E***	***73.4***	***E***	***<4***	***<0.8***			
		PM	Signal	**65.0**	**E**	**77.9**	**E**	**12.9**	**12.5**			
	Haven Avenue Southbound			***67.7***	***E***	***67.7***	***E***	***<4***	***<0.8***			
2	Marsh Road & US 101 Northbound Off-Ramp	AM	Signal	**60.9**	**E**	**62.2**	**E**	**<4**	**1.5**			
		PM		22.9	C	22.8	C	<4	<0.8			
3	Marsh Road & US 101 Southbound Off-Ramp	AM	Signal	22.8	C	24.4	C	<4	2.0			
		PM		19.2	B	18.8	B	<4	<0.8			
4	Marsh Road & Scott Drive	AM	Signal	31.9	C	31.8	C	<4	<0.8			
		PM		17.9	B	18.1	B	<4	<0.8			
5	Marsh Road & Bohannon Drive/Florence Street	AM	Signal	**58.0**	**E**	**60.4**	**E**	**<4**	**4.9**	**56.7**	**E**	**<0.8**
		PM		52.5	D	53.6	D	<4	1.6	48.3	D	<0.8
6	Marsh Road & Bay Road	AM	Signal	**64.2**	**E**	**64.8**	**E**	<4	<0.8			
		PM		47.6	D	54.9	D	7.3	14.4			
7	Chrysler Drive & Bayfront Expressway	AM	Signal	13.1	B	12.8	B	<4	6.4			
		PM		39.5	D	36.3	D	<4	<0.8			
8	Chilco Street & Bayfront Expressway	AM	Signal	44.5	D	49.2	D	4.7	13.5			
	Chilco Street Eastbound			***112.4***	***F***	***108.9***	***F***	***<4***	***<0.8***			
		PM	Signal	**69.6**	**E**	**66.9**	**E**	**<4**	**<0.8**			

				Cumulative (2040) Conditions								
				GP Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
	Chilco Street Eastbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
9	MPK 21 Driveway & Bayfront Expressway	AM	Signal	5.7	A	5.6	A	<4	<0.8			
		PM		36.3	D	36.1	D	<4	<0.8			
10	MPK 20 Driveway (east) & Bayfront Expressway	AM	Signal	10.0	B	9.9	A	<4	<0.8			
		PM		18.7	B	18.8	B	<4	<0.8			
11	Chrysler Drive & Constitution Drive	AM	Signal	**>120**	**F**	**>120**	**F**	**<4**	**<0.8**			
		PM		**>120**	**F**	**>120**	**F**	**<4**	**<0.8**			
12	Chilco Street & Constitution Drive/MPK 22 Driveway[2]	AM	Signal	**52.9**	**D**	**51.1**	**D**	**<4**	**<0.8**			
		PM		**113.5**	**F**	**101.8**	**F**	**<4**	**<0.8**			
13	Chilco Street & Hamilton Avenue	AM	AWSC	24.5	C	**27.1**	**D**	<4	2.6	*Traffic signal potentially feasible*		
		PM		**>120**	**F**	**>120**	**F**	**24.7**	**24.7**			
14	Ravenswood Avenue & Middlefield Road	AM	Signal	49.7	D	49.7	D	<4	<0.8			
		PM		20.2	C	19.5	B	<4	<0.8			
15	Ringwood Avenue & Middlefield Road	AM	Signal	13.2	B	13.2	B	<4	<0.8			
		PM		21.0	C	21.1	C	<4	<0.8			
16	Willow Road & Bayfront Expressway*[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
17	Willow Road & Hamilton Avenue[1][2]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			

				Cumulative (2040) Conditions								
				GP Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
	Hamilton Avenue Southbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
	Main Street Northbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	Hamilton Avenue Southbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
	Main Street Northbound			***>120***	***F***	***>120***	***F***	***<4***	***>120***			
18	Willow Road & Park Street (future intersection)[1]	AM	Signal	Project Intersection		**OVERSAT**	**F**	**34.2**	**49.1**	***No feasible Improvement***		
		PM				**OVERSAT**	**F**	**17.2**	**23.1**			
19	Willow Road & Ivy Drive[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**46.2**	**98.7**	**OVERSAT**	**F**	
	Ivy Drive Southbound			***70.9***	***E***	***69.6***	***E***	***<4***	***<0.8***	***61.2***	***E***	***<0.8***
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**80.8**	**102.4**	**OVERSAT**	**F**	
	Ivy Drive Southbound			***68.1***	***E***	***71.7***	***E***	***<4***	***3.6***	*49.0*	*D*	*<0.8*
20	Willow Road & O'Brien Drive[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	O'Brien Drive Northbound			***>120***	***F***	***80.4***	***F***	***<4***	***<0.8***			
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	O'Brien Drive Northbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
21	Willow Road & Newbridge Street[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**25.9**	**74.2**	**OVERSAT**	**F**	
	Newbridge Street Southbound			***>120***	***F***	***108.8***	***F***	***<4***	***<0.8***	***>120***	***F***	***67.3***
	Newbridge Street Northbound			***>120***	***F***	***>120***	***F***	***101.4***	***>120***	***73.5***	***E***	***<0.8***

#	Intersection	Peak Hour	Traffic Control	Cumulative (2040) Conditions								
				GP Conditions		Project Conditions				With Improvement		
				Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**	**OVERSAT**	**F**	
	Newbridge Street Southbound			***84.3***	***F***	***>120***	***F***	***47.1***	***74.2***	***>120***	***F***	***>120***
	Newbridge Street Northbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***	*50.7*	*D*	*<0.8*
22	Willow Road & US 101 Northbound Ramps[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
23	Willow Road & US 101 Southbound Ramps[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
24	Willow Road & Bay Road[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**5.4**	**OVERSAT**	**F**	
	Bay Road Southbound			***>120***	***F***	***>120***	***F***	***30.3***	***30.3***	*27.8*	*C*	*<0.8*
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**	**OVERSAT**	**F**	
	Bay Road Southbound			***75.6***	***E***	***82.7***	***F***	***7.0***	***7.0***	*26.5*	*C*	*<0.8*
25	Willow Road & Hospital Plaza/Durham Street[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**11.0**	**OVERSAT**	**F**	
	VA Medical Center Southbound			***74.8***	***E***	***74.7***	***E***	***<4***	***<0.8***	***74.7***	***E***	***<0.8***
	Durham Street Northbound			***>120***	***F***	***>120***	***F***	***6.0***	***5.4***	***>120***	***F***	***<0.8***
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**1.3**	**OVERSAT**	**F**	
	VA Medical Center Southbound			***74.2***	***E***	***74.5***	***E***	***<4***	***<0.8***	***69.4***	***E***	***<0.8***
	Durham Street Northbound			***88.1***	***F***	***90.3***	***F***	***<4***	***2.8***	***59.9***	***E***	***<0.8***
26	Willow Road & Coleman Avenue	AM	Signal	34.9	C	34.3	C	<4	<0.8			

#	Intersection	Peak Hour	Traffic Control	Cumulative (2040) Conditions								
				GP Conditions		Project Conditions				With Improvement		
				Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
		PM		13.1	B	13.2	B	<4	<0.8			
27	Willow Road & Gilbert Avenue	AM	Signal	24.4	C	23.9	C	<4	<0.8			
		PM		14.2	B	14.1	B	<4	<0.8			
28	Willow Road & Middlefield Road	AM	Signal	**64.5**	**E**	**65.0**	**E**	**<4**	**<0.8**			
	Middlefield Road Southbound			***69.9***	***E***	***70.4***	***E***	***<4***	***<0.8***			
	Middlefield Road Northbound			***67.4***	***E***	***67.2***	***E***	***<4***	***<0.8***			
		PM	Signal	42.5	D	42.4	D	<4	<0.8			
	Middlefield Road Southbound			*42.1*	*D*	*42.2*	*D*	*<4*	*<0.8*			
	Middlefield Road Northbound			*40.6*	*D*	*40.8*	*D*	*<4*	*<0.8*			

				Cumulative (2040) Conditions								
				GP Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]
29	O'Brien Drive/Loop Road & Main Street/O'Brien Drive (future intersection)	AM	Rdbt	Project Intersection		8.8	A	8.8	8.8			
		PM				11.0	B	11.0	11.0			
30	O'Brien Drive & Kavanaugh Drive	AM	AWSC	**>120**	**F**	**>120**	**F**	**105.8**	**105.8**	*Traffic signal potentially feasible*		
		PM		**>120**	**F**	**>120**	**F**	**<4**	**<0.8**			
31	Adams Drive & Adams Court	AM	TWSC	20.1	C	17.8	C	<4	<0.8			
		PM		16.4	C	12.7	B	<4	<0.8			
32	Adams Drive & O'Brien Drive	AM	TWSC	**62.4**	**F**	**>120**	**F**	**>120**	**>120**	*Traffic signal potentially feasible*		
		PM		**>120**	**F**	**>120**	**F**	**>120**	**>120**			
33	University Avenue & Bayfront Expressway*	AM	Signal	14.8	B	13.3	B	<4	<0.8			
		PM		**>120**	**F**	**>120**	**F**	**<4**	**2.9**			

* Denotes CMP Intersection

AWSC - All Way Stop Control; TWSC - Two Way Stop Control; GP - General Plan; Rdbt = Roundabout

[1] Average delay is reported for signalized and AWSC intersections. For TWSC intersections, the delay for the worst stop-controlled movement is reported

"OVERSAT" indicates that the SimTraffic microsimulation model indicates that the intersection would experience capacity issues where the demand cannot be served by the intersection. Oversaturated intersections would operate at LOS F.

[1]Intersections were analyzed using Synchro/SimTraffic software due to the close proximity of these intersections. Changes in average delay and critical delay calculated using Vistro.

[2]The intersection is not considered as non-compliant under cumulative plus project conditions because the critical movement of the local approach shifts with the addition of project traffic.

Bold indicates substandard level of service

Bold indicates noncompliance. The project exceeds thresholds in the City of Menlo Park's TIA Guidelines. These are not CEQA thresholds.

Table 3.3-13. Cumulative (2040) Intersection Levels of Service (East Palo Alto)

				Cumulative (2040) Conditions							
				General Plan Conditions		with Project				With Improvement	
#	Intersection	Peak Hour	Traffic Control	Avg Delay (secs)[1]	LOS	Avg Delay (secs)[1]	LOS	Incr. in Avg/Crit Delay (sec)[1]	Incr. in Crit V/C	Avg Delay (secs)[1]	LOS
34	University Avenue & Purdue Avenue	AM	Signal	25.9	C	28	C	0.8	0.017		
		PM		37.1	D	40.8	D	4.2	0.031		
35	University Avenue & Adams Drive	AM	TWSC	**>120**	**F**	**>120**	**F**	**1.4**	**0.253**		
		PM		**>120**	**F**	**>120**	**F**	**-7.3**	**-0.130**		
36	University Avenue & O'Brien Drive	AM	Signal	21.1	C	43.1	D	29.3	0.245		
		PM		21.3	C	32.6	C	14.1	0.175		
37	University Avenue & Notre Dame Avenue	AM	Signal	8.0	A	10.6	B	3.1	0.070		
		PM		12.2	B	15.6	B	4.1	0.038		
38	University Avenue & Kavanaugh Drive	AM	Signal	26.8	C	17.5	B	-12.1	-0.110		
		PM		23.1	C	24.8	C	0.8	0.009		
39	University Avenue & Bay Road	AM	Signal	48.8	D	53.5	D	8.9	0.054		
		PM		**68.3**	**E**	**69.0**	**E**	**-1.9**	**-0.008**		
40	University Avenue & Runnymede Street	AM	Signal	9.7	A	11.7	B	11	0.075		
		PM		8.9	A	8.9	A	3.6	0.102		
41	University Avenue & Bell Street	AM	Signal	14.9	B	16.2	B	2	0.067		
		PM		26.4	C	34.8	C	13.4	0.069		
42	University Avenue & Donohoe Street*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**-1.4**	**-0.002**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**-4.9**	**-0.009**		
43	US 101 Northbound Off-Ramp & Donohoe Street*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**77.2**	**0.158**		
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**46.5**	**0.102**	***Corridor Improvement***	
44	Cooley Avenue & Donohoe Street*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**29.3**	**0.091**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**63.7**	**0.143**		

				Cumulative (2040) Conditions							
				General Plan Conditions		with Project				With Improvement	
#	Intersection	Peak Hour	Traffic Control	Avg Delay (secs)[1]	LOS	Avg Delay (secs)[1]	LOS	Incr. in Avg/Crit Delay (sec)[1]	Incr. in Crit V/C	Avg Delay (secs)[1]	LOS
45	University Avenue & US 101 Southbound Ramps*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**-2.0**	**-0.004**		
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**6.7**	**0.016**	***Corridor Improvement***	
46	University Avenue & Woodland Avenue*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**14.1**	**0.040**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**19.1**	**0.045**		
47	University Avenue & Middlefield Road	AM	Signal	36.3	D	36.2	D	0	0.007		
		PM		37.0	D	37.0	D	0.1	0.006		
48	Lytton Avenue & Middlefield Road	AM	Signal	50.8	D	50.8	D	0.1	0.001		
		PM		**88.7**	**F**	**90.0**	**F**	**1.6**	**0.004**		
47	E. Bayshore Road & Donahoe Street*	AM	Signal	**>120**	**F**	**>120**	**F**	**-22.4**	**-0.048**	***Corridor Improvement***	
		PM		**>120**	**F**	**>120**	**F**	**-5.3**	**-0.011**		
48	E. Bayshore Road & Holland Street	AM	TWSC	8.8	A	8.8	A	0.0	0.000		
		PM		10.0	A	10.0	A	0.0	0.000		
49	Saratoga Avenue & Newbridge Street	AM	TWSC	**>120**	**F**	**>120**	**F**	**9.8**	**0.061**	***No Feasible Improvement***	
		PM		**40.0**	**E**	28.6	D	**-2.2**	**-0.120**		
50	E. Bayshore Road & Euclid Avenue*	AM	AWSC	**OVERSAT**	**F**	**OVERSAT**	**F**	**53.8**	**0.057**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**-2.7**	**-0.009**		
51	Clarke Avenue & E. Bayshore Road	AM	Signal	14.1	B	14.2	B	0.2	0.014		
		PM		13.9	B	14.0	B	0.2	0.007		
52	Pulgas Avenue & E. Bayshore Road	AM	Signal	25.4	C	26.5	C	1.4	0.017		
		PM		48.1	D	47.3	D	-0.4	-0.002		

*Denotes a CMP intersection
AWSC - All Way Stop Control; TWSC - Two Way Stop Control

				Cumulative (2040) Conditions							
				General Plan Conditions		with Project				With Improvement	
#	Intersection	Peak Hour	Traffic Control	Avg Delay (secs)[1]	LOS	Avg Delay (secs)[1]	LOS	Incr. in Avg/Crit Delay (sec)[1]	Incr. in Crit V/C	Avg Delay (secs)[1]	LOS

[1]Average delay is reported for signalized and AWSC intersections. For TWSC intersections, the delay for the worst stop-controlled movement is reported.

[2]Intersection is signalized under cumulative conditions.
"OVERSAT" indicates that the SimTraffic microsimulation model indicates that the intersection would experience capacity issues where the demand cannot be served by the intersection. Oversaturated intersections would operate at LOS F.
*Intersections were analyzed using Synchro/SimTraffic software due to the close proximity of these intersections. Changes in critical delay and v/c calculated using Traffix.

Bold indicates substandard level of service

Bold indicates adverse effect

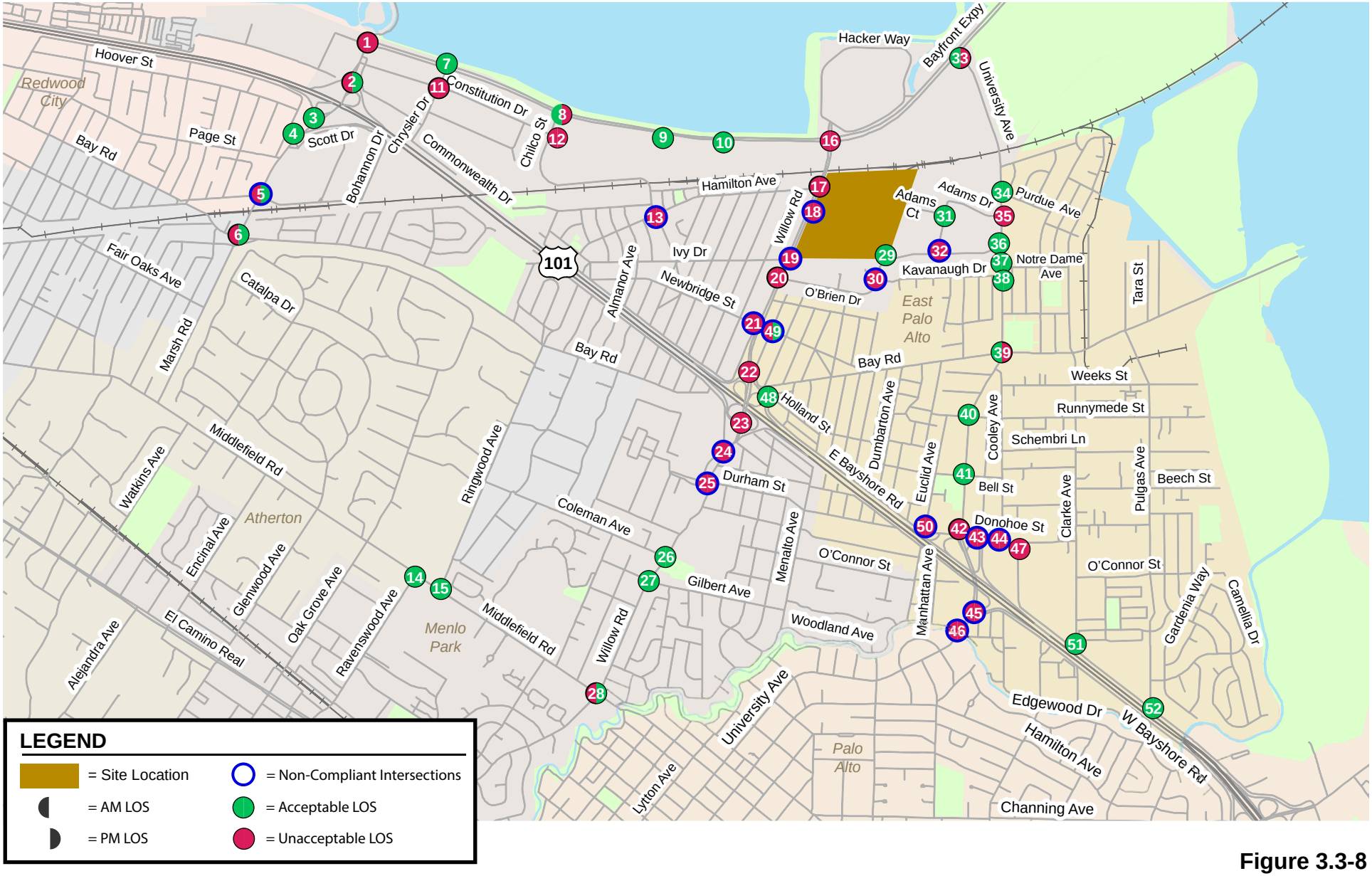


Figure 3.3-8
Cumulative (2040) Plus Project Intersection Level of Service Summary

Adverse Effects and Recommended Improvements

For intersections that are non-compliant under both near-term plus project conditions and cumulative plus project conditions, the recommended improvements proposed under near term plus project conditions would be sufficient to address cumulative non-compliance. Improvements for intersections that are non-compliant only under cumulative plus project conditions are described below.

Marsh Road and Bohannon Drive/Florence Street

This intersection is expected to operate at an unacceptable LOS E during the AM peak hour and an acceptable LOS D during the PM peak hour under cumulative conditions. The addition of Project traffic would cause the average critical delay to increase by more than 0.8 during the AM peak hour. The intersection would continue to operate at an acceptable LOS D during the PM peak hour. This constitutes non-compliance during the AM peak hour according to the thresholds established by the City of Menlo Park.

Modification of the westbound approach at this intersection to a left-turn lane, two through lanes, and a right-turn lane would improve the average delay to better than cumulative no project conditions. Menlo Park's TIF program proposes Class II buffered bike lanes along Marsh Road from Bay Road to Scott Road in both directions and the removal of on-street parking in the eastbound direction. The restriping of the vehicle travel lanes to include a westbound right-turn only lane and the proposed Class II buffered bike lane would require narrowing the travel lanes to 11 feet and removal of the median. While this is possible, removal of the median would require removing at least one tree as well as the signal pole in the median. Upgrades to at least one mast arm would be required to replace the removed median signal. Physical improvements at this intersection are considered infeasible due to right-of-way constraints and/or adverse effects on pedestrian and bicycle travel. The City's TIF program includes multi-modal improvements along the Marsh Road corridor such as Class II buffered bike lanes along Marsh Road from Bay Road to Scott Road, and installing sidewalks along the north-side of Marsh Road between Page Street and Bohannon Drive/Florence Street. Implementing recommended multi-modal facilities along the corridor (from the City's TIF program) could shift some motor vehicle traffic to alternative modes of travel and reduce congestion. With implementation of these multi-modal improvements, the intersection deficiencies could be further reduced and partially address the Proposed Project's share of the non-compliant operations at this intersection.

Willow Road and Ivy Drive

Willow Road and Ivy Drive is an intersection on the Willow Road Corridor, which is expected to experience capacity issues due to unserved demand at the intersections. This intersection would operate unacceptably under cumulative conditions during both peak hours. With the addition of Project traffic, it would continue to operate unacceptable during both peak hours. In the PM peak hour, the increase in the critical movement delay of the local approach would be greater than 0.8 seconds. This constitutes non-compliance during the PM peak hour according to the thresholds established by the City of Menlo Park.

The Menlo Park TIF proposes to install a right-turn overlap phase on southbound Ivy Drive and restrict eastbound Willow Road U-turns. This would improve the critical movement delay of the local approach to better than cumulative no project conditions. The Project is required to pay traffic impact fees according to the City's current TIF schedule.

Willow Road and Hospital Plaza/Durham Street

Willow Road and Hospital Plaza/Durham Street is an intersection on the Willow Road Corridor, which is expected to experience capacity issues due to unserved demand at the intersections. This intersection would operate unacceptably under cumulative conditions during both peak hours. With the addition of Project traffic, it would continue to operate unacceptably during both peak hours. In the AM and PM peak hour, the increase in the critical movement delay of the local approach would be greater than 0.8 seconds. This constitutes non-compliance during both peak hours according to the thresholds established by the City of Menlo Park.

The recommended improvement measure for this intersection is restriping northbound Durham Street as a shared left-through lane and right-turn lane, and adding a northbound right turn overlap phase. With this improvement, the critical movement delay of the local approach would improve to better than cumulative no project conditions in the AM peak hour. The PM peak hour would continue to be non-compliant. If this recommended improvement measure is implemented, the Project should contribute its fair share (25%) towards the improvement. Fair share is calculated as the percentage of net project traffic generated of the overall cumulative traffic growth at this intersection.

University Avenue and Woodland Avenue

University Avenue and Woodland Avenue is in the vicinity of the US 101/University Avenue interchange and is expected to experience capacity issues due to unserved demand at the intersections. This intersection would operate unacceptably under cumulative conditions during both peak hours. With the addition of Project traffic, it would continue to operate unacceptably during both peak hours. In the AM and PM peak hour, the increase in the average critical delay would be greater than four seconds and the increase in the volume to capacity ratio would be greater than 0.01. This constitutes non-compliance during both peak hours according to the thresholds established by the City of East Palo Alto.

The recommended Donohoe Street improvements (see Appendix 3.3, Transportation, of this EIR) at Euclid Avenue and at the US 101 northbound on-ramp would improve traffic flow on University Avenue and eliminate the queue spillback that extends from Donohoe Street past Woodland Avenue. While the University Avenue and Woodland Avenue intersection is expected to continue to operate at LOS F during both peak hours, the Donohoe Street improvements would reduce the average delay at the intersection below cumulative conditions without the Project. With these improvements, the intersection would comply with the City of East Palo Alto's level of service policy. As discussed under the background plus Project discussion above, the project would pay its fair share costs towards the intersection improvements at the 6 intersections of the University Avenue/Donohoe Street/US 101 corridor.

Saratoga Avenue and Newbridge Street

This intersection is expected to operate at an acceptable LOS F during the AM peak hour and an unacceptable LOS E during the PM peak hour under cumulative conditions. With the addition of Project traffic, the intersection average critical delay at the intersection would increase by four seconds and the volume to capacity ratio would increase by 0.01 during the AM peak hour. This constitutes as non-compliance during the AM peak hour according to the thresholds established by the City of East Palo Alto.

Since the intersection currently operates as two-way-stop-controlled, potential modification to bring the intersection to pre-project conditions would be to signalize it. The intersection would meet the MUTCD signal warrant during both peak hours under project conditions (see Appendix 3.3, Transportation, of this EIR). With this improvement, the intersection would operate acceptably at LOS C during the AM peak hour

and LOS B during the PM peak hour under cumulative plus project conditions. However, since the intersection is located only 200 feet south of Willow Road, signalization is not recommended. Short of signalization, no other improvements are feasible. Furthermore, given this intersection is located outside of the City of Menlo Park, the City cannot ensure implementation of any improvements. This intersection is also not listed with improvements in the City of East Palo Alto TIF.

Bayshore Road and Euclid Avenue

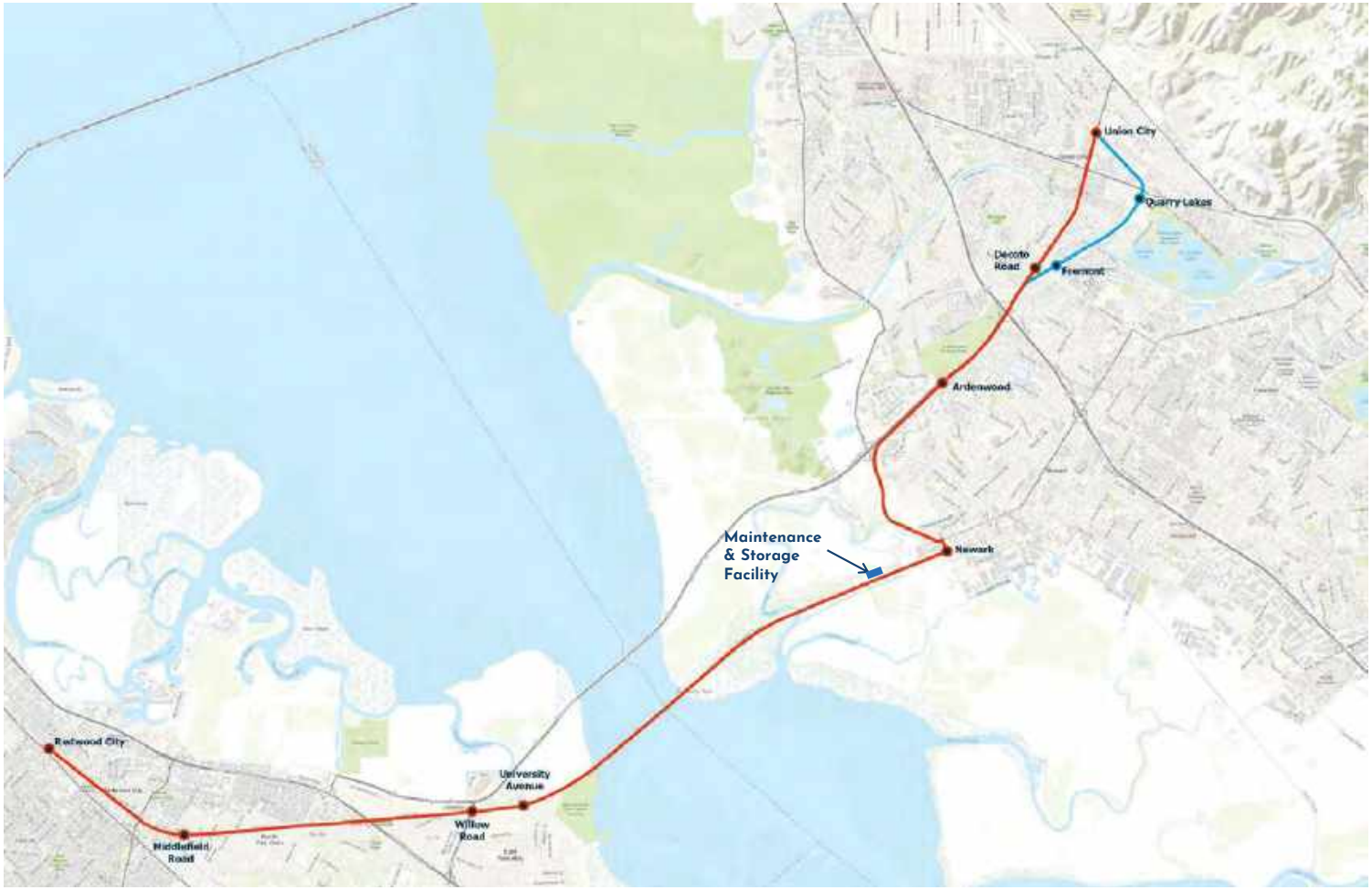
Bayshore Road and Euclid Avenue is in the vicinity of the US 101/University Avenue interchange and is expected to experience capacity issues due to unserved demand at the intersections. This intersection would operate unacceptably under cumulative conditions during both peak hours. With the addition of Project traffic, it would continue to operate unacceptably during both peak hours. In the AM peak hour, the increase in the average critical delay would be greater than four seconds and the increase in the volume to capacity ratio would be greater than 0.01. This constitutes non-compliance during the AM peak hour according to the thresholds established by the City of East Palo Alto.

Since the intersection currently operates as all-way-stop-controlled, potential modification to bring the intersection to pre-project conditions would be to signalize it and add a westbound right turn only lane. This improvement is included in the recommended Donohoe Street improvements (see Appendix 3.3, Transportation, of this EIR). The proposed improvements at Euclid Avenue and at the US 101 northbound on-ramp would improve traffic flow on University Avenue and eliminate the queue spillback that extends from Donohoe Street past Woodland Avenue. This would reduce the average delay at the intersection below cumulative conditions without the project. With these improvements, the intersection would be in compliance with the City of East Palo Alto's level of service policy. As discussed under the background plus project discussion above, the Project would pay its fair share costs towards the intersection improvements at the 6 intersections of the University Avenue/Donohoe Street/US 101 corridor, which includes the intersection at Bayshore Road and Euclid Avenue.

Cumulative (2040) Plus Project with Dumbarton Rail Intersection Levels of Service

Dumbarton rail service has not been designed, subjected to environmental review, approved, or funded. As a result, future Dumbarton rail service is speculative at this time and might or might not occur. If it does occur, capacity, frequency, ridership and other operational features are unknown at this time. As a result, any forecast of potential future traffic with Dumbarton rail service is speculative. The following analysis is provided for informational purposes to give the public and decision makers an idea of what impact Dumbarton rail might have on traffic based on a specific set of ridership assumptions. These impacts would occur instead of the impact identified above under Cumulative (2040) Plus Project Intersection Levels of Service.

Based on the *Dumbarton Rail Corridor Update* in March 2021, preliminary forecasts suggest that under 2040 conditions, the high-end ridership projections for the highest-ridership alternative would be around 24,300 riders per day. In comparison, the low-end ridership projections for the lowest-ridership alternative would be around 14,600 riders per day. As shown in Figure 3.3-9, Potential Dumbarton Rail Corridor Alignment, this highest ridership forecast would be realized over a potential corridor with 10 stations located between downtown Redwood City and the Union City BART station. It should be noted that this potential corridor includes a stop on Willow Road just north of the proposed Project Site. At the time of this study's initiation, the ability to park-and-ride at the stations along this potential corridor was not available.



San Mateo County TRANSIT DISTRICT

LEGEND

= Primary Alignment

= Alternative Alignment

LRT, BRT, & AVT Alignment

Note: Alignments and stations are being studied for technical feasibility in regards to engineering, operations, land use, city and agency coordination

Figure 3.3-9
Proposed Dumbarton Rail Corridor Alignment

NORTH
Not to Scale

This study assumed the highest ridership projections as well as no park-and-ride capability at the stations. More ridership along the Dumbarton Rail corridor would mean lower traffic volumes. Therefore, the assumptions of this study would equate to evaluating the largest potential reduction in traffic volumes assuming the operation of Dumbarton Rail service.

To represent the daily ridership in the model, daily travel between TAZs within a quarter-mile radius of the stations was reduced by 24,300 daily person-level driving trips, or roughly 19,000 daily vehicular-trips. During a one-hour peak hour, based on the highest ridership projections, the Dumbarton Rail corridor would reduce approximately 1,900 peak hour vehicular trips, of which approximately half of the trip reduction would occur within the study area. These trips are assumed to be between TAZ sets within a quarter-mile radius of different stations, as the stations are assumed to not contain park-and-ride capabilities. A quarter-mile radius from the stations represents walkable distances to the stations.

A cumulative with Dumbarton rail scenario was evaluated where the model assumed the operation of potential Dumbarton Rail service. The purpose of this scenario was to provide information on the possible effects of future Dumbarton Rail on the transportation network based on the assumptions made herein about such future service. The Dumbarton Rail was estimated to reduce the Proposed Project's vehicular trip generation by approximately 4%. A cumulative plus project with Dumbarton Rail scenario was compared against the cumulative with Dumbarton Rail scenario to inform the potential effects of the Project-generated traffic assuming potential Dumbarton Rail service. Assumptions included in the Dumbarton rail scenarios are detailed in Appendix 3.3, Transportation, of this EIR.

The results of the intersection level of service analysis under near cumulative (2040) plus project conditions with the Dumbarton rail are summarized in Tables 3.3-14 and 3.3-15. Compared to cumulative plus project conditions without the Dumbarton Rail, the delay at all of the intersections would improve with Dumbarton Rail. While the overall motor vehicle operations would experience reduced delay with Dumbarton Rail, when evaluating for intersection LOS compliance, the determination is based on the relative increase in delay due to the Project compared to no project conditions (cumulative conditions with Dumbarton Rail). Comparing "cumulative plus project with Dumbarton Rail" conditions to "cumulative plus project without Dumbarton Rail" conditions, the following study intersection would no longer be non-compliant:

25. Willow Road & Durham Street

The following additional study intersections would be non-compliant under cumulative plus project conditions with the Dumbarton rail as compared to cumulative plus project conditions without the Dumbarton Rail:

6. Marsh Road and Bay Road (AM peak hour)

11. Chrysler Drive and Constitution Drive (AM peak hour)

16. Willow Road and Bayfront Expressway (AM peak hour)

Under cumulative conditions with or without the Project, the road network is over saturated. Since the Dumbarton rail would reduce vehicular traffic (i.e. 1,900 peak hour trips) in the area due to the increase in transit mode share, the Menlo Park Travel Demand model assigns more Project-generated traffic at some intersections where vehicular capacity is now available. Menlo Park's level of service standards and adverse effect criteria are very stringent where a small change in traffic can trigger a non-compliance at an intersection. Therefore, the relative increase in delay due to the Project at some intersections between "cumulative with Dumbarton Rail" and "cumulative plus project with Dumbarton Rail" would be greater than the Menlo Park threshold, causing additional intersections to be non-compliant under cumulative plus project conditions with the Dumbarton rail.

Table 3.3-14. Cumulative (2040) With Dumbarton Rail Intersection Levels of Service (Menlo Park)

				Cumulative Conditions (With Dumbarton Rail)								
				No Project Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Critical Delay
1	Marsh Road & Bayfront Expressway*	AM	Signal	**68.5**	**E**	**65.3**	**E**	**<4**	**<0.8**			
	Haven Avenue Southbound			***70.5***	***E***	***71.7***	***E***	***<4***	***<0.8***			
		PM	Signal	**63.2**	**E**	**72.8**	**E**	**9.6**	**11.4**			
	Haven Avenue Southbound			***67.6***	***E***	***67.6***	***E***	***<4***	***<0.8***			
2	Marsh Road & US 101 Northbound Off-Ramp	AM	Signal	**60.7**	**E**	**61.9**	**E**	**<4**	**1.4**			
		PM		22.9	C	22.7	C	<4	<0.8			
3	Marsh Road & US 101 Southbound Off-Ramp	AM	Signal	22.8	C	22.6	C	<4	<0.8			
		PM		19.2	B	18.7	B	<4	<0.8			
4	Marsh Road & Scott Drive	AM	Signal	31.2	C	30.4	C	<4	<0.8			
		PM		17.8	B	17.8	B	<4	<0.8			
5	Marsh Road & Bohannon Drive /Florence Street	AM	Signal	**57.8**	**E**	**58.7**	**E**	**<4**	**2.7**	**55.1**	**E**	**<0.8**
		PM		51.5	D	53.1	D	<4	2.7	48.1	D	<0.8
6	Marsh Road & Bay Road	AM	Signal	54.5	D	**63.5**	**E**	**9.0**	**18.9**	***No feasible Improvement***		
		PM		47.9	D	51.2	D	<4	6.8			
7	Chrysler Drive & Bayfront Expressway	AM	Signal	13.0	B	12.5	B	<4	6.0			
		PM		38.3	D	33.5	C	<4	<0.8			
8	Chilco Street & Bayfront Expressway	AM	Signal	43.2	D	45.5	D	<4	7.3			

				Cumulative Conditions (With Dumbarton Rail)								
				No Project Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Critical Delay
	Chilco Street Eastbound			***116.3***	***F***	***108.8***	***F***	***<4***	***<0.8***			
		PM	Signal	**68.3**	**E**	**65.6**	**E**	**<4**	**<0.8**			
	Chilco Street Eastbound			*>120*	*F*	***>120***	***F***	***<4***	***<0.8***			
9	MPK 21 Driveway & Bayfront Expressway	AM	Signal	5.7	A	5.6	A	<4	<0.8			
		PM		36.3	D	36.1	D	<4	<0.8			
10	MPK 20 Driveway (east) & Bayfront Expressway	AM	Signal	10.1	B	9.9	A	<4	<0.8			
		PM		18.6	B	18.8	B	<4	<0.8			
11	Chrysler Drive & Constitution Drive	AM	Signal	**>120**	**F**	**>120**	**F**	**31.2**	**50.3**	***No feasible Improvement***		
		PM	Signal	**>120**	**F**	**>120**	**F**	**<4**	**<0.8**			
12	Chilco Street & Constitution Drive/MPK 22 Driveway[2]	AM	Signal	**50.1**	**D**	**53.9**	**D**	**<4**	**<0.8**			
		PM		**111.8**	**F**	**99.2**	**F**	**<4**	**<0.8**			
13	Chilco Street & Hamilton Avenue	AM	AWSC	23.6	C	24.3	C	<4	<0.8	*Traffic signal potentially feasible*		
		PM		**>120**	**F**	**>120**	**F**	**18.2**	**18.2**			
14	Ravenswood Avenue & Middlefield Road	AM	Signal	49.7	D	49.7	D	<4	<0.8			
		PM		20.3	C	19.5	B	<4	<0.8			
15	Ringwood Avenue & Middlefield Road	AM	Signal	13.2	B	13.2	B	<4	<0.8			
		PM		21.0	C	21.1	C	<4	<0.8			

				Cumulative Conditions (With Dumbarton Rail)								
				No Project Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Critical Delay
16	Willow Road & Bayfront Expressway*[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**5.3**	**<0.8**	***No feasible Improvement***		
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
17	Willow Road & Hamilton Avenue[1][2]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	Hamilton Avenue Southbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
	Main Street Northbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	Hamilton Avenue Southbound			***>120***	***F***	***>120***	***F***	***27.4***	***<0.8***			
	Main Street Northbound			***>120***	***F***	***>120***	***F***	***<4***	***>120***			
18	Willow Road & Park Street (future intersection)[1]	AM	Signal	Project Intersection		**OVERSAT**	**F**	**33.6**	**47.8**	***No feasible Improvement***		
		PM				**OVERSAT**	**F**	**16.2**	**21.7**			
19	Willow Road & Ivy Drive[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**52.0**	**105.8**	**OVERSAT**	**F**	
	Ivy Drive Southbound			***72.8***	***E***	***69.6***	***E***	***<4***	***<0.8***	***61.3***	***E***	***<0.8***
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**85.2**	**107.3**	**OVERSAT**	**F**	
	Ivy Drive Southbound			***65.2***	***E***	***71.7***	***E***	***6.5***	***7.9***	***60.4***	***E***	***<0.8***
20	Willow Road & O'Brien Drive[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	O'Brien Drive Northbound			***108.2***	***F***	***80.4***	***F***	***<4***	***<0.8***			
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			

				Cumulative Conditions (With Dumbarton Rail)								
				No Project Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Critical Delay
	O'Brien Drive Northbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
21	Willow Road & Newbridge Street[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**31.5**	**97.3**	**OVERSAT**	**F**	
	Newbridge Street Southbound			***115.1***	***F***	***108.8***	***F***	***<4***	***<0.8***	***>120***	***F***	***103.1***
	Newbridge Street Northbound			***>120***	***F***	***>120***	***F***	***>120***	***>120***	*23.2*	*C*	*<0.8*
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**	**OVERSAT**	**F**	
	Newbridge Street Southbound			***83.5***	***F***	***>120***	***F***	***42.8***	***67.4***	***>120***	***F***	***101.1***
	Newbridge Street Northbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***	*31.2*	*C*	*<0.8*
22	Willow Road & US 101 Northbound Ramps[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
23	Willow Road & US 101 Southbound Ramps[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
24	Willow Road & Bay Road[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**6.7**	**OVERSAT**	**F**	
	Bay Road Southbound			***>120***	***F***	***>120***	***F***	***36.1***	***36.1***	*27.6*	*C*	*<0.8*
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**	**OVERSAT**	**F**	
	Bay Road Southbound			***74.5***	***E***	***81.7***	***F***	***7.2***	***7.2***	*26.5*	*C*	*<0.8*
25	Willow Road & Hospital Plaza/ Durham Street[1]	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			

				Cumulative Conditions (With Dumbarton Rail)								
				No Project Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Critical Delay
	VA Medical Center Southbound			***74.7***	***E***	***74.7***	***E***	***<4***	***<0.8***			
	Durham Street Northbound			***>120***	***F***	***>120***	***F***	***<4***	***<0.8***			
		PM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**<4**	**<0.8**			
	VA Medical Center Southbound			***74.2***	***E***	***74.0***	***E***	***<4***	***<0.8***			
	Durham Street Northbound			***88.1***	***F***	***88.1***	***F***	***<4***	***<0.8***			
26	Willow Road & Coleman Avenue	AM	Signal	33.9	C	33.6	C	<4	3.4			
		PM		13.1	B	13.2	B	<4	<0.8			
27	Willow Road & Gilbert Avenue	AM	Signal	23.7	C	23.4	C	<4	<0.8			
		PM		14.1	B	13.9	B	<4	<0.8			
28	Willow Road & Middlefield Road	AM	Signal	**64.4**	**E**	**64.8**	**E**	**<4**	**0.8**			
	Middlefield Road Southbound			***69.8***	***E***	***70.0***	***E***	***<4***	***<0.8***			
	Middlefield Road Northbound			***67.4***	***E***	***67.2***	***E***	***<4***	***<0.8***			
		PM	Signal	42.5	D	42.3	D	<4	<0.8			
	Middlefield Road Southbound			*42.1*	*D*	*42.1*	*D*	*<4*	*<0.8*			
	Middlefield Road Northbound			*40.6*	*D*	*40.7*	*D*	*<4*	*<0.8*			
29	O'Brien Drive/Loop Road & Main Street/O'Brien Drive (future intersection)	AM	Rdbt	Project Intersection		8.4	A	8.4	8.4			
		PM				10.2	B	10.2	10.2			

				Cumulative Conditions (With Dumbarton Rail)								
				No Project Conditions		Project Conditions				With Improvement		
#	Intersection	Peak Hour	Traffic Control	Avg. Delay (sec)[1]	LOS	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Delay	Incr. in Avg. Critical Delay	Avg. Delay (sec)[1]	LOS	Incr. in Avg. Critical Delay
30	O'Brien Drive & Kavanaugh Drive	AM	AWSC	**>120**	**F**	**>120**	**F**	**>120**	**>120**	*Traffic signal potentially feasible*		
		PM		**>120**	**F**	**>120**	**F**	**10.9**	**10.9**			
31	Adams Drive & Adams Court	AM	TWSC	18.9	C	17.3	C	<4	<0.8			
		PM		15.8	C	12.6	B	<4	<0.8			
32	Adams Drive & O'Brien Drive	AM	TWSC	**47.2**	**E**	**>120**	**F**	**>120**	**>120**	*Traffic signal potentially feasible*		
		PM		**>120**	**F**	**>120**	**F**	**>120**	**>120**			
33	University Avenue & Bayfront Expressway*	AM	Signal	14.7	B	13.1	B	<4	<0.8			
		PM		**>120**	**F**	**>120**	**F**	**<4**	**<0.8**			

* Denotes CMP Intersection

AWSC - All Way Stop Control; TWSC - Two Way Stop Control; GP - General Plan; Rdbt - Roundabout

[1] Average delay is reported for signalized and AWSC intersections. For TWSC intersections, the delay for the worst stop-controlled movement is reported

"OVERSAT" indicates that the SimTraffic microsimulation model indicates that the intersection would experience capacity issues where the demand cannot be served by the intersection. Oversaturated intersections would operate at LOS F.

[1]Intersections were analyzed using Synchro/SimTraffic software due to the close proximity of these intersections. Changes in average delay and critical delay calculated using Vistro.

[2]The intersection is not considered as non-compliant under cumulative plus project conditions because the critical movement of the local approach shifts with the addition of project traffic.

Bold indicates substandard level of service

Bold indicates noncompliance. The project exceeds thresholds in the City of Menlo Park's TIA Guidelines. These are not CEQA thresholds.

Table 3.3-15. Cumulative (2040) With Dumbarton Rail Intersection Levels of Service (East Palo Alto)

				Cumulative (2040) Conditions (Dumbarton Rail)							
				No Project		with Project				With Improvement	
#	Intersection	Peak Hour	Traffic Control	Avg Delay (secs)[1]	LOS	Avg Delay (secs)[1]	LOS	Incr. in Avg/Crit Delay (sec)[1]	Incr. in Crit V/C	Avg Delay (secs)[1]	LOS
34	University Avenue & Purdue Avenue	AM	Signal	25.9	C	22.3	C	-3.8	-0.071		
		PM		28.0	C	24.2	C	-3.6	-0.081		
35	University Avenue & Adams Drive	AM	TWSC	**>120**	**F**	**>120**	**F**	**1.5**	**0.322**		
		PM		**>120**	**F**	**>120**	**F**	**-6.9**	**-0.122**		
36	University Avenue & O'Brien Drive	AM	Signal	20.4	C	38.7	D	24.3	0.225		
		PM		20.1	C	31.4	C	14.4	0.176		
37	University Avenue & Notre Dame Avenue	AM	Signal	8.0	A	10.6	B	3.1	0.070		
		PM		11.3	B	14.8	B	4.1	0.036		
38	University Avenue & Kavanaugh Drive	AM	Signal	24.7	C	17.5	B	3.1	0.070		
		PM		22.7	C	23.5	C	4.4	0.039		
39	University Avenue & Bay Road	AM	Signal	47.4	D	52	D	8.4	0.056		
		PM		**64.0**	**E**	**67.7**	**E**	**3.7**	**0.012**		
40	University Avenue & Runnymede Street	AM	Signal	9.4	A	10.9	B	8.1	0.062		
		PM		8.9	A	8.9	A	3.5	0.100		
41	University Avenue & Bell Street	AM	Signal	14.9	B	15.9	B	1.6	0.055		
		PM		26.1	C	32.9	C	10.9	0.062		
42	University Avenue & Donohoe Street*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**4.6**	**0.011**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**-4.9**	**-0.009**		
43	US 101 Northbound Off-Ramp & Donohoe Street*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**77.2**	**0.158**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**48.9**	**0.108**		
44	Cooley Avenue & Donohoe Street*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**27.2**	**0.085**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**62.9**	**0.143**		

				Cumulative (2040) Conditions (Dumbarton Rail)							
				No Project		with Project				With Improvement	
#	Intersection	Peak Hour	Traffic Control	Avg Delay (secs)[1]	LOS	Avg Delay (secs)[1]	LOS	Incr. in Avg/Crit Delay (sec)[1]	Incr. in Crit V/C	Avg Delay (secs)[1]	LOS
45	University Avenue & US 101 Southbound Ramps*	AM	Signal	**OVERSAT**	**F**	**OVERSAT**	**F**	**-2.5**	**-0.005**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**7.0**	**0.017**		
46	University Avenue & Woodland Avenue*	AM	Signal	**OVERSAT**	**E**	**OVERSAT**	**E**	**14.1**	**0.040**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**12.0**	**0.028**		
47	E. Bayshore Road & Donahoe Street*	AM	Signal	**>120**	**F**	**>120**	**F**	**-8.8**	**-0.019**	***Corridor Improvement***	
		PM		**>120**	**F**	**>120**	**F**	**-4.9**	**-0.010**		
48	E. Bayshore Road & Holland Street	AM	TWSC	8.8	A	8.8	A	0.0	0.000		
		PM		10.0	A	10.0	A	0.0	0.000		
49	Saratoga Avenue & Newbridge Street	AM	TWSC	**>120**	**F**	**>120**	**F**	**4.7**	**0.075**	***No Feasible Improvement***	
		PM		**37.2**	**E**	25.0	D	-2.6	-0.103		
50	E. Bayshore Road & Euclid Avenue*	AM	AWSC	**OVERSAT**	**F**	**OVERSAT**	**F**	**42.4**	**0.062**	***Corridor Improvement***	
		PM		**OVERSAT**	**F**	**OVERSAT**	**F**	**-5.7**	**-0.016**		
51	Clarke Avenue & E. Bayshore Road	AM	Signal	14.1	B	14.2	B	0.1	0.008		
		PM		13.9	B	14.0	B	0.1	0.007		
52	Pulgas Avenue & E. Bayshore Road	AM	Signal	25.4	C	26.2	C	1.1	0.013		
		PM		47.4	D	47.2	D	0.2	0.001		

*Denotes a CMP intersection
AWSC - All Way Stop Control; TWSC - Two Way Stop Control

[1]Average delay is reported for signalized and AWSC intersections. For TWSC intersections, the delay for the worst stop-controlled movement is reported.

				Cumulative (2040) Conditions (Dumbarton Rail)							
				No Project		with Project				With Improvement	
#	Intersection	Peak Hour	Traffic Control	Avg Delay (secs)[1]	LOS	Avg Delay (secs)[1]	LOS	Incr. in Avg/Crit Delay (sec)[1]	Incr. in Crit V/C	Avg Delay (secs)[1]	LOS

"OVERSAT" indicates that the SimTraffic microsimulation model indicates that the intersection would experience capacity issues where the demand cannot be served by the intersection. Oversaturated intersections would operate at LOS F.

*Intersections were analyzed using Synchro/SimTraffic software due to the close proximity of these intersections. Changes in critical delay and v/c calculated using Traffix.

Bold indicates substandard level of service

Bold indicates adverse effect

Adverse Effects and Recommended Improvements

For intersections that are non-compliant under cumulative plus project conditions and cumulative plus project with Dumbarton rail conditions, the improvements proposed under cumulative plus project conditions would be sufficient to address cumulative non-compliance. Improvements for intersections that are non-compliant only under cumulative plus project with Dumbarton rail conditions are described below. As noted below, no additional feasible improvements are identified and the improvement measures identified below are for informational purposes only.

Marsh Road and Bay Road

This intersection is expected to operate at an acceptable LOS D during both peak hours under cumulative conditions with the Dumbarton rail. The addition of Project traffic would cause the intersection to operate at LOS E during the AM peak hour. The intersection would continue to operate at an acceptable LOS D during the PM peak hour. This constitutes non-compliance during the AM peak hour according to the thresholds established by the City of Menlo Park.

Physical improvements at this intersection are considered infeasible due to right-of-way constraints and/or adverse effects on pedestrian and bicycle travel. Menlo Park's TIF program proposes Class II buffered bike lanes along Marsh Road from Bay Road to Scott Road in both directions. The improvement may lead to an overall increase in bicycle mode share but would not offset the Project traffic.

Chrysler Drive and Constitution Drive

This intersection is expected to operate at an unacceptable LOS F during both peak hours under cumulative conditions with Dumbarton rail. With the addition of Project traffic, the average critical delay would increase by more than 0.8 seconds during the AM peak hour. The intersection would continue to operate acceptably during the PM peak hour. This constitutes non-compliance during the AM peak hour according to the thresholds established by the City of Menlo Park.

Physical improvements at this intersection are considered infeasible due to right-of-way constraints and/or adverse effects on pedestrian and bicycle travel.

Willow Road and Bayfront Expressway

Improvements for this intersection are discussed under the near term plus project section as part of the Willow Road corridor improvements, and is not repeated here.

Intersection Vehicle Queuing

The analysis of intersection levels of service was supplemented with a vehicle queuing analysis for intersection left-turning movements where the Proposed Project would add significant trips per lane in the vicinity of the Project Site and affect intersection operations. This analysis provides a basis for estimating future storage requirements at these intersections (see Table 3.3-16). Vehicle queues were estimated using the methodology described in Appendix 3.3, Transportation, of this EIR.

Locations where the estimated 95th percentile queues would exceed the available storage capacity for the movement are discussed below. Queuing issues are operational issues resulting from signal timing and queue storage provisions. Queuing issues are not considered a CEQA issue related to hazards.

Table 3.3-16. Intersection Vehicle Queuing Analysis

Intersection	Willow Road & Bayfront Expressway[3]		Willow Road & Ivy Drive[3]		Willow Road & Bay Road[3]		University Avenue & O'Brien Drive[4]			
Movement	**EBLT**		**EBLT**		**SBLT**		**EBLT**		**SBLT**	
Peak Hour Period	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Existing										
Cycle/Delay[1] (sec)	140	140	130	130	48	48	150	150	150	150
Lanes	1	1	1	1	1	1	1	1	1	1
Volume (vph)	195	88	49	44	352	241	110	6	32	185
95th% Queue (veh/ln)	24	5	4	3	16	7	8	1	3	13
95th% Queue (ft/ln)	600	125	100	75	400	175	200	25	75	325
Storage (ft/ ln)	300	300	125	125	250	250	125	125	50	50
Adequate (Y/N)	***N***	Y	Y	Y	***N***	Y	***N***	Y	***N***	***N***
Near-Term										
Cycle/Delay[1] (sec)	140	140	130	130	48	48	150	150	150	150
Lanes	1	1	1	1	1	1	1	1	1	1
Volume (vph)	210	151	81	80	406	283	110	6	33	185
95th% Queue (veh/ln)	27	8	8	5	23	11	8	1	4	13
95th% Queue (ft/ln)	675	200	200	125	575	275	200	25	100	325
Storage (ft/ ln)	300	300	125	125	250	250	125	125	50	50
Adequate (Y/N)	***N***	Y	***N***	Y	***N***	***N***	***N***	Y	***N***	***N***
Near-Term Plus Project										
Cycle/Delay[1] (sec)	140	140	130	130	48	48	150	150	150	150
Lanes	1	1	1	1	1	1	1	1	1	1
Volume (vph)	225	189	91	83	438	301	525	22	58	185
95th% Queue (veh/ln)	30	9	11	6	29	13	30	3	5	13
95th% Queue (ft/ln)	750	225	275	150	725	325	750	75	125	325
Storage (ft/ ln)	300	300	125	125	250	250	125	125	50	50
Adequate (Y/N)	***N***	Y	***N***	***N***	***N***	***N***	***N***	Y	***N***	***N***

Notes:
SB = southbound; EB = eastbound; L/T/R = shared left-through-right; RT = right turn movement; LT = left turn movement
[1] Vehicle queue calculations based on cycle length for signalized intersections and delay for the approach for unsignalized intersections.
[2] Assumes 25 feet per vehicle queued.
[3] 95th Percentile queue length used from Vistro software.
[4] 95th Percentile queue length developed using Poisson Distribution.

Eastbound Left-turn at Willow Road and Bayfront Expressway

The existing vehicle storage for the eastbound left turn pocket on Willow Road at Bayfront Expressway is 300 feet, which provides enough space for about 12 vehicles. Under existing conditions, the 95th percentile queue would exceed the storage of the left turn pocket by 12 vehicles in the AM peak hour. Under near-term conditions, the 95th percentile queue would exceed the storage length of the turn pocket by 15 vehicles during the AM peak hour and four vehicles during the PM peak hour. The Proposed Project would add three vehicles to the 95th percentile queue during the AM peak hour and PM peak hour. There is no room to extend the left turn pocket due to the emergency vehicle only lane cut in the median.

Eastbound Left-turn at Willow Road and Ivy Drive

The existing vehicle storage for the eastbound left turn pocket on Willow Road at Ivy Drive is 125 feet, which provides enough space for about 5 vehicles. Under existing conditions, the 95th percentile queue would be accommodated by the left turn pocket. Under near-term conditions, the 95th percentile queue exceeds the storage length of the turn pocket by three vehicles during the AM peak hour. The Proposed Project would add one vehicle to the 95th percentile queue during the AM peak hour and one vehicle during the PM peak hour. There is no room to further extend this left-turn.

Southbound Left-turn at Willow Road and Bay Road

The existing vehicle storage for the southbound left turn pocket on Willow Road at Bay Road is 250 feet, which provides enough space for about 10 vehicles. Under existing conditions, the 95th percentile queue would exceed the storage length of the left turn pocket by 6 vehicles. Under near-term conditions, the 95th percentile queue exceeds the storage length of the turn pocket by 13 vehicles during the AM peak hour and one vehicle during the PM peak hour. The Proposed Project would add six vehicles to the 95th percentile queue during the AM peak hour and three vehicles during the PM peak hour. Menlo Park's TIF has a project to add a second left-turn lane to this intersection, which would add additional storage for left-turning vehicles. The exact length of the addition will be determined during the design phase for the intersection improvement. Construction of the recommended improvement would reduce the queuing deficiency created by the Proposed Project.

Eastbound Left-turn and Southbound left-turn at University Avenue and O'Brien Drive

The existing vehicle storage for the eastbound left turn pocket on University Avenue at O'Brien Drive is 125 feet, which provides enough spaces for about 5 vehicles. Under existing conditions, the 95th percentile queue exceeds the storage length of the turn pocket by 3 vehicles during the AM peak hour. The Proposed Project would add 22 vehicles to the 95th percentile queue during the AM peak hour. There is no room to lengthen the eastbound left turn pocket.

The existing vehicle storage for the southbound left turn pocket on O'Brien Drive at University Avenue is 60 feet, which provides enough spaces for 2 vehicles. Under existing conditions, the 95th percentile queue exceeds the storage length of the turn pocket by one vehicle during the AM peak hour and 11 vehicles during the PM peak hour. The Project would add one vehicle to the 95th percentile queue during the AM peak hour. There would be no increase to the 95th percentile queue length during the PM peak hour. There is room to extend the left turn pocket to accommodate the estimated 95th percentile queue of 325 feet.

Menlo Park's Traffic Impact Fee (TIF) program identifies an improvement to signalize the nearby intersection at University Avenue and Adams Drive in East Palo Alto. This improvement may provide an alternative route for Project vehicles to access the Project Site via University Avenue, and alleviate potential queuing issues at this intersection.

Freeway Facilities Analysis

To determine the Proposed Project's potential freeway adverse effects, a select-zone analysis within the Menlo Park model was performed to estimate the increase in project traffic volume between existing conditions and near term with project conditions (Appendix 3.3, Transportation, of this EIR). Freeway segments that would experience a freeway adverse effect generated by the Proposed Project are identified below.

San Mateo County

As shown on Table 3.3-17, the Proposed Project would add traffic greater than 1% capacity to the following study freeway segments operating below its LOS standard:

- SR 84 – from Willow Road to Alameda County Line – PM Peak Hour
- SR 84 – from Alameda County Line to Willow Road – AM Peak Hour
- US 101 – between Santa Clara County Line and Whipple Avenue – AM & PM Peak Hours
- US 101 – from Whipple Avenue to SR 92 – PM Peak Hour
- US 101 – from SR 92 to Whipple Avenue – AM Peak Hour

Santa Clara County

As shown on Table 3.3-18, the Proposed Project would add traffic greater than 1% capacity to the following mixed-flow freeway segments operating below its LOS standard:

- US 101 – from SR 85 to Embarcadero Road – AM & PM Peak Hours
- US 101 – from Embarcadero Road to SR 85 – PM Peak hour

The Proposed Project would add traffic greater than 1% capacity to the following HOV freeway segment operating below its LOS standard:

- US 101 – from Oregon Expressway to Embarcadero Road – AM Peak Hour

Freeway Improvements

It should be noted that the near term plus project conditions model run assumed the US 101 express lane project in San Mateo County. Improvements to eliminate the adverse freeway effects on US 101 and on SR 84 within San Mateo County would require additional capacity improvements and/or additional TDM measures that would reduce peak-hour vehicle trip-making by more than 70%. San Mateo County currently has no plans to further improve US 101 beyond the identified express lane projects. There are also no identified plans to improve the Bayfront Expressway (SR 84) corridor. Such an aggressive TDM plan would also not be feasible.

Table 3.3-17. Freeway Analysis – San Mateo County

CMP Facility	Roadway Segment	Dir.	Pk Hr	LOS Standard	Capacity	Existing LOS	Near Term + Project LOS	Near Term + Project % Project Added
SR 84	US 101 to Willow Rd	SB	AM	D	1,100	C	C	0.0%
		SB	PM	D	1,100	B	D	2.2%
SR 84	Willow Rd to US 101	NB	AM	D	1,100	C	D	4.3%
		NB	PM	D	1,100	B	B	2.1%
SR 84	Willow Rd to University Ave	SB	AM	E	1,100	F	**F**	**0.9%**
		SB	PM	E	1,100	E	**F**	**4.0%**
SR 84	University Ave to Willow Rd	NB	AM	E	1,100	**F**	**F**	**3.2%**
		NB	PM	E	1,100	E	E	1.0%
SR 84	University Ave to Alameda County Line	SB	AM	F	2,100	**F**	**F**	**0.5%**
		SB	PM	F	2,100	**F**	**F**	**2.1%**
SR 84	Alameda County Line to University Ave	NB	AM	F	2,100	**F**	**F**	**1.7%**
		NB	PM	F	2,100	**F**	**F**	**0.5%**
US 101	Santa Clara County Line to Whipple Ave	NB	AM	F	2,300	**F**	**F**	**1.1%**
		NB	PM	F	2,300	**F**	**F**	**2.7%**
US 101	Whipple Ave to Santa Clara County Line	SB	AM	F	2,300	**F**	**F**	**2.3%**
		SB	PM	F	2,300	**F**	**F**	**1.4%**
US 101	Whipple Ave to SR 92	NB	AM	E	2,300	**F**	**F**	**0.7%**
		NB	PM	E	2,300	**F**	**F**	**1.6%**
US 101	SR 92 to Whipple Ave	SB	AM	E	2,300	**F**	**F**	**1.2%**
		SB	PM	E	2,300	**F**	**F**	**0.9%**
SR 109 (University Ave)	Kavanaugh Dr to SR 84	EB	AM	E	1,100	C	C	0.0%
		EB	PM	E	1,100	C	D	0.1%
SR 109 (University Ave)	SR 84 to Kavanaugh Dr	WB	AM	E	1,100	**F**	**F**	**0.1%**
		WB	PM	E	1,100	**F**	**F**	**0.0%**
SR 114 (Willow Rd)	US 101 to SR 84	EB	AM	E	1,100	B	B	9.6%
		EB	PM	E	1,100	B	B	9.6%
SR 114 (Willow Rd)	SR 84 to US 101	WB	AM	E	1,100	C	C	5.2%
		WB	PM	E	1,100	C	C	5.7%

Data referenced San Mateo County City/County Association of Governments *Congestion Management Program 2019.*
Bold indicates non-compliant LOS
box and BOLD indicates adverse effect

Table 3.3-18. Freeway Analysis – Santa Clara County

				Existing Conditions						Near Term + Project Conditions					
				Mixed-Flow			HOV Lane			Mixed Flow			HOV		
		Dir	Peak Hour	Capacity[1]	Volume (pc/hr/ln)[2]	LOS[2]	Capacity[1]	Volume (pc/hr/ln)[2]	LOS[2]	LOS	Project Added	% Capacity	LOS	Project Added	% Capacity
Freeway Segment															
US 101	SR 85 to N. Shoreline Blvd	NB	AM	9,200	1,512	**F**	1,650	1,751	E	**F**	**187**	**2.0%**	E	8	0.5%
			PM	9,200	1,358	**F**	1,650	1,635	D	**F**	**118**	**1.3%**	D	6	0.4%
US 101	N. Shoreline Blvd to Rengstorff Ave	NB	AM	6,900	1,660	**F**	3,300	1,730	D	**F**	**198**	**2.9%**	D	16	0.5%
			PM	6,900	1,298	**F**	3,300	1,683	D	**F**	**124**	**1.8%**	D	12	0.4%
US 101	Rengstorff Ave to San Antonio Ave	NB	AM	6,900	1,747	E	3,300	1,716	D	**F**	**208**	**3.0%**	D	17	0.5%
			PM	6,900	1,333	**F**	3,300	1,646	D	**F**	**132**	**1.9%**	D	14	0.4%
US 101	San Antonio Ave to Oregon Expwy	NB	AM	6,900	1,262	**F**	3,300	1,693	D	**F**	**232**	**3.4%**	D	12	0.4%
			PM	6,900	1,083	**F**	3,300	1,482	**F**	**F**	**152**	**2.2%**	**F**	**15**	**0.4%**
US 101	Oregon Expwy to Embarcadero Rd	NB	AM	6,900	1,367	**F**	1,650	1,693	**F**	**F**	**224**	**3.3%**	**F**	**19**	**1.1%**
			PM	6,900	1,271	**F**	1,650	1,588	**F**	**F**	**151**	**2.2%**	**F**	**16**	**0.9%**
US 101	Embarcadero Rd to Oregon Expwy	SB	AM	6,900	1,991	D	1,650	n/a	A	D	118	1.7%	C	11	0.7%
			PM	6,900	1,135	**F**	1,650	1,627	D	**F**	**190**	**2.8%**	D	17	1.0%
US 101	Oregon Expwy to San Antonio Ave	SB	AM	6,900	1,989	D	3,300	919	A	D	118	1.7%	B	11	0.3%
			PM	6,900	1,050	**F**	3,300	1,693	D	**F**	**191**	**2.8%**	D	17	0.5%
US 101	San Antonio Ave to Rengstorff Ave	SB	AM	6,900	1,890	E	3,300	780	A	E	104	1.5%	B	10	0.3%
			PM	6,900	1,125	**F**	3,300	1,610	D	**F**	**201**	**2.9%**	D	15	0.5%
US 101	Rengstorff Ave to N. Shoreline Blvd	SB	AM	6,900	1,976	D	3,300	1,369	C	D	101	1.5%	C	10	0.3%
			PM	6,900	1,072	**F**	3,300	1,508	D	**F**	**195**	**2.8%**	D	15	0.4%
US 101	N. Shoreline Blvd to SR 85	SB	AM	6,900	1,950	D	1,650	1,068	A	E	56	0.8%	A	4	0.3%
			PM	6,900	1,115	**F**	1,650	1,752	E	**F**	**93**	**1.3%**	E	7	0.4%

Notes:
HOV = high-occupancy vehicle; LOS = level of service
1. Capacity is based on the capacities cited in VTA's *Transportation Impact Analysis Guidelines* (2014).
2. Volume, and Level of service (LOS) on each segment are taken from VTA's *2018 CMP Monitoring Report*. VTA did not report volume and density for segments with speed above 75.2 mph.
Bold indicates a substandard level of service.
Outline indicates an adverse effect

Within Santa Clara County, Valley Transportation Authority's Valley Transportation Plan 2040 identifies freeway express lane projects along US 101 that would convert the existing HOV lanes to express lanes and add a second express lane in each direction. This improvement would increase the capacity of the freeway and would adequately address the freeway impacts.

The potential Dumbarton Rail corridor would slightly reduce the Project contribution to the identified adverse effects but would not eliminate any. Therefore, the Project's adverse effects on US 101 and on SR 84 freeway segments in San Mateo County would remain.

Roadway ADT Analysis

The roadway ADT analysis was conducted under cumulative with project conditions (See Appendix 3.3, Transportation, of this EIR). To determine net Project added traffic, a select zone analysis was conducted using the Menlo Park model under cumulative with project conditions and existing conditions. As shown on Table 3.3-19, the Project would generate non-compliance at the following roadway segments:

- Willow Road, east of Durham Street
- Willow Road, east of Blackburn Avenue
- Middlefield Road, south of Willow Road
- Marsh Road, east of Bohannon Drive
- O'Brien Drive, south of Willow Road
- O'Brien Drive, north of University Avenue
- Bay Road, north of Willow Road

Impact on Pedestrian, Bicycle and Transit Facilities

Pedestrian and Bicycle Facilities

The Proposed Project would include multiple pedestrian and bicycle connections between the Project Site and the surrounding roadway network and within the Project Site. The planned bicycle and pedestrian facilities within the Project Site are discussed in Appendix 3.3, Transportation, of this EIR.

The proposed pedestrian connections to the surrounding roadway network include crosswalks at the proposed signalized intersections on Willow Road at Main Street and Park Street that would connect the Project Site to the Belle Haven neighborhood. The proposed bicycle connections include connections to the existing class II bike lane along Willow Road via Park Street and Main Street. In addition, the Proposed Project includes an elevated park that would provide grade separated pedestrian and bicycle access between the Project site and the Belle Haven neighborhood.

Menlo Park's TIF program also proposes the following bicycle and pedestrian facilities in the immediate vicinity of the Project Site which would improve connections between the Project Site and the surrounding neighborhoods:

- Bicycle signals, cross-bike markings, high visibility crosswalks, and pedestrian improvements at the eastbound right-turn channelizing island at Willow Road and Bayfront Expressway
- Class III bike routes, wider sidewalks, and narrower median on Ivy Drive

Table 3.3-19. Roadway ADT Analysis

Roadway	Classification	Average Daily Traffic			Compliance Analysis	
		Existing [1]	Cumulative with Project	Net Increase in Project Traffic	Applicable Criteria	Compliant?
Willow Road, east of Durham Street	Avenue - Mixed Use	28,875	31,400	550	7.B.1(1)	**No**
Willow Road, east of Blackburn Avenue	Avenue - Mixed Use	22,962	24,050	410	7.B.1(1)	**No**
Middlefield Road, north of Willow Road	Avenue - Mixed Use	18,188	20,037	64	7.B.1(1)	Yes
Middlefield Road, south of Willow Road	Avenue - Mixed Use	21,058	23,687	285	7.B.1(1)	**No**
Marsh Road, east of Bohannon Drive	Mixed Use Collector	33,128	39,213	669	7.B.2(1)	**No**
Hamilton Avenue, south of Madera Avenue	Neighborhood Collector	2,866	3,589	265	7.B.2(3)	Yes
O'Brien Drive, south of Willow Road	Mixed Use Collector	7,409	13,942	2,600	7.B.2(2)	**No**
O'Brien Drive, north of University Avenue	Mixed Use Collector	4,635	16,232	6,457	7.B.2(3)	**No**
Adams Drive, north of University Avenue [2]	Mixed Use Collector	3,265	3,763	84	7.B.2(3)	Yes
Bay Road, north of Willow Road	Neighborhood Collector	6,362	12,637	841	7.B.2(2)	**No**

Notes:
[1] Average Daily Traffic data was obtained from the City of Menlo Park

[2] Average Daily Traffic was estimated using factors derived from ADT data and peak hour counts

Bold indicates a project-generated non-compliance for study roadway

- Wider median on the west leg of Willow Road and Ivy Drive, increased pedestrian crossing time, and high visibility crosswalks at the intersection
- Curb ramps, high visibility crosswalks, increased pedestrian crossing times, and bulbouts on the southeast and southwest corners at Willow Road and O'Brien Drive
- Sidewalks and class II bike lanes on both sides of Adams Drive between O'Brien Drive and University Avenue
- Sidewalks and class II bike lanes on both sides of O'Brien Drive between Willow Road and University Avenue
- Install class IV protected bike lanes along Willow Road

The Proposed Project also includes a subgrade pedestrian, bicycle, and tram connection between the main Project Site and the Meta West Campus. This connection would be known as the Willow Road Tunnel. The Willow Road Tunnel would extend between Facebook Way in the Meta West Campus and North Loop Road in the Willow Village Campus underneath Willow Road. The proposed design of the tunnel includes a sidewalk along the eastern edge, a two-way class I bike path which would connect the Bay Trail to the Project Site, and a two-way tram connection between the West Campus and the Project Site. The tunnel would not allow vehicular traffic other than the trams and the bicycle and pedestrian access would be open to the public similar to the existing tunnel between the East and West Campuses.

Pedestrian and Bicycle Access to Schools

Schools in the immediate vicinity of the Project Site include Mid-Peninsula High School, Open Mind School, Cesar Chavez Ravenswood Middle School, San Francisco 49ers Academy, Creative Montessori learning, Belle Haven School, TIDE Academy, and Costano Elementary School. Bicycle and pedestrian access to each school is described below:

- **Mid-Peninsula High School**. This school is located immediately west of the Project Site. Pedestrian and bicycle access from the Project Site to the school would be via Willow Road, which has continuous sidewalks along the south side, and existing Class II bicycle facilities on both sides of the road.
- **Open Mind School**. This school is located immediately west of the Project Site on O'Brien Drive. There are currently no sidewalks or bicycle facilities on O'Brien Drive between the school and the Project Site. The Project proposes a sidewalk that would connect the Project Site with the school's driveway, as part of the Project-proposed roundabout at the East Loop Road/O'Brien Drive location.
- **Cesar Chavez Ravenswood Middle School, San Francisco 49ers Academy, Creative Montessori Learning**. These schools are located on Bay Road between Willow Road and University Avenue. Pedestrian and bicycle access from the Project Site to these schools would be via Willow Road to Alberni Street and Ralmar Avenue. These streets have sidewalks along both sides. These are also residential streets with low vehicular speeds and volumes and therefore, bicycle friendly. Access to the San Francisco 49ers Academy and Creative Montessori is directly from Bay Road, which has sidewalks along both sides. Also, Bay Road has dedicated bicycle lanes.
- **Belle Haven School**. This school is located approximately 0.4 miles north of the Project Site. Pedestrian and bicycle access from the Project Site to this school would be via Ivy Drive or Hamilton Avenue. Pedestrian amenities include crosswalks and pedestrian push buttons at the

intersections of Willow Road and Ivy Drive and Willow Road and Hamilton Avenue, a continuous sidewalk along the south side of Willow Road, a continuous sidewalk along both sides of Ivy Drive and Hamilton Avenue between the school and the Project Site, and bulbouts on Hamilton Avenue. However, there are no designated bicycle facilities on Ivy Drive or Hamilton Avenue.

- **Costano Elementary School**. The school is located 0.2 miles south of the Project Site on University Avenue at Adams Drive. Pedestrian and bicycle access from the Project Site is via Adams Drive or O'Brien Drive. There are limited pedestrian connections between the Project Site and the school. Sidewalk facilities are lacking along O'Brien Drive and Adams Drive, and there are no crosswalks at University Avenue and O'Brien Drive or University Avenue and Adams Drive. Class II bicycle lanes and sidewalks are proposed along O'Brien Drive and Adams Drive in Menlo Park's TIF, which would improve bicycle and pedestrian access to the school. Implementation of this improvement from the TIF Program would reduce this potential effect on bicyclists and pedestrians from the proposed project.
- **Tide Academy**. This school is located approximately 1.2 miles north of the Project Site. Pedestrian and bicycle access from the Project Site to this school would be via Ivy Drive or Hamilton Avenue. Chilco Street, and Jefferson Drive. Pedestrian amenities include crosswalks and pedestrian push buttons at the intersections of Willow Road and Ivy Drive and Willow Road and Hamilton Avenue, a continuous sidewalk along the south side of Willow Road, a continuous sidewalk along both sides of Ivy Drive, Hamilton Avenue, Chilco Street, and Jefferson Drive between the school and the Project Site, and bulbouts on Hamilton Avenue. There are also designated bicycle facilities on Chilco Street and Jefferson Drive, however, there are no designated bicycle facilities on Ivy Drive or Hamilton Avenue.

Transit Facilities

The Proposed Project would provide tram stops and shuttle stops on the Project Site for use by Meta workers. Detailed description of the tram and shuttle service is provided in Appendix 3.3, Transportation, of this EIR.

The Proposed Project is expected to generate an increase in transit demand, which could be accommodated by the available capacity of the SamTrans bus service. The SamTrans routes 81, 281, 296, 397, Dumbarton Express Lines, M2 Belle Haven Shuttle, and M4 Willow Road shuttle serve the immediate vicinity of the project area with approximately 15 to 25-minute headways during the AM and PM peak commute hours. Bus stops are within a typical walking distance (one-quarter mile or 5 minutes) of the Project Site. The Proposed Project would make no change to existing public transit facilities. However, by adding vehicle trips and increasing delay at intersections along bus routes, it would increase bus travel time. Bus services that would be affected in the vicinity of the Project Site include bus routes (DB, M2 Belle Haven Shuttle, M4 Willow Road Shuttle, SamTrans Route 81) along Willow Road, University Avenue, and O'Brien Drive.

Proposed intersection improvements to reduce intersection delay include improvements at Willow Road and Ivy Drive, Willow Road and Hospital Plaza/Durham Street, Willow Road and Newbridge Street, Willow Road and Bay Road, O'Brien Drive and Kavanaugh Drive, and Adam's Drive and O'Brien Drive. These improvements would help to reduce some bus delay along these routes. The City's TIF includes installing Transit Signal Priority (TSP) for queue jumps by shoulder running buses on northbound and southbound Bayfront Expressway and allowing the use of the existing right turn lane for queue jump with TSP at Willow Road and O'Brien Drive. The timing and implementation of these TSP projects are not certain

The Caltrain electrification project would enable Caltrain to provide more frequent train service at the Menlo Park, Palo Alto, and Redwood City Caltrain stations. Caltrain predicts an initial capacity increase of over 30%. It is expected that the Caltrain electrification project would accommodate the potential increase in transit ridership generated by the Proposed Project.

Internal Site Access, Circulation, and Parking

Appendix 3.3, Transportation, of this EIR includes the analysis of the main Willow Village site as well as the Hamilton parcels. The site plan review evaluated the internal site's intersection operations, potential queuing issues, and general site access and circulation for the proposed seven new internal streets, 14 parking garage driveways, and 20 new intersections. The results of the level of service analysis show that the intersection of Driveway B & East Loop Road would operate at LOS D during the AM peak hour. Vehicles turning left out of Driveway B would be expected to experience an average delay of 31 seconds while waiting for a sufficient opening on East Loop Road. During the AM peak hour, approximately 101 vehicles (16 heading eastbound and 85 heading westbound) would be expected to exit the garage, which would be one to two vehicles per minute. Therefore, although exiting drivers would experience some wait time, operations at Driveway B are expected to be adequate. The results of the queuing analysis show that the intersection of Hamilton Avenue/Main Street & Willow Road is expected to have insufficient turn lane storage to accommodate the anticipated traffic volumes under near-term plus project conditions. However, it is assumed that vehicles would choose to instead enter the project site via Park Street. Hexagon recommends the following regarding the internal project circulation:

Circulation Related Recommendations

- To prevent southbound queues from spilling back onto Willow Road on Park Street and Main Street, Hexagon recommends coordinating the adjacent signals.

Sight Distance Related Recommendations

- As discussed under Mitigation Measure TRA-2, prior to issuance of the building permit for the North Garage, the applicant shall revise the access design to provide adequate sight distance for the eastern driveway or other design solutions to reduce hazards to a less than significant level, to the satisfaction of the Public Works Director. Potential solutions that would reduce hazards to a less than significant level include restricting the eastern driveway to inbound vehicles only or prohibiting exiting left turns, modifying landscaping or relocating the driveway to the west to allow for adequate sight distance for exiting vehicles, or installing an all-way stop or signal. If driveway A were restricted to inbound vehicles only, all outbound vehicles would use Driveway B, which would provide adequate sight distance for vehicles exiting the north office garage. Driveway B might need multiple exiting lanes to limit queuing inside the garage for exiting vehicles. Alternatively, Driveway A could be moved farther west on East Loop Road so that adequate sight distance could be provided.
- Prior to final design, the project applicant should ensure that landscaping and vegetation would not obstruct visibility at the parking garage driveways.
- Hexagon recommends including 30 feet of red curb on both sides of all garage driveways to prevent vehicles from parking and obstructing the vision of exiting drivers.
- If vehicles exiting the garages cannot see oncoming pedestrians on the sidewalk, Hexagon recommends installing warning signs to alert pedestrians when vehicles are exiting the garages.
- If any driveways are moved from their position on the current site plan, sight distance should be reevaluated.

Parking Garage Circulation Related Recommendations

- Prior to final design, it is recommended that all driveway widths meet the City's requirements.
- At garage driveways where gates and garage doors are proposed, Hexagon recommends conducting an operational analysis to ensure that gate opening and closing times would not create queuing issues or cause vehicles to spill onto the roadway network.
- Prior to final design, the residential parking on level P1 of building RS2 should be shown to be gated and separated from the retail parking on levels 1 and 2. In addition, the roll-up gate in building RS3 should be clearly shown to separate the retail parking in level B1 and the residential parking in level B2.
- It is recommended that all drive aisle and parking stall widths meet the City's requirements.
- It is recommended that adequate turnaround space is provided at all dead-end drive aisles.

Parking Related Recommendations

- If individual vehicles are not able to be retrieved in the tandem puzzle parking, the tandem spaces should be assigned to one residential unit.
- Prior to final design, Hexagon recommends that the required number of ADA and EV parking spaces be provided in all parking garages.

Pedestrian Related Recommendations

- Hexagon recommends that a crosswalk is provided at the intersection of Center Street & East Street and that midblock crosswalks are provided on Center Street and Park Street to reduce block size and improve pedestrian convenience.

Pedestrian Related Recommendations

- The Hamilton Avenue Parcels are located within the C-2-S zoning district, which per Menlo Park Municipal Code Section 16.37(7), will have parking requirements established by the planning commission for each development. The Hamilton Avenue Parcel North proposes total potential development up to 22,402 square feet and 93 spaces. The Hamilton Avenue Parcel South proposes total development of 5,760 s.f. and 13 spaces. It is recommended that the project applicant confirm that sufficient parking is provided for the proposed total development as part of future architectural control and use permit applications with the City.

3.4 Air Quality

This section describes the environmental and regulatory setting for air quality. It also describes impacts related to air quality that would result from implementation of the Proposed Project and mitigation for significant impacts where feasible and appropriate. This section has been prepared using methods and assumptions recommended in the air quality impact assessment guidelines of the Bay Area Air Quality Management District (BAAQMD).[1] The section describes existing air quality in the region, the Proposed Project's contribution to localized concentrations of carbon monoxide (CO), impacts from vehicular emissions that have regional effects, and the exposure of sensitive receptors to Project-generated toxic air contaminants (TACs). An Air Quality Technical Report (AQTR) and health risk assessment (HRA) was prepared for the Proposed Project.[2] The information and conclusions from this document are incorporated into this section. The AQTR and HRA document is provided in Appendix 3.4-1 and the emissions modeling and calculations files are provided in Appendix 3.4-2. A supplemental memorandum to the HRA is provided in Appendix 3.4-3. A local air quality monitoring report is provided in Appendix 3.4-4.

One comment regarding local air quality monitoring near the Project Site was received in response to the Notice of Preparation (NOP). Local air quality monitoring was conducted near the Project Site and a summary of the results is provided for information purposes under "Existing Air Quality Conditions" below. Local air quality monitoring was undertaken voluntarily by the Project Sponsor and provided to the City of Menlo Park (City) for use in this environmental impact report (EIR) as background information. Local air quality monitoring was not necessary to conduct an air quality analysis in compliance with the CEQA.

Existing Conditions

Environmental Setting

This section provides a discussion of existing conditions related to air quality in the Study Area. The information below is drawn from the relevant oversight agencies, which are BAAQMD, the California Air Resources Board (CARB), and the U.S. Environmental Protection Agency (EPA).

The Project area is within the larger San Francisco Bay Area Air Basin (SFBAAB); the air basin comprises the Study Area for the Proposed Project. Ambient air quality in the Study Area is affected by climatological conditions, topography, and the types of pollutants emitted and the amounts.

The following discussion describes relevant characteristics of the SFBAAB, describes key pollutants of concern, summarizes existing ambient pollutant concentrations, and identifies sensitive receptors.

Regional Climate and Meteorology

Menlo Park is in the southern part of the SFBAAB, a large shallow air basin ringed by hills that taper into a number of sheltered valleys around the perimeter. Two primary atmospheric outlets exist.[3] One is the strait known as the Golden Gate, a direct outlet to the Pacific Ocean. The second extends to the northeast, along the West Delta region of the Sacramento and San Joaquin Rivers.

---

1 Bay Area Air Quality Management District. 2017. *California Environmental Quality Act, Air Quality Guidelines*. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: March 15, 2022.

2 Ramboll US Corporation. 2022. *CEQA Air Quality, Greenhouse Gas and Health Risk Assessment Technical Report*. February. Accessed: February 21, 2022.

3 An atmospheric outlet is a gap between land formations that allows air to flow in and out of an area.

The city is within the jurisdiction of BAAQMD, which regulates air quality in the San Francisco Bay Area (Bay Area). Air quality conditions in the Bay Area have improved significantly since BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Neither the California Ambient Air Quality Standards (CAAQS) nor the National Ambient Air Quality Standards (NAAQS) for the following pollutants have been violated in recent decades: nitrogen dioxide (NO_2), sulfur dioxide (SO_2), sulfates, lead, hydrogen sulfide, and vinyl chloride. Exceedances of air quality standards that do occur happen primarily during periods when meteorological conditions are conducive to high levels of pollution, such as cold, windless nights or hot, sunny summer afternoons.

Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses or the environment. Two meteorological factors affect air quality in Menlo Park: wind and temperature. Winds affect the direction of transport for air pollution emissions; wind also controls the volume of air into which pollution is mixed over a given period of time. Although winds govern horizontal mixing processes, temperature inversions determine the vertical mixing depth of air pollutants.

Menlo Park is located in San Mateo County, which lies in the middle of the San Francisco Peninsula, south of San Francisco County and north of Santa Clara and Santa Cruz Counties. San Mateo County is bounded by the Pacific Ocean to the west and San Francisco Bay to the east. Cool, foggy weather is prevalent along the western coast of the peninsula, particularly during the summer. Summertime average daily temperatures are moderate along the western coast and warm on the county's east side. In the winter, average daily temperatures across the county range from mild to moderate. Winds are mild, with the highest wind speeds along the western coast. Rainfall averages about 20 to 25 inches per year at lower elevations and up to 36 inches in the Santa Cruz Mountains.[4]

Ozone (O_3) and fine particle pollution (i.e., particulate matter no more than 2.5 microns in diameter, or $PM_{2.5}$) are the major regional air pollutants of concern in the Bay Area. O_3 is primarily a problem in the summer; fine particle pollution is a problem in the winter.[5] In San Mateo County, O_3 levels almost never exceed health standards. $PM_{2.5}$ concentrations exceed the national standard about 1 day each year. San Mateo County frequently receives fresh marine air from the Pacific Ocean. The air passes over the coastal hills as it moves into the county. In winter, $PM_{2.5}$ may be transported into San Mateo County from other parts of the Bay Area. $PM_{2.5}$ may combine with wood smoke, which may lead to elevated concentrations. However, the concentrations are rarely high enough to exceed health standards.[6]

Pollutants of Concern

Criteria Pollutants

Both state and federal governments have established health-based ambient air quality standards for six criteria air pollutants: CO, O_3, NO_2, SO_2, lead, and suspended particulate matter. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of

[4] Bay Area Air Quality Management District. 2019. *Climate and Air Quality in San Mateo County*. Available: https://www.baaqmd.gov/about-the-air-district/in-your-community/san-mateo-county. Accessed: March 15, 2022.

[5] Ibid.

[6] Ibid.

safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as CO, SO_2, and lead are considered local pollutants and tend to accumulate in the air locally.

The primary pollutants of concern in the area of the Proposed Project are O_3, CO, and suspended particulate matter. Significance thresholds established by an air district are used to manage total regional and local emissions within an air basin, based on the air basin's attainment status for criteria pollutants. The emission thresholds were established for individual development projects that could contribute to regional and local emissions and adversely affect or delay the air basin's projected attainment target goals for nonattainment criteria pollutants. See the Regional Attainment Status subsection and Table 3.4-3 for information regarding the attainment status of the Study Area for the Proposed Project.

One individual project that generates emissions that exceed a threshold does not necessarily result in adverse health effects for residents in the vicinity. This condition is especially true when the criteria pollutants that exceed thresholds are those with regional effects, such as O_3 precursors (e.g., nitrogen oxides [NO_X] and reactive organic gases [ROGs]). Furthermore, by its very nature, air pollution is largely a cumulative impact. No single project is large enough by itself to result in nonattainment of ambient air quality standards. Instead, in air basins that are in nonattainment for one or more criteria air pollutants, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Because of the conservative nature of the significance thresholds, as well as the basin-wide context of individual development project emissions, there is no direct correlation between a single project and localized air quality–related health effects. In developing thresholds of significance for air pollutants, the air districts have considered the emission levels at which a project's individual emissions would be cumulatively considerable in light of existing air quality. If a project exceeds the identified significance thresholds, its emissions would be significant and a cumulatively considerable contributor to significant cumulative air quality impacts in the region.

Occupants of facilities such as schools, day-care centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered more sensitive to air pollutants than the general public because of their increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas because people generally spend longer periods of time at their residences and have a greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared with commercial and industrial uses because of the greater exposure to ambient air quality conditions associated with exercise. These populations are referred to as *sensitive receptors*. Air pollutants and their health effects, as well as other air pollution–related considerations, are summarized in Table 3.4-1 and described in more detail below.

Ozone

O_3, a secondary air pollutant, is produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_X. The main sources of ROG and NO_X, often referred to as O_3 precursors, are combustion processes, including combustion in motor vehicle engines, and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the largest source of O_3 precursors. O_3 is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with O_3 production through the photochemical reaction process. O_3 causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Table 3.4-1. Sources and Health Effects of Air Pollutants

Pollutant	Sources	Primary Effects
Ozone (O_3)	• Precursor sources: motor vehicles, industrial emissions, and consumer products[a]	• Respiratory symptoms. • Worsening of lung disease, leading to premature death. • Damage to lung tissue. • Crop, forest, and ecosystem damage. • Damage to a variety of materials, including rubber, plastics, fabrics, paints, and metals.
Particulate Matter Less than 2.5 Microns in Aerodynamic Diameter ($PM_{2.5}$)	• Cars and trucks (especially diesel vehicles). • Fireplaces and wood stoves. • Windblown dust from roadways, agriculture, and construction.	• Premature death. • Hospitalization for worsening of cardiovascular disease. • Hospitalization for respiratory disease. • Asthma-related emergency room visits. • Increased symptoms and increased inhaler usage.
Particulate Matter Less than 10 Microns in Aerodynamic Diameter (PM_{10})	• Cars and trucks (especially diesel vehicles). • Fireplaces and wood stoves. • Windblown dust from roadways, agriculture, and construction.	• Premature death and hospitalization, primarily from worsening of respiratory disease. • Reduced visibility and material soiling.
Nitrogen Oxides (NO_X)	• Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Lung irritation. • Enhanced allergic responses.
Carbon Monoxide (CO)	• Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves.	• Chest pain in patients with heart disease. • Headaches. • Light-headedness. • Reduced mental alertness.
Sulfur Oxides (SO_x)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Worsening of asthma (e.g., increased symptoms, increased medication usage, emergency room visits).
Lead (Pb)	• Contaminated soil. • Lead-based paints.	• Impaired mental functioning in children. • Learning disabilities in children. • Brain and kidney damage.
Toxic Air Contaminants (TACs)	• Cars and trucks (especially diesel vehicles). • Industrial sources, such as chrome platers. • Neighborhood businesses, such as dry cleaners and service stations. • Building materials and products.	• Cancer. • Reproductive and developmental effects. • Neurological effects.

Source: California Air Resources Board. 2021. *Common Air Pollutants*. Available: https://ww2.arb.ca.gov/resources/common-air-pollutants. Accessed: November 2, 2021.

[a] O_3 is not generated directly by these sources. Rather, precursor pollutants from these sources (ROG and NO_X) react with sunlight to form O_3 in the atmosphere.

Carbon Monoxide

CO, an odorless, colorless gas, is usually formed as the result of incomplete combustion in fuels. The largest source of CO is the motor vehicle. CO transport is limited; it disperses with distance from a source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels and adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections that operate at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Particulate Matter

Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from man-made and natural sources. Particulate matter is categorized according to two size ranges: PM_{10} for particles less than 10 microns in diameter and $PM_{2.5}$ for particles less than 2.5 microns in diameter. In the Bay Area, motor vehicles generate about half of the air basin's particulate matter through tailpipe emissions as well as brake wear and tire wear; travel over paved and unpaved roads also results in particulate matter in the form of suspended dust particles. Fireplaces and stoves that burn wood, industrial facilities, and construction involving ground-disturbing activities are other sources of such fine particulates, which are small enough to be inhaled into the deepest parts of the human lung and cause adverse health effects. According to CARB, studies in the United States and elsewhere have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks. Studies of children's health in California have demonstrated that particle pollution may significantly reduce lung function in children.[7] Statewide attainment of particulate matter standards could reduce the number of premature deaths, hospital admissions for cardiovascular and respiratory disease, asthma-related emergency room visits, and episodes of respiratory illness in California.

Nitrogen Dioxide

NO_2, a reddish-brown gas, is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to O_3 formation, NO_2 also contributes to other pollution problems, including high concentrations of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on days with high levels of pollution, especially in conjunction with high O_3 levels. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide

SO_2 is a colorless acidic gas with a strong odor. It is produced from the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease. SO_2 also reduces visibility and the level of sunlight at the ground surface.

[7] California Air Resources Board. 2021. *Inhalable Particulate Matter and Health ($PM_{2.5}$ and PM_{10}).* Available: https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health. Accessed: March 15, 2022.

Lead

Lead, a metal, is found naturally in the environment as well as manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of EPA regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air have decreased dramatically.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, TACs are another group of pollutants of concern. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. Potential TAC-related health effects include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs, with varying degrees of toxicity. Individual TACs vary greatly with respect to the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards but are regulated by the EPA and CARB. In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB completed a risk management process that identified potential cancer risks for a range of activities and land uses that are affected by the use of diesel-fueled engines.[8] High-volume freeways, stationary diesel engines, and facilities that attract constant and heavy volumes of diesel vehicle traffic (e.g., distribution centers, truck stops) were identified as areas that pose the highest risk for adjacent receptors. Other facilities associated with increased risk include large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both the concentration and the duration of exposure. BAAQMD regulates TACs with a risk-based approach that uses an HRA to determine which sources and which pollutants to control as well as the degree of control. An HRA is an analysis in which human exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances in order to provide a quantitative estimate of health risks.[9] As part of ongoing efforts to identify and assess potential health risks to the public, BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area.

Monitoring data and emissions inventories of TACs help BAAQMD determine health risks to Bay Area residents. Ambient monitoring concentrations of TACs indicate that pollutants emitted primarily from motor vehicles (1,3-butadiene and benzene) account for a substantial portion of the ambient background

[8] California Air Resources Board. 2000. *Fact Sheet-California's Plan to Reduce Diesel Particulate Matter Emissions*. October. Available: https://ww3.arb.ca.gov/diesel/factsheets/rrpfactsheet.pdf. Accessed: March 15, 2022.

[9] In general, a health risk assessment is required if BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

risk in the Bay Area.[10] According to BAAQMD, ambient benzene levels declined dramatically in 1996 with the advent of reformulated Phase 2 gasoline. Because of this reduction, the calculated average cancer risk, based on monitoring results, has also been reduced.

Unlike TACs emitted from industrial and other stationary sources, most diesel particulate matter (DPM) is emitted from mobile sources, primarily diesel-powered construction and mining equipment, agricultural equipment, truck-mounted refrigeration units, and trucks and buses traveling on freeways and local roadways. Agricultural and mining equipment is not commonly used in the urban parts of the Bay Area, and construction equipment typically operates at various locations for only a limited time. As a result, the readily identifiable locations where DPM is emitted in the Bay Area include high-traffic roadways and other areas with substantial truck traffic. CARB estimated that about 70 percent of the total known cancer related to air toxics is attributable to DPM.[11] Within the Bay Area, BAAQMD found that, of all controlled TACs, emissions of DPM are responsible for about 82 percent of the total ambient cancer risk.[12]

CARB's Diesel Risk Reduction Plan is intended to reduce DPM emissions and associated health risks substantially through the introduction of ultra-low-sulfur diesel fuel, a step that has already been implemented, and cleaner diesel engines.[13] The technology for reducing DPM emissions from heavy-duty trucks is well established, and both state and federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. CARB's plan also established airborne toxic control measures (ATCMs) for mobile sources, including on-road and off-road vehicles, and stationary sources. With implementation of ATCMs, statewide DPM concentrations decreased from approximately 1.8 $\mu g/m^3$ to approximately 0.61 $\mu g/m^3$ between 1990 and 2012, resulting in a 66 percent reduction over that period.[14] CARB continues to explore strategies to reduce DPM emissions through engine retrofits, cleaner diesel fuel, advanced engine technologies, and alternative fuels. By 2035, CARB estimates that DPM emissions will be less than half of what they were in 2010.[15]

High-Volume Roadways. Air pollutant exposures and their associated health burdens vary considerably at particular locations in relation to the sources of the air pollutants. Motor vehicle traffic is perhaps the most important source of air pollution in urban areas. Air quality research consistently demonstrates that pollutant levels are substantially higher near freeways and busy roadways, and human health studies have consistently demonstrated that children living within 100 to 200 meters (328 to 656 feet) of freeways or busy roadways have reduced lung function and higher rates of respiratory disease.[16] At present, it is not possible to attribute the effects of roadway proximity on non-cancer health effects to one or more specific vehicle type or vehicle pollutant. Engine exhaust from diesel, gasoline, and other combustion engines is a complex mixture of particles and gases with collective and individual toxicological characteristics.

---

[10] Bay Area Air Quality Management District. 2017. *California Environmental Quality Act, Air Quality Guidelines*. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: March 15, 2022.

[11] California Air Resources Board. 2021. *Overview: Diesel Exhaust and Health*. Available: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed: March 15, 2022.

[12] Bay Area Air Quality Management District. 2017. *Final 2017 Clean Air Plan*. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: March 15, 2022.

[13] California Air Resources Board. 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* Available: https://ww2.arb.ca.gov/sites/default/files/classic//diesel/documents/rrpfinal.pdf. Accessed: March 15, 2022.

[14] California Air Resources Board. 2021. *Overview: Diesel Exhaust and Health*. Available: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed: March 15, 2022.

[15] Ibid.

[16] California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April. Available: https://ww3.arb.ca.gov/ch/handbook.pdf. Accessed: March 15, 2022.

Odors

Although offensive odors rarely cause physical harm, they can be unpleasant and lead to considerable distress among the public. This distress often generates citizen complaints to local governments and air districts. According to BAAQMD's California Environmental Quality Act (CEQA) Guidelines and CARB's *Air Quality and Land Use Handbook*, land uses associated with odor complaints typically include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, chemical plants, petroleum refineries, auto body shops, coating operations, fiberglass manufacturing plants, foundries, rendering plants, and livestock operations. BAAQMD provides recommended screening distances for citing new receptors near existing odor sources.

Existing Air Quality Conditions

CARB and the EPA (and BAAQMD in the Bay Area) maintain ambient air quality monitoring stations in California. The air quality monitoring station closest to the Project Site is the 897 Barron Avenue station in Redwood City, operated by BAAQMD, which is 2.9 miles to the west; it monitors criteria air pollutants. The air quality trends from this station are used to represent ambient air quality in the Project area. Ambient air quality in the Project area from 2018 to 2020 (the most recent available period) is shown in Table 3.4-2. The pollutants monitored at the Redwood City station are O_3, CO, NO_2, and $PM_{2.5}$. Air quality trends for PM_{10} are not monitored in San Mateo County; therefore, air quality trends for PM_{10} are from the 158 Jackson Street monitoring station in San José, operated by BAAQMD, 16.7 miles southeast of the Project Site.

Table 3.4-2. BAAQMD Monitoring Station Ambient Air Quality Data for the Project Area (2018–2020)

Pollutant Standards	2018	2019	2020
Ozone (O_3) at Redwood City station			
Maximum 1-hour concentration (ppm)	0.067	0.083	0.098
Maximum 8-hour concentration (ppm)	0.049	0.077	0.077
Fourth highest 8-hour concentration (ppm)	0.048	0.054	0.054
Number of days standard exceeded			
CAAQS 1-hour standard (> 0.09 ppm)	0	0	1
CAAQS 8-hour standard (> 0.070 ppm)	0	2	1
NAAQS 8-hour standard (> 0.070 ppm)	0	2	1
Carbon Monoxide (CO) at Redwood City station			
Maximum 8-hour concentration (ppm)	1.7	1.1	1.5
Maximum 1-hour concentration (ppm)	2.5	2.0	2.1
Number of days standard exceeded			
NAAQS 8-hour standard (≥ 9 ppm)	0	0	0
CAAQS 8-hour standard (≥ 9.0 ppm)	0	0	0
NAAQS 1-hour standard (> 35 ppm)	0	0	0
CAAQS 1-hour standard (≥ 20 ppm)	0	0	0
Nitrogen Dioxide (NO_2) from Redwood City station			
Maximum state 1-hour concentration (ppm)	0.077	0.054	0.045
Annual average concentration (ppm)	0.010	0.009	0.008
Number of days standard exceeded			
CAAQS 1-hour standard (0.18 ppm)	0	0	0
NAAQS 1-hour standard (0.100 ppm)	0	0	0

Pollutant Standards	2018	2019	2020
Particulate Matter (PM_{10}) at Jackson Street station			
Maximum state 24-hour concentration (μg/m³)	121.8	77.1	137.1
Maximum national 24-hour concentration (μg/m³)	115.4	75.4	134.9
National annual average concentration	20.9	18.4	29.9
Measured number of days standard exceeded			
CAAQS 24-hour standard (50 μg/m³)	4	4	10
NAAQS 24-hour standard (150 μg/m³)	0	0	0
Particulate Matter ($PM_{2.5}$) at Redwood City station			
Maximum state 24-hour concentration (μg/m³)	120.9	29.5	124.1
Maximum national 24-hour concentration (μg/m³)	120.9	29.5	124.1
National annual average concentration	10.5	7.0	9.8
Measured number of days standard exceeded			
NAAQS 24-hour standard (> 35 μg/m³)	13	0	9

Sources:
California Air Resources Board. 2021. *iADAM: Air Quality Data Statistics.* Top 4 Summary. Available: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed: November 2021.
U.S. Environmental Protection Agency. 2021. *Monitor Values Report*. Available: https://www.epa.gov/outdoor-air-quality-data/monitor-values-baareport. Accessed: November 2021.
Notes:
NAAQS = National Ambient Air Quality Standard; CAAQS = California Ambient Air Quality Standard; ppm = parts per million; μg/m³ = micrograms per cubic meter
An exceedance is not necessarily a violation.
State statistics are based on local conditions data; state statistics are based on California-approved samplers.
National statistics are based on standard conditions data. In addition, national statistics are based on samplers, using federal reference or equivalent methods.
State criteria for ensuring data are adequate for calculating valid annual averages are more stringent than national criteria.

Monitoring was also performed throughout the neighboring Belle Haven community to compare localized concentrations to concentrations at the nearest BAAQMD monitoring stations to determine if the regulatory monitoring stations are representative of concentrations experienced in the Belle Haven community. Air monitors similar to monitors used at the BAAQMD monitoring station were deployed to four locations within the Belle Haven community from October 8, 2020 through October 8, 2021. Concentrations of PM_{10}, $PM_{2.5}$, and air toxics from metals and VOCs were monitored at these locations. During the monitoring period, there were no exceedances of $PM_{2.5}$ NAAQS/CAAQS and no exceedances of the PM_{10} NAAQS at the Belle Haven monitors. There was one exceedance of the PM_{10} CAAQS, which is not unusual as the San Francisco air basin is in nonattainment for PM_{10}. Concentrations of particulate matter and air toxics in the Belle Haven community were generally found to be similar to concentrations reported by the nearest BAAQMD monitoring stations, which suggests that the BAAQMD monitoring stations are a reasonable estimate for air quality in the Belle Haven community. This additional monitoring was undertaken for background purposes and is not a requirement under CEQA for a project-level air quality analysis. The data are helpful for decision-makers and the public and included here for reference. For purposes of CEQA, the BAAQMD ambient air quality monitoring stations mentioned above are used in the analysis, where appropriate. See Appendix 3.4-4 for the local air quality monitoring report.

Existing TAC Sources and Health Risks

BAAQMD maintains an inventory of health risks associated with all permitted stationary sources within the SFBAAB. The inventory was last updated in 2020 and is publicly available online.[17] Within 1,000 feet of the Project Site there are six permitted facilities that have a quantified background health risk associated with them. Detailed information on these facilities is included in Appendix 3.4-1. Aside from stationary sources, emissions of TACs around the Project Site are also generated from mobile sources and railways. BAAQMD considers roadways with an average daily traffic (ADT) level of more than 10,000 to be "high-volume roadways" and recommends they be included in the analysis of health risks.

Regional Attainment Status

Local monitoring data are used to designate areas as nonattainment, maintenance, attainment, or unclassified areas for ambient air quality standards. The four designations are defined below. Table 3.4-3 summarizes the attainment status of San Mateo County.

- Nonattainment—assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- Maintenance—assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- Attainment—assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- Unclassified—assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

Table 3.4-3. Federal and State Attainment Status for San Mateo County Portion of the SFBAAB

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Unclassified/Attainment	Attainment
Particulate Matter (PM_{10})	Unclassified	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Nonattainment
Nitrogen Dioxide (NO_2)	Unclassified/Attainment	Attainment
Sulfur Dioxide (SO_2)	Unclassified/Attainment	Attainment
Lead	Unclassified/Attainment	Attainment
Sulfates	(No Federal Standard)	Attainment
Hydrogen Sulfide	(No Federal Standard)	Unclassified
Visibility-Reducing Particles	(No Federal Standard)	Unclassified

Source:
California Air Resources Board. 2020. *State Area Designations Regulations*. Appendix C: Maps and Tables of Area Designations for State and National Ambient Air Quality Standards. October. Available: https://ww3.arb.ca.gov/ regact/2021/sad20/appc.pdf. Accessed: November 2, 2021.

[17] Bay Area Air Quality Management District. 2020. *Permitted Stationary Sources Risks and Hazards*. Available: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65. Accessed: March 15, 2022.

Sensitive Receptors

Sensitive land uses are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, including children and the elderly. Per BAAQMD, typical sensitive land uses include residences, hospitals, health clinics, and schools. Parks and playgrounds where sensitive receptors (e.g., children and seniors) are present are also considered sensitive land uses.[18] Places of employment (e.g., commercial/industrial uses) are not considered sensitive land uses because health-sensitive individuals (e.g., children and seniors) are not present.

Sensitive receptors located near the Project Site include both onsite and offsite sensitive receptor populations. Residential and recreational receptors were identified using zoning maps for Menlo Park (City of Menlo Park 2019) and East Palo Alto (City of East Palo Alto 2017). Residential and recreational areas were modeled as a grid with 20 meters (65.6 feet) spacing within 500 meters of the Project Site and 40 meters spacing within 1,000 meters of the Project Site. Other sensitive receptor locations were identified using a report from Environmental Data Resources (EDR). The EDR report identified schools, daycare centers, nursing homes and hospitals near the Project Site. The existing onsite Dialysis Center, which would continue operating on the Project Site during construction, was also included as a sensitive receptor. These locations were modeled as discrete locations. Figure 2 from the AQTR in Appendix 3.4-1 includes a map of both the offsite and onsite sensitive receptor locations that were modeled in the HRA. Figure 1 in Appendix 3.4-3 includes the locations for health clinics.

Regulatory Setting

The federal Clean Air Act (CAA) and its subsequent amendments form the basis for the nation's air pollution control effort. The EPA is responsible for implementing most aspects of the CAA. The NAAQS for criteria pollutants are a key element of the CAA, which delegates enforcement of the NAAQS to the states. In California, CARB is responsible for enforcing air pollution regulations and ensuring that the NAAQS and CAAQS are met. CARB, in turn, delegates regulatory authority for stationary sources and other air quality management responsibilities to local air agencies. BAAQMD is the local air agency for the Project area.

The following sections provide more detailed information on federal, state, and local air quality regulations that apply to the Proposed Project.

Federal

Clean Air Act and National Ambient Air Quality Standards

The federal CAA was enacted in 1963 and amended numerous times in subsequent years (1965, 1967, 1970, 1977, and 1990). The federal CAA establishes federal air quality standards, known as NAAQS, and specifies future dates for achieving compliance. The federal CAA also requires each state to submit and implement a State Implementation Plan (SIP) for local areas that fail to meet the standards. The plan must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the federal CAA identify specific emission reduction goals for areas that fail to meet the NAAQS. These amendments require both a demonstration of reasonable progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the federal CAA that would affect development of the Proposed Project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

[18] Bay Area Air Quality Management District. 2017. *California Environmental Quality Act, Air Quality Guidelines*. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: March 15, 2022.

Table 3.4-4 shows the NAAQS that are currently in effect for each criteria pollutant. The CAAQS (discussed below) are provided for reference.

Table 3.4-4. Federal and State Ambient Air Quality Standards

Criteria Pollutant	Average Time	California Standards	National Standards[a]	
			Primary	Secondary
Ozone	1 hour	0.09 ppm	None[b]	None[b]
	8 hours	0.070 ppm	0.070 ppm	0.070 ppm
Particulate Matter (PM_{10})	24 hours	50 μg/m³	150 μg/m³	150 μg/m³
	Annual mean	20 μg/m³	None	None
Fine Particulate Matter ($PM_{2.5}$)	24 hours	None	35 μg/m³	35 μg/m³
	Annual mean	12 μg/m³	12.0 μg/m³	15.0 μg/m³
Carbon Monoxide	8 hours	9.0 ppm	9 ppm	None
	1 hour	20 ppm	35 ppm	None
Nitrogen Dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1 hour	0.18 ppm	0.100 ppm	None
Sulfur Dioxide[c]	Annual mean	None	0.030 ppm	None
	24 hours	0.04 ppm	0.14 ppm	None
	3 hours	None	None	0.5 ppm
	1 hour	0.25 ppm	0.075 ppm	None
Lead	30-day average	1.5 μg/m³	None	None
	Calendar quarter	None	1.5 μg/m³	1.5 μg/m³
	3-month average	None	0.15 μg/m³	0.15 μg/m³
Sulfates	24 hours	25 μg/m³	None	None
Visibility-Reducing Particles	8 hours	—[d]	None	None
Hydrogen Sulfide	1 hour	0.03 ppm	None	None
Vinyl Chloride	24 hours	0.01 ppm	None	None

Source: California Air Resources Board. 2016. *Ambient Air Quality Standards*. Available: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Accessed: November 2, 2021.

Notes:

PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less

$PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less

μg/m³ = micrograms per cubic meter

ppm = parts per million

a. National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

b. The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. The revoked standard is referenced because it was employed for such a long period and is a benchmark for SIPs.

c. The annual and 24-hour NAAQS for sulfur dioxide apply for only 1 year after designation of the new 1-hour standard in areas that were previously nonattainment areas for the 24-hour and annual NAAQS.

d. The CAAQS for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer (visibility of 10 miles or more due to particles when relative humidity is less than 70 percent).

Non-Road Diesel Rule

The EPA has established a series of increasingly strict emissions standards for new off-road diesel equipment, on-road diesel trucks, and locomotives. New construction equipment used for the Proposed Project, including heavy-duty trucks and off-road construction equipment, would be required to comply with the emissions standards.

Corporate Average Fuel Economy Standards

The National Highway Traffic Safety Administration (NHTSA) Corporate Average Fuel Economy (CAFE) standards require substantial improvements in fuel economy and reductions in emissions of criteria air pollutants and precursors, as well as greenhouse gases, from all light-duty vehicles sold in the United States. On August 2, 2018, NHTSA and the EPA proposed an amendment to the fuel efficiency standards for passenger cars and light trucks and established new standards for model years 2021 through 2026 that would maintain the then-current 2020 standards through 2026—this was known as the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule. On September 19, 2019, NHTSA and the EPA issued a final action on the One National Program Rule, which is considered Part One of the SAFE Vehicles Rule and a precursor to the proposed fuel efficiency standards. The One National Program Rule enables NHTSA and the EPA to provide nationwide uniform fuel economy and air pollutant standards by 1)clarifying that federal law preempts state and local tailpipe standards, 2) affirming NHTSA's statutory authority to set nationally applicable fuel economy standards, and 3) withdrawing California's CAA preemption waiver to set state-specific standards.

NHTSA and the EPA published their decision to withdraw California's waiver and finalize the regulatory text related to the preemption on September 27, 2019 (84 *Federal Register* 51310). California, 22 other states, the District of Columbia, and two cities filed suit against Part One of the SAFE Vehicles Rule on September 20, 2019 (*California et al. v. United States Department of Transportation et al.,* 1:19-cv-02826, U.S. District Court for the District of Columbia). On October 28, 2019, the Union of Concerned Scientists, Environmental Defense Fund, and other groups filed a protective petition for review after the federal government sought to transfer the suit to the District of Columbia (*Union of Concerned Scientists v. National Highway Traffic Safety Administration*). The lawsuit filed by California and others has been stayed, pending resolution of the petition.

NHTSA and the EPA published final rules on April 30, 2020, to amend and establish national air pollutant and fuel economy standards (Part Two of the SAFE Vehicles Rule) (85 *Federal Register* 24174). The revised rule changes the national fuel economy standards for light-duty vehicles from 46.7 miles per gallon (mpg) to 40.4 mpg in future years. California, 22 other states, and the District of Columbia filed a petition for review of the final rule on May 27, 2020.[19]

On January 20, 2021, President Biden issued an executive order, directing NHTSA and the EPA to review the SAFE Vehicles Rule, Part One, and propose a new rule for suspending, revising, or rescinding it by April 2021. The executive order also requires NHTSA and the EPA to propose a new rule for suspending, revising, or rescinding Part Two by July 2021. On April 22, 2021, NHTSA announced that it proposes to repeal the SAFE Vehicles Rule, Part One, allowing California the right to set its own standards.[20] On

[19] *California et al. v. United States Department of Transportation et al.*, 1:19-cv-02826, U.S. District Court for the District of Columbia.

[20] U.S. Department of Transportation, National Highway Transportation Safety Administration. 2021. *Corporate Average Fuel Economy Preemption.* Available: https://www.federalregister.gov/documents/2021/05/12/2021-08758/corporate-average-fuel-economy-cafe-preemption. Accessed: November 2, 2021.

December 21, 2021, NHTSA published its CAFE Preemption Rule, which repeals 2019's SAFE Vehicles Rule, Part One: One National Program. That rule had codified preemption of state and local laws related to fuel economy standards. NHTSA's 2021 rule thus reopens pathways for state and local fuel economy laws.

State

California Clean Air Act and California Ambient Air Quality Standards

In 1988, the state legislature adopted the California CAA, which established a statewide air pollution control program. The California CAA requires all air districts in the state to endeavor to meet the CAAQS by the earliest practical date. Unlike the federal CAA, the California CAA does not set precise attainment deadlines. Instead, the California CAA establishes increasingly stringent requirements for areas that require more time to achieve the standards. The CAAQS are generally more stringent than the NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. The CAAQS and NAAQS are listed together in Table 3.4-4.

CARB and local air districts bear responsibility for achieving California's air quality standards. The standards are to be achieved through district-level air quality management plans, which are incorporated into the SIP. In California, EPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB has traditionally established state air quality standards, maintained oversight authority for air quality planning, developed programs for reducing emissions from motor vehicles, developed air emissions inventories, collected air quality and meteorological data, and approved SIPs.

The California CAA substantially increases the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA also emphasizes control of "indirect and area-wide sources" of air pollutant emissions. The California CAA gives local air pollution control districts explicit authority to regulate indirect sources and establish traffic control measures. BAAQMD is the primary agency responsible for ensuring that the NAAQS and CAAQS are attained and maintained in the Bay Area. BAAQMD's thresholds of significance are generally designed to support attainment and maintenance of the NAAQS and CAAQS.

Statewide Truck and Bus Regulation

CARB adopted the Truck and Bus Regulation in 2008 to focus its efforts on reducing emissions of DPM, NO_X, and other criteria pollutants from diesel-fueled vehicles. This regulation applies to any diesel-fueled vehicle as well as any dual-fuel or alternative-fuel diesel vehicle that travels on public highways; yard trucks with on-road engines; yard trucks with off-road engines used for agricultural operations; school buses; and vehicles with a gross vehicle weight rating (GVWR) of more than 14,000 pounds. The purpose of the regulation is to require trucks and buses registered in the state to have 2010 or newer engines by 2023. Compliance schedules have been established for lighter vehicles (GVWR of 14,000–26,000 pounds) and heavier vehicles (GVWR of more than 26,001 pounds).[21] As of January 1, 2020, only vehicles that met the requirements of the Trucks and Bus Regulation were allowed to register with the California Department of Motor Vehicles.

[21] California Air Resources Board. 2020. *CARB Truck Rule Compliance Required for DMV Registration*. July. Available: https://ww3.arb.ca.gov/msprog/truckstop/pdfs/sb1_faqeng.pdf. Accessed: March 15, 2022.

Air Toxic Control Measure

In 2004, CARB developed multiple measures under its Air Toxic Control Measure (ATCM) to address specific mobile- and stationary-source issues that have an impact on public health. The ATCMs focused on reducing the public's exposure to DPM and TAC emissions. The "Limit Diesel-Fueled Commercial Motor Vehicle Idling" ATCM required drivers of heavy-duty trucks with a GVWR of more than 10,000 pounds to not idle the primary engine for more than 5 minutes at any given time or operate an auxiliary power system for more than 5 minutes within 100 feet of a restricted area.[22] In addition, CARB set operating requirements for new emergency standby engines (i.e., diesel-fueled compression-ignition engines of less than 50 brake horsepower). Specifically, new engines shall not operate more than 50 hours per year for maintenance and testing purposes. This does not limit engine operation for emergency use or emission testing required to show compliance with ATCM Section 93115.6(a)(3).

Toxic Air Contaminant Regulation

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ('Hot Spots' Act). In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Act created California's program to reduce the public's exposure to air toxics. The "Hot Spots" Act supplements the Tanner Act by requiring a statewide air toxics inventory, notification for people who were exposed to a significant health risk, and facility plans to reduce risks.

In August 1998, CARB identified DPM from diesel-fueled engines as a TAC. In September 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. As discussed previously, implementation of ATCMs helped reduce statewide DPM concentrations substantially. CARB plans to continue its efforts to reduce DPM emissions and estimates that, by 2035, DPM emissions will be less than half of what they were in 2010.[23]

Off-Road Diesel Vehicle Regulation

Off-road vehicles include, but are not limited to, diesel compression-ignition equipment; spark-ignition gasoline and liquified petroleum gas equipment; support equipment at ports, airports, and railways; and marine vehicles. In 2007, CARB aimed to reduce emissions of DPM, NO_X, and other criteria pollutants from off-road diesel-fueled equipment with adoption of the In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation). The Off-Road Regulation applies to all diesel-fueled equipment or alternative-fuel diesel equipment with a compression-ignition engine greater than 25 horsepower (e.g., tractors, bulldozers, backhoes) as well as dual-fuel equipment. The regulation also applies to all equipment that is rented or leased.[24] The purpose of the regulation is to reduce emissions by retiring, repowering, or replacing older, dirtier engines with newer, cleaner engines. The regulation established a compliance schedule for owners of small, medium, and large fleets. The schedule for large and medium fleets requires full implementation by 2023; small fleets have until 2028.[25]

---

[22] California Air Resources Board. 2005. *Final Regulation Order, Regulation for In-Use Off-Road Diesel Vehicles.* Available: https://ww3.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf. Accessed March 15, 2022.

[23] California Air Resources Board. 2021. *Overview: Diesel Exhaust and Health*. Available: https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed: March 15, 2022.

[24] California Air Resources Board. 2008. *Final Regulation Order, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.* Available: https://ww3.arb.ca.gov/regact/idling/fro1.pdf. Accessed: March 15, 2022.

[25] Ibid.

Local

Bay Area Air Quality Management District

BAAQMD seeks to attain and maintain air quality conditions in the SFBAAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. Its clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations, as required by law.

2017 Bay Area Clean Air Plan

The 2017 Bay Area Clean Air Plan (Clean Air Plan) guides the region's air quality planning efforts to attain the CAAQS.[26] The current plan, adopted on April 19, 2017, by the BAAQMD Board of Directors, contains district-wide control measures to reduce O_3 precursor emissions (e.g., ROGs and NO_X), particulate matter, and greenhouse gas (GHG) emissions. Specifically, the Clean Air Plan:

- Describes the BAAQMD plan for attaining all state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities;
- Defines a vision for transitioning the region to the post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050;
- Provides a regional climate protection strategy that will put the Bay Area on a pathway to achieving GHG reduction targets; and
- Includes a wide range of control measures to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, O_3, and TACs; reduce emissions of methane and other GHGs with high global warming potential that are potent climate pollutants in the near term; and decrease emissions of CO by reducing fossil fuel combustion.

BAAQMD CARE Program

The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources, with an emphasis on diesel exhaust, which is a major contributor to airborne health risks in California. The CARE program is an ongoing program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases: an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TACs, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and a high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area.

For commercial and industrial sources, BAAQMD regulates TACs using a risk-based approach. This approach uses an HRA to determine what sources and pollutants to control as well as the degree of

[26] Bay Area Air Quality Management District. 2017. *Final 2017 Clean Air Plan*. April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: March 15, 2022.

control. An HRA is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances in order to provide a quantitative estimate of health risks.[27] As part of ongoing efforts to identify and assess potential health risks to the public, BAAQMD has collected and compiled air toxics emissions data from industrial and commercial sources of air pollution throughout the Bay Area. BAAQMD has identified seven affected communities; Menlo Park has not been identified as an affected community.[28,29]

BAAQMD CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of the air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and GHG emissions.

In June 2010, BAAQMD adopted updated CEQA Air Quality Guidelines and finalized them in May 2011. The guidelines, which superseded the previously adopted agency air quality guidelines of 1999, were intended to advise lead agencies on how to evaluate potential air quality impacts. In May 2017, BAAQMD published an updated version of the CEQA Air Quality Guidelines. The 2017 CEQA Air Quality Guidelines included thresholds for evaluating a project's impact on air quality. These protective thresholds are applicable to the size, scale, and location of the Proposed Project.

City of Menlo Park

The City General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2015–2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The following policies from the Open Space and Conservation Element were adopted to avoid or minimize environmental impacts and pertain to the Proposed Project:

Goal OSC5: Ensure healthy air and water quality.

> **Policy OSC5.1: Air and Water Quality Standards.** Continue to apply standards and policies established by BAAQMD, the San Mateo Countywide Water Pollution Prevention Program, and City of Menlo Park Climate Action Plan through the CEQA process and other means as applicable.

The following policies from the Circulation Element were adopted to avoid or minimize environmental impacts and pertain to the Proposed Project:

Goal OSC4: Improve Menlo Park's overall health, wellness, and quality of life through transportation enhancements.

---

[27] In general, a health risk assessment is required if BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term effects, including the increased risk of cancer as a result of exposure to one or more TACs.

[28] The affected communities are Richmond/San Pablo; eastern San Francisco, including Treasure Island; San José; western Alameda County; Concord, Vallejo; and Pittsburg/Antioch.

[29] Bay Area Air Quality Management District. 2015. *Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area*. March. Available: https://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/ImpactCommunities_2_Methodology.ashx. Accessed: March 15, 2022.

Policy CIRC-4.2: Local Air Pollution. Promote non-motorized transportation to reduce exposure to local air pollution, thereby reducing risks of respiratory diseases, other chronic illnesses, and premature death.

Environmental Impacts

This section describes the impact analysis related to air quality for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, as necessary.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The sections that follow discuss thresholds and analysis considerations for regional and local Project-generated criteria pollutants with respect to their human health implications as well as a discussion regarding potential odor emissions from the Proposed Project.

Local Air District Thresholds

Regional Thresholds for Air Basin Attainment of State and Federal Ambient Air Quality Standards

BAAQMD has adopted thresholds for regional air pollutants to assist lead agencies in determining the significance of environmental effects with respect to local attainment of state and federal ambient air quality standards. (As discussed above, ROG and NO_X are regional pollutants, whereas particulate matter is both a regional and local pollutant.) The thresholds are based on emissions levels identified under the New Source Review (NSR) program, which is a permitting program established by Congress as part of the CAA amendments of 1990 to ensure that air quality is not significantly degraded (i.e., under a worsened nonattainment status) by new sources of emissions. The NSR program requires stationary sources to receive permits before construction and/or the use of equipment. By permitting large stationary sources, the NSR program ensures that new emissions will not slow regional progress toward attaining the NAAQS. BAAQMD concluded that the stationary pollutants described under the NSR program are equal in significance to those generated with land use projects.

BAAQMD's regional thresholds identified in Table 3.4-5 were set as the total emission thresholds associated within the NSR program to help attain the NAAQS.[30]

[30] Bay Area Air Quality Management District. 2017. *California Environmental Quality Act, Air Quality Guidelines.* May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: March 15, 2022.

Table 3.4-5. BAAQMD Project-Level Regional Criteria Pollutant Emission Thresholds

Analysis	Thresholds
Regional Criteria Pollutants (Construction)	• Reactive Organic Gases: 54 pounds/day • Nitrogen Oxides: 54 pounds/day • Particulate Matter: 82 pounds/day (exhaust only); compliance with best management practices (fugitive dust) • Fine Particulate Matter: 54 pounds/day (exhaust only); compliance with best management practices (fugitive dust)
Regional Criteria Pollutants (Operations)	• Reactive Organic Gases: 54 pounds/day • Nitrogen Oxides: 54 pounds/day • Particulate Matter: 82 pounds/day (exhaust + fugitive dust) • Fine Particulate Matter: 54 pounds/day (exhaust + fugitive dust)

Source: Bay Area Air Quality Management District. 2017. *California Environmental Quality Act, Air Quality Guidelines*. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: November 2, 2021.

Health-Based Thresholds for Regional Project-Generated Criteria Pollutants of Human Health Concern

The California Supreme Court's 2018 decision in *Sierra Club v. County of Fresno* (6 Cal. 5th 502), hereafter referred to as the Friant Ranch Decision, included review of the long-term regional air quality analysis contained in the EIR for the proposed Community Plan Update and Friant Ranch Specific Plan (Friant Ranch Project). The Friant Ranch Project proposed a 942-acre master-plan development in unincorporated Fresno County, within the San Joaquin Valley Air Basin, which is currently designated as a nonattainment area with respect to the NAAQS and CAAQS for O_3 and $PM_{2.5}$. The court found that the EIR's air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The court's decision notes that environmental documents must attempt to connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

All criteria pollutants generated by the Proposed Project would be associated with some form of health risk (e.g., asthma, lower respiratory problems). Criteria pollutants can be classified as either regional pollutants or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. O_3 is considered a regional criteria pollutant, whereas CO, NO_2, SO_2, and lead are localized pollutants. Particulate matter can be both a local and a regional pollutant, depending on its composition. The primary criteria pollutants of concern generated by the Proposed Project would be O_3 precursors (ROG and NO_X), CO, and particulate matter, including DPM.

The sections that follow discuss thresholds and analysis considerations for regional and local Project-generated criteria pollutants with respect to their human health implications.

Regional Project-Generated Criteria Pollutants (Ozone Precursors and Regional Particulate Matter)

Adverse health effects from regional criteria pollutant emissions, such as O_3 precursors and particulate matter, generated by the Proposed Project are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). Therefore, O_3 precursors (ROG and NO_X) contribute

to the formation of ground-level O_3 on a regional scale. Emissions of ROG and NO_X generated in an area may not correlate to a specific O_3 concentration in that same area. Similarly, some types of particulate pollutant may be transported over long distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased O_3 or regional particulate matter concentrations are the product of emissions generated by numerous sources throughout a region. Moreover, exposure to regional air pollution does not guarantee that an individual will experience an adverse health effect. As discussed above, there are large individual differences in the intensity of symptomatic responses to air pollutants. These differences are influenced, in part, by the underlying health condition of an individual, which cannot be known.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. Although models are capable of quantifying O_3 and any secondary particulate matter formation and associated health effects, these tools were developed to support large regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations induced by individual projects.

The technical limitations of existing models (e.g., for correlating Project-level regional emissions to specific health consequences) are recognized by air quality management districts throughout the state, including the San Joaquin Valley Air Pollution Control District (SJVAPCD) and South Coast Air Quality Management District (SCAQMD), which provided amici curiae briefs for the Friant Ranch Project's legal proceedings. In its brief, the SJVAPCD acknowledged that HRAs for localized air toxics, such as DPM, are common; however, the SJVAPCD stated that "it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task."[31] The SJVAPCD further noted that emissions solely from the Friant Ranch Project, which equated to less than one-tenth of one percent of total NO_X and volatile organic compounds in the valley, were not likely to yield valid information and that any such information would not be "accurate when applied at the local level." SCAQMD presents similar information in its brief, stating that "it takes a large amount of additional precursor emissions to cause a modeled increase in ambient O_3 levels."[32,33] As of February 2022, BAAQMD has not approved a quantitative method for accurately correlating criteria pollutant emissions generated by an individual project to specific health outcomes or changes in nonattainment days.

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations as well as attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates that there are known safe concentrations of criteria pollutants. Although recognizing that air quality is a cumulative problem, air districts typically consider projects that generate criteria pollutant and O_3 precursor emissions that are below the thresholds to be minor in nature. Such projects would not adversely affect air quality or exceed the NAAQS or CAAQS. Emissions generated by the Proposed Project could increase photochemical reactions and the formation of tropospheric O_3 and secondary particulate

[31] San Joaquin Valley Air Pollution Control District. 2015. *Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party in Interest and Respondent, Friant Ranch, L.P.* Available: https://www.courts.ca.gov/documents/7-s219783-ac-san-joaquin-valley-unified-air-pollution-control-dist-041315.pdf. Accessed: March 15, 2022.

[32] South Coast Air Quality Management District. 2015. *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and [Proposed] Brief of Amicus Curiae.* Available: https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf. Accessed: March 15, 2022.

[33] For example, SCAQMD's analysis of its 2012 Air Quality Attainment Plan showed that the modeled NO_x and ROG reductions of 432 and 187 tons per day, respectively, reduced ozone levels by only 9 parts per billion.

matter, which, at certain concentrations, could lead to increased incidences of specific health consequences. Although these health effects are associated with O_3 and particulate pollution, the effects are a result of cumulative and regional emissions. A qualitative correlation of Project-generated regional criteria pollutant emissions to specific human health impacts is included in this analysis, as described further under Impact AQ-3.

Localized Project-Generated Criteria Pollutant Emissions (CO and Particulate Matter) and Air Toxics (TACs and Asbestos)

Localized pollutants generated by a project can affect populations near the emissions source. Because these pollutants dissipate with distance, emissions from individual projects can result in direct and material health impacts on adjacent sensitive receptors. The localized pollutants of concern that would be generated by the Proposed Project are CO, particulate matter, DPM, asbestos, ethylbenzene, toluene, hexane, xylenes, benzene, styrene, 1,3-butadiene, acrolein, propylene, formaldehyde, methanol, acetaldehyde, methyl ethyl ketone, and naphthalene. The applicable thresholds for each pollutant are described below.

Localized Carbon Monoxide Concentrations

Heavy traffic congestion can contribute to high levels of CO, and individuals exposed to such hot spots may have a greater likelihood of developing adverse health effects. BAAQMD has adopted screening criteria that provide a conservative indication of whether Project-generated traffic would cause a potential CO hot spot. If the screening criteria are not met, a quantitative analysis through site-specific dispersion modeling of Project-related CO concentrations would not be necessary, and the Proposed Project would not cause localized violations of the CAAQS for CO. Projects that do not generate CO concentrations in excess of the health-based CAAQS would not contribute a significant level of CO such that localized air quality and human health would be substantially degraded. BAAQMD's CO screening criteria are summarized below.

1. Project traffic would not increase traffic volumes at affected intersections beyond 44,000 vehicles per hour.
2. Project traffic would not increase traffic volumes at affected intersections beyond 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., a tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).
3. The project would be consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, a regional transportation plan, and local congestion management agency plans.

Localized Particulate Matter Concentrations

BAAQMD adopted an incremental $PM_{2.5}$ concentration-based significance threshold in which a "substantial" contribution at the project level for an individual source is defined as total $PM_{2.5}$ concentrations (i.e., exhaust and fugitive) exceeding 0.3 $\mu g/m^3$. This is the same threshold used to evaluate the placement of new receptors that would be exposed to individual $PM_{2.5}$ emissions sources. In addition, BAAQMD considers projects to have a cumulatively considerable $PM_{2.5}$ impact if sensitive receptors are exposed to $PM_{2.5}$ concentrations from local sources within 1,000 feet, including existing sources, project-related sources, and reasonably foreseeable future sources, that exceed 0.8 $\mu g/m^3$.

BAAQMD has not established PM_{10} thresholds of significance. BAAQMD's $PM_{2.5}$ thresholds apply to new sources. However, BAAQMD considers fugitive PM_{10} from earthmoving activities to be less than significant with application of BAAQMD's best management practices (BMPs).

Localized Toxic Air Contaminant Concentrations

DPM has been identified as a TAC. DPM is particularly concerning because long-term exposure can lead to cancer, birth defects, and damage to the brain and nervous system. Other common TACs are in the form of ethylbenzene, toluene, hexane, xylenes, benzene, styrene, 1,3-butadiene, acrolein, propylene, formaldehyde, methanol, acetaldehyde, methyl ethyl ketone, and naphthalene. BAAQMD has adopted incremental cancer and hazard thresholds to evaluate receptor exposure to single sources of TAC emissions. The "substantial" TAC threshold, as defined by BAAQMD, is exposure of a sensitive receptor to an individual emissions source that results in an excess cancer risk level of more than 10 in 1 million or a non-cancer (i.e., chronic or acute) hazard index (HI) greater than 1.0.

The air district considers projects to have a cumulatively considerable TAC impact if they contribute TAC emissions that, when combined with cumulative sources within 1,000 feet of sensitive receptors, result in excess cancer risk levels of more than 100 in 1 million or an HI greater than 10.0. BAAQMD considers a project to have a significant cumulative impact if it introduces new receptors at a location where the combined exposure to all cumulative sources within 1,000 feet is in excess of the cumulative thresholds.

Asbestos

BAAQMD considers a project to have a significant impact if it does not comply with the applicable regulatory requirements outlined in Regulation 11, Rule 2, Asbestos Demolition, Renovation, and Manufacturing.

Methods for Analysis

Air quality impacts associated with construction and operation of the Proposed Project were assessed and quantified using standard and accepted software tools, calculations, and emission factors. A summary of the methodology is provided below.

Construction

Construction of the Proposed Project is estimated to have a duration of approximately 5 years. This analysis assumes that construction phases at specific buildings will overlap (i.e., multiple buildings under construction simultaneously), that complete build out will occur in roughly 5 years, and that the buildings will be occupied and fully operational as soon as construction for each building is completed. This is conservative because occupancy and operation of each building would likely ramp up over time, rather than immediately upon completion of construction. The analysis also assumes that operational emissions from completed buildings would overlap with construction emissions from buildings that are still being constructed.

Construction would generate ROG, NO_X, PM_{10}, and $PM_{2.5}$ that could result in short-term air quality effects during the construction period. Emissions would be associated with exhaust from off-road equipment, exhaust from construction workers' vehicles and haul trucks, fugitive dust from site grading and earthmoving, suspended road dust from vehicle travel, and off-gassing emissions from architectural coatings and paving. The BAAQMD regional construction thresholds require evaluation of only exhaust

emissions; however, the air quality analysis also estimated fugitive dust emissions for the localized $PM_{2.5}$ analysis. Emissions were estimated using a combination of emission factors and methodologies from the California Emissions Estimator Model (CalEEMod), version 2020.4.0; CARB's EMission FACtor 2021 (EMFAC2021) model; and EPA's AP-42: Compilation of Air Pollutant Emission Factors. The estimates relied on a combination of CalEEMod default data values as well as Project-specific information (e.g., construction schedule, construction equipment types, hours of operation) provided by the Project Sponsor. A detailed description of model input and output parameters and assumptions is provided in Appendix 3.4-1.

Operation

Operation of the Proposed Project would generate emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ that could result in long-term air quality effects during the operations period. Criteria pollutant emissions from motor vehicles associated with development of the Proposed Project were evaluated using CalEEMod methodologies and emission factors from EMFAC2021, along with trip generation rates and trip lengths provided by the Hexagon Transportation Consultants for the Proposed Project based on information included as Appendix 3.3-1.[34] Area-, energy-, and stationary-source emissions associated with the Proposed Project were also estimated using CalEEMod methodologies and included in Appendix 3.4-1. Area-source emissions would result from the reapplication of architectural coatings as part of ongoing building maintenance, the use of consumer products, and the use of landscaping equipment. Energy-source emissions would result from indirect emissions from electricity used by buildings and the combustion of natural gas for culinary uses. Stationary-source emissions would result from the maintenance and testing of diesel-powered emergency generators that would conservatively be assumed to operate for 50 hours per year. The first operational phase of the Proposed Project is assumed to be in 2024; the Proposed Project would be fully operational by 2026.[35] A detailed description of model input and output parameters and assumptions is provided in Appendix 3.4-1.

Health Risk Analysis

An HRA was prepared to quantify the levels of exposure at nearby sensitive receptors from emissions of TACs and $PM_{2.5}$ generated during both Proposed Project construction and operation. The HRA is included in Appendix 3.4-1. A supplemental memo to the HRA addressing the on-site dialysis clinic is included in Appendix 3.4-3.

Toxic Air Contaminants and $PM_{2.5}$

The Proposed Project would generate DPM, $PM_{2.5}$, and TACs from gasoline combustion emissions during construction and operations. Because the Proposed Project would introduce TACs and $PM_{2.5}$ emissions in an area near existing sensitive receptors, an HRA was conducted. The HRA used EPA's most recent air dispersion model, AERMOD (version 21112); cancer and chronic risk assessment values for DPM provided by the Office of Environmental Health Hazard Assessment (OEHHA); and other assumptions for

[34] Hexagon Transportation Consultants, Inc. December 30, 2021. Facebook *Willow Campus Draft Transportation Impact Analysis*.

[35] Construction was conservatively assumed to begin in 2021. This is a conservative assumption from an air quality standpoint because fleet turnover, as it pertains to construction equipment, results in older, more polluting equipment being gradually replaced by cleaner, more efficient equipment.

model inputs recommended in BAAQMD's Health Risk Assessment Modeling Protocol.[36] The HRA applies the most recent guidance and calculation methods from OEHHA's *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments*.[37] The HRA consists of three parts: an emissions inventory, air dispersion modeling, and risk calculations. A description of each of these parts follows.

Emissions Inventory

The emissions inventory includes DPM and $PM_{2.5}$ emissions from construction and operations. During construction, DPM emissions would be generated by off-road equipment and on-road travel by heavy-duty trucks. The construction $PM_{2.5}$ inventory consists of $PM_{2.5}$ exhaust and fugitive dust emissions from off-road equipment, onsite soil movement, and on-road travel by heavy-duty trucks and workers' vehicles. The emissions of other TACs from workers' vehicles would be negligible compared to emissions of DPM; therefore, TACs from workers' vehicles were not included in the HRA.

The operational TAC inventory includes emissions from maintenance and testing of the thirteen emergency generators and on-road travel by vehicles. The operational $PM_{2.5}$ inventory consists of $PM_{2.5}$ exhaust emissions from the emergency generators and $PM_{2.5}$ exhaust and fugitive dust emissions from on-road travel by operational vehicles.

Air Dispersion Modeling

The HRA uses EPA's AERMOD model, version 21112, to model annual average DPM and $PM_{2.5}$ concentrations at nearby receptors. Modeling inputs, including emission rates in grams of pollutant emitted per second, and source characteristics (e.g., release height, stack diameter, plume width) were based on guidance provided by OEHHA, BAAQMD, and the SCAQMD. Meteorological data were obtained from CARB from the Palo Alto Airport (KPAO) and San Carlos Airport (KSQL). These meteorological stations are the nearest meteorological monitoring stations (2.2 miles southeast and 6 miles northwest of the Project Site, respectively, for KPAO and KSQL).

Construction

Onsite construction emissions from off-road equipment were characterized as polygon area sources that outlined the footprint of each section of the Project Site. A release height of 5.0 meters represented exhaust emissions, and a release height of 0 meters represented onsite fugitive dust emissions.[38] The release height represents the height above the ground at which pollutants are emitted. On-road travel emissions from haul and vendor trucks, as well as workers' vehicles for $PM_{2.5}$ analysis, were characterized as line sources with a release height of 2.55 meters. Feeder line equipment associated with the proposed offsite improvements was modeled as adjacent volume sources, with a release height of 5.0 meters.

To account for the plume rise associated with mechanically generated air turbulence from construction emissions for the AERMOD run, the initial vertical dimension of the area sources was modeled at 1.16 meters for exhaust. For the line sources, the initial vertical dimension was 2.37 meters. For volume

[36] Bay Area Air Quality Management District. 2020. *Health Risk Assessment Modeling Protocol*. December. Available: https://www.baaqmd.gov/~/media/files/ab617-community-health/facility-risk-reduction/documents/baaqmd_hra_modeling_protocol-pdf.pdf?la=en. Accessed: March 15, 2022.

[37] Office of Environmental Health Hazard Assessment. 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments*. February. Available: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: March 15, 2022.

[38] South Coast Air Quality Management District. 2008. *Final Localized Significance Threshold Methodology*. Revised July. Available: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2. Accessed: March 15, 2022.

sources, the initial vertical dimensions were 1.16 meters for exhaust and 1.0 meters for fugitive dust. Plume rise is the height that pollutants rise above a release height. For exhaust, plume rise occurs because of the temperature of the exhaust gas. Exhaust gas temperatures can be high, which causes the plume to rise. For dust, plume rise accounts for the mechanical entrainment of dust in the wheels of equipment and trucks. Emissions from off-road equipment were assumed to be generated throughout the construction footprint. Emissions from offsite trucks were modeled along the road segments adjacent to the construction footprint.

The modeling of emissions from construction activities was based on the number of hours construction would be permitted to occur and the number of days (11 hours per day, 7 days per week). These assumptions were used to derive accurate averages; construction activities may not actually occur on this schedule. For further details regarding modeling assumptions refer to Appendix 3.4-1. The rural dispersion option was used in the analysis because of the Project Site's proximity to San Francisco Bay and marshland. Residential and recreational areas were modeled as a grid with 20 meters (65.6 feet) spacing within 500 meters of the Project Site and 40 meters spacing within 1,000 meters of the Project Site. Although not required by CEQA, this section describes health risks of the Project's users and residents during Project construction, as onsite residential land uses may be occupied during late-stage Project construction. The health impacts associated with Project construction and operation at onsite sensitive receptors were analyzed with a grid spacing of 10 meters over residential buildings and at multiple floor heights, ranging from 1.8 to 25.8 meters, with each floor assumed to be 3 meters. Other sensitive receptor locations were identified using a report from Environmental Data Resources (EDR). The EDR report identified schools, daycare centers, nursing homes and hospitals near the Project Site. The existing onsite Dialysis Center, which would be relocated into temporary trailers and remain onsite during construction, was also included as a sensitive receptor. These locations were modeled as discrete locations.[39]

Operations

Operations would generate TACs and $PM_{2.5}$ from vehicle travel and testing and maintenance of emergency generators. On-road traffic sources other than intercampus shuttles were characterized as line sources with a release height of 1.7 meters; intercampus shuttles were characterized as line sources with a release height of 3.39 meters. To account for plume rise associated with mechanically generated air turbulence from operational emissions sources for the AERMOD run, the initial vertical dimensions for the line sources was 1.58 meters for non-intercampus shuttles and 3.15 meters for intercampus shuttles. The emergency generators would generate both DPM and $PM_{2.5}$ emissions. The emergency generators were represented as point sources, with a release height assumed to be the height of the building at which they are located, exit temperature of 739.82 Kelvin, and exit velocity of 45.3 meters per second.[40][41]

[39] Bay Area Air Quality Management District. 2017. California Environmental Quality Act, Air Quality Guidelines. May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: March 15, 2022.

[40] The precise heights for the generators are not known at this time. Modeling the generators at the same level as the roof overestimates the results because of the way in which exhaust travels and where the sensitive receptors are located. In addition, before becoming operational, the generators would need to receive permits to operate from BAAQMD. Through this application process, the health impacts of these generators, with their final stack heights and locations, would be reviewed by BAAQMD to ensure that emissions would remain below thresholds.

[41] San Francisco Department of Public Health. 2020. *San Francisco Citywide Health Risk Assessment Technical Support* Document. February. Available: https://www.sfdph.org/dph/files/EHSdocs/AirQuality/Air_Pollutant_Exposure_Zone_Technical_Documentation_2020.pdf.

Similar to construction, the rural dispersion option was used. Sensitive receptors for operations were placed at the same locations as the construction analysis. Receptors were given a height of 1.8 meters to represent the average human breathing zone.[42] A complete list of dispersion modeling inputs is provided in Appendix 3.4-1.

Risk Calculations

The risk calculations incorporate OEHHA's age sensitivity factors, which account for increased sensitivity to carcinogens during early-in-life exposure. The approach for estimating cancer risk from long-term inhalation, including exposure to carcinogens, requires calculating a range of potential doses and multiplying by cancer potency factors in units corresponding to the inverse dose to obtain a range of cancer risks. For cancer risk, the risk for each age group is calculated using the appropriate daily breathing rates, age sensitivity factors, and exposure durations. The cancer risks calculated for individual age groups are summed to estimate the cancer risk for each receptor. Chronic cancer and hazard risks were calculated using values from OEHHA's 2015 HRA guidance.[43] In accordance with BAAQMD guidance, residential cancer risks assumed a 30-year exposure duration.

Four cancer risk scenarios were evaluated for the Proposed Project. The four exposure scenarios were developed to capture the maximum risks from Project construction and operations. Due to the complex timing of Project construction, the selection of exposure scenarios took into consideration the magnitude of potential activity associated with each year. Scenario 1 starts at the beginning of construction and captures initial demolition and grading. Scenario 2 starts after construction has begun and is intended to capture the maximum amount of overlapping construction activities that would occur during Project construction. Starting a receptor's exposure any time after these two scenarios would ignore the heaviest construction that occurs at the beginning of the Project. Therefore, these two exposure scenarios are designed to capture the maximum construction impacts. Scenario 3 starts when onsite residents move into the completed buildings while construction is still ongoing around them and captures overlapping construction and operational impacts on onsite residents. Lastly, Scenario 4 captures the fully operational Project once construction has concluded. The four exposure scenarios capture the maximum amount of health risk for on- and offsite receptors experiencing impacts from construction and operations. Refer to Appendix 3.4-1 for the health risk results and additional assumptions and refer to Appendix 3.4-2 for health risk calculations.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the following impacts that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update:[44]

- Impacts related to Clean Air Plan consistency were analyzed in the ConnectMenlo EIR as Impact AQ-1 (pages 4.2-21 to 4.2-35). It was determined that ConnectMenlo would be consistent with the goals and applicable control measures of the 2010 Bay Area Clean Air Plan. In addition, the ConnectMenlo Final EIR determined that implementation of the ConnectMenlo project would result in lower VMT

[42] Ibid.

[43] Office of Environmental Health Hazard Assessment. 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments.* February. Available: https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed: March 15, 2022.

[44] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. (June 1.) Prepared by Placeworks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 14, 2022.

per service population than under existing conditions. In addition, the ConnectMenlo Final EIR states that, pursuant to the City's Zoning Ordinance update, projects that require preparation of a transportation demand management (TDM) plan are required to reduce trip generation by 20 percent below standard use rates. For these reasons, the ConnectMenlo Final EIR determined that implementation of ConnectMenlo would be consistent with air quality planning efforts in the SFBAAB and would not hinder BAAQMD's ability to attain the CAAQS or NAAQS, and this impact would be less than significant.

- Impacts related to criteria pollutant emissions were analyzed in the ConnectMenlo EIR as Impact AQ-2 (pages 4.2-35 to 4.2-42). It was determined that construction emissions associated with individual development projects could generate emissions of criteria air pollutants and TACs. This would require subsequent environmental review of future development projects to assess potential impacts relative to BAAQMD-recommended project-level thresholds. Construction emissions from buildout of future projects within Menlo Park, including the Proposed Project, would include 1) exhaust emissions from off-road diesel-powered construction equipment; 2) dust generated by demolition, grading, earthmoving, and other construction activities; 3) exhaust emissions from on-road vehicles; and 4) off-gas emissions of ROG associated with the application of asphalt, paint, and architectural coatings. The ConnectMenlo Final EIR found that construction-related impacts would be significant and identified Mitigation Measures AQ-2b1 and AQ-2b2 to reduce impacts to the extent feasible. Mitigation Measure AQ-2b1 requires implementation of BAAQMD Basic Construction Mitigation Measures for all construction projects in the city to reduce particulate matter emissions. Mitigation Measure AQ-2b2 requires implementation of additional BAAQMD-approved mitigation measures (e.g., requiring best available control technology for construction equipment to reduce emissions, minimizing idle time of construction equipment to 2 minutes, etc.) if subsequent environmental review determines that future individual development projects in Menlo Park could generate construction exhaust emissions in excess of the BAAQMD-recommended significance thresholds. Mitigation Measure AQ-2b1 also requires, prior to issuance of building permits, applicants of development project that would be subject to CEQA and exceed the screening sizes in BAAQMD's CEQA Guidelines to prepare and submit to the City of Menlo Park a technical assessment that evaluates potential project construction-related air quality impacts (the AQTR prepared and submitted for the Proposed Project meets this requirement). Even with implementation of these measures, the ConnectMenlo Final EIR determined that construction-period impacts associated with buildout of ConnectMenlo would be significant and unavoidable. The ConnectMenlo EIR noted that identification of this significant and unavoidable program-level impact does not preclude a finding of less than significant for subsequent projects that comply with BAAQMD screening criteria or meet applicable thresholds of significance.

The ConnectMenlo Final EIR found that emissions of criteria air pollutants and precursors associated with the operation of new development under ConnectMenlo would generate a substantial net increase in emissions that would exceed the BAAQMD regional significance thresholds. Because emissions generated by cumulative development within the city could exceed the regional significance thresholds, any development project could contribute to an increase in adverse health effects in the SFBAAB until the attainment standards are met. Criteria air pollutant emissions would be generated from onsite area sources (e.g., landscaping fuel, consumer products), vehicle trips generated by individual projects, and onsite combustion of natural gas for space and water heating. The ConnectMenlo Final EIR identified Mitigation Measure AQ-2a, which requires implementation of BAAQMD-approved mitigation measures if subsequent environmental review determines that future development projects in Menlo Park could generate operational emissions in excess of the BAAQMD significance thresholds. Even with

implementation of these measures, the ConnectMenlo Final EIR determined that operational impacts associated with buildout of ConnectMenlo would be significant and unavoidable. The ConnectMenlo EIR noted that the identification of this significant and unavoidable program-level impact does not preclude a finding of less than significant for subsequent projects that comply with BAAQMD screening criteria or meet applicable thresholds of significance.

- Impacts related to the exposure of sensitive receptors to pollutant concentrations were analyzed in the ConnectMenlo EIR as Impact AQ-3 (pages 4.2-43 to 4.2-50). It was determined the that the increase in traffic associated with buildout under ConnectMenlo would not result in, or contribute to, localized concentrations of CO that would exceed applicable federal and state ambient air quality standards. The ConnectMenlo EIR also determined that new land uses in Menlo Park that involve trucks and truck idling and the use of off-road equipment at warehousing operations could generate substantial DPM emissions. The ConnectMenlo Final EIR required implementation of Mitigation Measure AQ-3a to reduce impacts associated with the generation of DPM emissions from non-residential land uses in the City to less than significant. This mitigation measure would apply to the Proposed Project. Although the ConnectMenlo EIR noted that an evaluation of the impact of the environment on a project is not a CEQA requirement, unless the impact would exacerbate an environmental hazard, the ConnectMenlo Final EIR also determined that the placement of new sensitive land uses, such as residential units, near major sources of air pollution could expose sensitive receptors to elevated concentrations of such pollutants. As such, the ConnectMenlo Final EIR identified Mitigation Measure AQ-3b to ensure that air pollution levels at sensitive receptors meet the incremental risk thresholds established by BAAQMD. With implementation of ConnectMenlo Mitigation Measure AQ-3b, the ConnectMenlo Final EIR concluded that impacts would be less than significant.

Impacts and Mitigation Measures

Impact AQ-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan. The Proposed Project would conflict with or obstruct implementation of the applicable air quality plan. (SU)

Since certification of the ConnectMenlo EIR, BAAQMD adopted its 2017 Clean Air Plan.[45] The 2017 Clean Air Plan is a comprehensive plan to improve air quality and protect public health in the SFBAAB. It defines control strategies to reduce emissions and ambient concentrations of air pollutants; safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily affected by air pollution; and reduce GHG emissions to protect the climate. A project is considered to be consistent with the Clean Air Plan when it 1) supports the goals of the Clean Air Plan, 2) includes applicable control measures from the Clean Air Plan, and 3) would not disrupt or hinder implementation of any control measure included in the Clean Air Plan.

The sections that follow provide an evaluation of the Proposed Project's consistency with each of the criteria.

[45] Bay Area Air Quality Management District. 2017. *Final 2017 Clean Air Plan*. April 17. Available: https://www.baaqmd.gov/ ~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: March 15, 2022.

Clean Air Plan Goals

The primary goals of the Clean Air Plan are to attain air quality standards, reduce the population's exposure to pollutants, protect public health in the Bay Area, reduce GHG emissions, and protect the climate. BAAQMD has established mass emissions thresholds of significance for determining whether emissions associated with construction or operation of a project would represent a cumulatively considerable contribution to adverse air quality in the SFBAAB and conflict with planning efforts to attain or maintain ambient air quality standards. The health and hazard thresholds were established to protect public health. As discussed under Impact AQ-2 in Tables 3.4-12 and 3.4-14, implementation of the Proposed Project would result in significant and unavoidable impacts related to operational emissions of ROG. Consequently, the Proposed Project would conflict with the Clean Air Plan goals to attain ambient air quality standards.

Development of the 2017 Clean Air Plan strategy was based on regional population and employment projections for the Bay Area compiled by the Association of Bay Area Governments during preparation of Plan Bay Area. Demographic trends incorporated into Plan Bay Area were used to determine VMT in the Bay Area; BAAQMD uses the trends to forecast future air quality. The SFBAAB is currently designated a nonattainment area for O_3 (federal and state ambient air quality standards), $PM_{2.5}$ (federal and state ambient air quality standards), and PM_{10} (state ambient air quality standards only). The 2017 Clean Air Plan is based on Plan Bay Area 2040. According to the ConnectMenlo EIR, the 2010 Clean Air Plan's growth projections would exceed the projections of the Association of Bay Area Governments. The Proposed Project would be consistent with the goals and policies of ConnectMenlo. The increased population and employment associated with the Proposed Project were studied in the ConnectMenlo EIR. Furthermore, Section 3.13, *Population and Housing,* notes that it was later determined that the ConnectMenlo growth projections would align with future regional growth projections promulgated by ABAG. Notwithstanding, as noted above, due to the ROG exceedance, the Proposed Project would conflict with the goals of the Clean Air Plan to attain ambient air quality standards.

Clean Air Plan Control Measures

Control strategies in the Clean Air Plan include measures in the following categories: Stationary-Source Control Measures, Transportation Control Measures, Energy Control Measures, Building Control Measures, Agriculture Control Measures, Natural and Working Lands Control Measures, Waste Management Control Measures, and Water Control Measures. The Proposed Project's consistency with each of these strategies is discussed below.

Stationary-Source Control Measures

The stationary-source control measures, which are designed to reduce emissions from stationary sources such as metal melting facilities, cement kilns, refineries, and glass furnaces, are incorporated into rules adopted by BAAQMD and then enforced by BAAQMD permit and inspection programs. The Proposed Project would include approximately 13 diesel-powered emergency generators, which would require permits from BAAQMD to operate. As part of the permit review process, operation of the emergency generators would be required to comply with BAAQMD permitting requirements, which incorporate stationary-source control measures from the Clean Air Plan; therefore, the Proposed Project would be consistent with the stationary-source control measures of the Clean Air Plan.

Transportation Control Measures

As part of the Clean Air Plan, BAAQMD identifies transportation control measures to decrease emissions of criteria pollutants, TACs, and GHGs by reducing demand for motor vehicle travel, promoting efficient vehicles and transit service, decarbonizing transportation fuels, and electrifying motor vehicles and equipment. The Proposed Project would develop a master-planned, mixed-use neighborhood with up to 1,730 residential units, a grocery store/supermarket, neighborhood-serving retail uses, office space, a hotel, new bicycle and pedestrian connections, and open space. The Proposed Project would also develop TDM plans to provide trip reduction measures and reduce vehicle traffic in and around the Project Site, as discussed in Section 3.3, *Transportation*. In addition, the Proposed Project would not exceed the City's VMT thresholds with implementation of Mitigation Measure TRA-1. Mitigation Measure TRA-1 would reduce the Proposed Project's residential VMT a minimum of 16 percent through active TDM measures.[46] Furthermore, the Proposed Project would provide adequate bicycle and pedestrian infrastructure and represent an overall improvement to bicycle and pedestrian access and circulation. Within the Project Site, pedestrian walkways would be incorporated around the Proposed Project buildings. The Proposed Project would also be subject to regulatory programs related to fuel and vehicle efficiency as well as vehicle electrification, all of which would result in emissions reductions. Therefore, the Proposed Project would promote BAAQMD initiatives to reduce vehicle trips and VMT and increase the use of alternative means of transportation. Therefore, the Proposed Project would be consistent with the applicable transportation control measures of the Clean Air Plan.

Energy Control Measures

The Clean Air Plan also includes energy control measures, which are designed to reduce emissions of criteria air pollutants, TACs, and GHGs by decreasing the amount of electricity consumed in the Bay Area as well as the carbon intensity of electricity used by switching to less GHG-intensive fuel sources for electricity generation. Because these measures apply to electrical utility providers and local government agencies, and not individual projects, the energy control measures of the Clean Air Plan are not applicable to the Proposed Project. However, as a component of compliance with Sections 16.43.140 (Office) and 16.45.130 (Residential Mixed Use) of the Menlo Park Municipal Code, the Proposed Project on the main Project Site would meet 100 percent of its energy demand by purchasing renewable electricity through either Peninsula Clean Energy or Pacific Gas and Electricity Company. Per the requirements of Chapters 16.43.140 (Office) and 16.45.130 (Residential Mixed Use), the Proposed Project would offset non-renewable energy used onsite (e.g., natural gas and any tenants that do not purchase 100 percent renewable energy from Peninsula Clean Energy or Pacific Gas and Electricity Company). It is anticipated that this energy use would be offset through onsite renewable energy generation. In addition, the Proposed Project would install electric-vehicle charging stations, photovoltaic solar panels, and solar hot water systems. As further discussed in Section 3.6, *Greenhouse Gas Emissions*, of the Draft EIR, the Proposed Project would meet a net-zero GHG emissions threshold with respect to building operations.

Although the Proposed Project would provide natural gas connections, natural gas would be consumed only for retail culinary uses, if an exception is granted by the Environmental Quality Commission or a designated body, per the requirements of the City's reach code. Furthermore, the Proposed Project on the main Project Site would be consistent with Sections 16.43.140 (Office) and 16.45.130 (Residential Mixed Use) of the Menlo Park Municipal Code and purchase certified renewable energy credits and/or certified

[46] Willow Village TDM Plan. Prepared for Peninsula Innovation Partners. Fehr & Peers, Inc. July 2021.

renewable energy offsets annually in an amount equal to the annual natural gas demand of the Proposed Project. Therefore, the Proposed Project would be consistent with applicable local energy control measures that support the energy control measures in the Clean Air Plan.

Building Control Measures

BAAQMD has authority to regulate emissions from certain sources in buildings, such as boilers and water heaters, but has limited authority to regulate buildings themselves. Therefore, the strategies in the control measures for this sector focus on working with local governments that do have authority over local building codes to facilitate adoption of best management practices and policies related to GHGs. Therefore, the building control measures of the Clean Air Plan are not applicable to the Proposed Project. However, the Proposed Project would comply with California Green Building Standards Code (CALGreen) standards and other code amendments, such as local reach codes. In addition, the Proposed Project would be designed to achieve Leadership in Energy and Environmental Design (LEED) Gold certification for building design and construction, with the exception of buildings with an area of less than 10,000 square feet, which would not be certified. Smaller buildings (e.g., Town Square south pavilion, park restroom building) would meet the applicable CALGreen requirements. Therefore, the Proposed Project would be consistent with the applicable building control measures of the Clean Air Plan.

Agriculture Control Measures

The agriculture control measures are designed to reduce primarily emissions of methane. Because the Proposed Project would not include any agricultural activities, the agriculture control measures of the Clean Air Plan are not applicable to the Proposed Project.

Natural and Working Lands Control Measures

The natural and working lands control measures focus on increasing carbon sequestration on rangelands and wetlands. They also encourage local governments to adopt ordinances that promote urban tree planting. Because the Proposed Project would not disturb rangelands and any impacts on offsite wetlands that cannot be avoided would be minimal and properly mitigated, the natural and working lands control measures of the Clean Air Plan are not applicable to the Proposed Project.

Waste Management Control Measures

The waste management control measures focus on reducing or capturing methane emissions from landfills and composting facilities, diverting organic materials away from landfills, and increasing waste diversion rates through efforts to reduce, reuse, and recycle. The Proposed Project would comply with local requirements for waste management (e.g., recycling and composting), including preparation of zero waste plans to increase diversion rates during the occupancy phase of each building, per the requirements of the City's Zoning Ordinance. Therefore, the Proposed Project would be consistent with the waste management control measures of the Clean Air Plan.

Water Control Measures

The water control measures focus on reducing emissions of criteria pollutants, TACs, and GHGs by encouraging water conservation, limiting GHG emissions from publicly owned treatment works, and promoting the use of biogas recovery systems. Because these measures apply to publicly owned treatment works and local government agencies, and not individual projects, the water control measures are not applicable to the Proposed Project.

Summary and Mitigation Measures

As discussed above, the agriculture control measures, natural and working lands control measures, and water control measures of the Clean Air Plan would not be applicable to the Proposed Project. The Proposed Project would be consistent with the applicable stationary-source control measures, energy control measures, building control measures, and waste control measures included in the Clean Air Plan. However, as discussed further in Impact AQ-2, the Proposed Project would exceed BAAQMD's construction NO_X threshold and BAAQMD's operational ROG threshold as shown in Summary Tables A, B, and C of the AQTR, and BAAQMD's cancer risk threshold as shown in Summary Table D of the AQTR. To reduce Proposed Project criteria pollutant emissions and cancer risk, the Proposed Project would implement Mitigation Measures AQ-1.1 and AQ-1.2 as well as ConnectMenlo Mitigation Measure AQ-2b1. The AQTR fulfills the air quality technical assessment requirements of Mitigation Measure AQ-2b2 from the ConnectMenlo EIR. Mitigation Measures AQ-1.1 and AQ-1.2 satisfy the mitigation requirements of ConnectMenlo Mitigation Measure AQ-2b2.

With implementation of Mitigation Measures AQ-1.1 and AQ-1.2 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, the Proposed Project would result in less-than-significant impacts related to NO_X emissions and TAC exposures. The Proposed Project would also be consistent with the transportation control measures with implementation of Mitigation Measure TRA-1. However, as discussed above under Clean Air Plan goals and further in Impact AQ-2, the Proposed Project's ROG emissions would remain above the BAAQMD ROG threshold after implementation of all mitigation measures. Therefore, the Proposed Project would possibly disrupt or hinder implementation of the current Clean Air Plan, and this impact would be ***significant and unavoidable***.

Project Mitigation Measure AQ-1.1: Use Clean Diesel-powered Equipment during Construction to Control Construction-related Emissions.

The Project Sponsor shall either:

- Ensure all off-road construction equipment with greater than 25 horsepower and operating for more than 20 hours total over the entire duration of construction activities have engines that meet or exceed either EPA or ARB Tier 4 Final off-road emission standards. The exception to this requirement allows a cumulative total of 618,028 horsepower-hours over the duration of construction activities before residents move onsite and 34,716 horsepower-hours over the duration of construction activities after residents move onsite from the operation of off-road construction equipment that meets standards that are less than Tier 4 Final; or
- Prior to issuance of building permits, provide supplemental analysis prepared by a qualified air quality specialist to the City for approval that shows that emissions of ROG and NO_X, the excess lifetime cancer risk, and the $PM_{2.5}$ concentration would not exceed the thresholds from the 2017 BAAQMD CEQA Air Quality Guidelines using the mix of equipment proposed by the applicant.

Project Mitigation Measure AQ-1.2: Architectural Coatings.

The Project Sponsor shall use super-compliant architectural coatings during construction and operation for all buildings, which shall have VOC content that meet SCAQMD Rule 1113 Architectural Coatings as revised on February 5, 2016.

Impact AQ-2: Cumulatively Considerable Net Increase in Criteria Pollutants. The Proposed Project would result in a cumulative net increase in a criteria pollutant for which the Project region is classified as a nonattainment area under an applicable federal or state ambient air quality standard. (SU)

According to the BAAQMD CEQA Guidelines, to meet air quality standards for criteria air pollutant and air precursor impacts, the Proposed Project must not:

- Contribute to CO concentrations that exceed the state ambient air quality standards;
- Generate daily construction emissions of ROG, NO_X, or $PM_{2.5}$ (exhaust) greater than 54 pounds per day or PM_{10} exhaust emissions greater than 82 pounds per day; or
- Generate operational emissions of ROG, NO_X, or $PM_{2.5}$ greater than 10 tons per year, or 54 pounds per day, or PM_{10} emissions greater than 15 tons per year, or 82 pounds per day.

Construction

Construction activities would generate criteria pollutant emissions from off-road equipment exhaust, construction workers' vehicles and heavy-duty trucks traveling to and from the Project Site and offsite utility installation areas, the application of architectural coatings, and paving activities. Fugitive PM_{10} and $PM_{2.5}$ dust would also be generated during soil movement and disturbance. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring simultaneously. Average daily emissions estimates were calculated to assess construction impacts, accounting for onsite and offsite construction activities. The unmitigated and mitigated average daily criteria air pollutant emissions that would be generated during Proposed Project construction are shown in Table 3.4-6. Please refer to Appendix 3.4-1 for detailed assumptions and daily construction-related emissions estimates and refer to 3.4-2 for air quality emissions calculations.

Table 3.4-6. Estimated Unmitigated Average Daily Construction Emissions of Criteria Air Pollutants and Precursors

	Average Daily Emissions (lb/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Year 1	2.8	56	1.2	1.1
Year 2	4.5	64	1.4	1.3
Year 3	19	124	5.8	5.4
Year 4	52	53	2.3	2.1
Year 5	63	45	2.1	2.0
Year 6	35	12	0.7	0.6
Maximum Average Daily Emissions	63	124	5.8	5.4
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	Yes	Yes	No	No

Source: Modeling files provided in Appendix 3.4-2.
lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less
[a] BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions. Fugitive dust emissions would be controlled using best management practices.

As shown in Table 3.4-6, construction of the Proposed Project would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X. Unmitigated particulate matter exhaust emissions would not exceed BAAQMD's particulate matter exhaust thresholds. As shown in Table 3.4-7, after implementation of Mitigation Measures AQ-1.1 and AQ-1.2 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, construction criteria pollutant emissions would be below all applicable BAAQMD thresholds. Therefore, Project-related construction activities would not result in a cumulatively considerable net increase in any criteria air pollutant for which the SFBAAB is designated as a nonattainment area with respect to federal or state ambient air quality standards. This impact would be ***less than significant with mitigation.***

Table 3.4-7. Estimated Mitigated Average Daily Construction Emissions of Criteria Air Pollutants and Precursors

	Average Daily Emissions (lb/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Year 1	1.5	43	0.4	0.4
Year 2	2.7	45	0.5	0.5
Year 3	10	47	0.8	0.8
Year 4	24	29	0.4	0.4
Year 5	28	22	0.3	0.3
Year 6	15	5.4	0.1	0.1
Maximum Average Daily Emissions	28	47	0.8	0.8
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	No	No	No	No

Source: Modeling files provided in Appendix 3.4-2.
lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less
[a] BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions. Fugitive dust emissions would be controlled using best management practices.

ConnectMenlo Mitigation Measures

The following mitigation measures from the ConnectMenlo EIR would apply to the Proposed Project:

> **ConnectMenlo AQ-2b1:** Prior to building permit issuance, the City shall require applicants for all development projects in the city to comply with the current Bay Area Air Quality Management District's (BAAQMD) basic control measures for reducing construction emissions of PM_{10} (Table 8-1, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the BAAQMD CEQA Guidelines[47]).
>
> **ConnectMenlo AQ-2b2:** Prior to issuance of a building permit, development projects in the City that are subject to CEQA and exceed the screening sizes in the BAAQMD's CEQA Guidelines shall prepare and submit to the City of Menlo Park a technical assessment evaluating potential project construction-related air quality impacts. The evaluation shall be prepared in conformance with the BAAQMD methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the BAAQMD thresholds of significance, as identified in the BAAQMD CEQA Guidelines, the project applicant is required to incorporate mitigation measures to reduce air pollutant emissions

[47] In the 2017 Update to the BAAQMD CEQA Guidelines, these measures are in Table 8-2.

during construction activities to below these thresholds (e.g., Table 8-2, Additional Construction Mitigation Measures Recommended for projects with Construction Emissions Above the Threshold of the BAAQMD CEQA Guidelines, or applicable construction mitigation measures subsequently approved by BAAQMD[48]). These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans), subject to the review and approval of the Planning Division prior to building permit issuance. (The AQTR prepared and submitted for the Proposed Project fulfills the air quality technical assessment requirement.)

BAAQMD's CEQA Guidelines consider fugitive dust impacts to be less than significant with application of BMPs, which are included in ConnectMenlo AQ-2b1. The BMPs require applicants for future development projects to comply with BAAQMD's basic control measures for reducing construction emissions of PM_{10}. If BMPs are not implemented, dust impacts would be potentially significant. Therefore, BMPs would be required and implemented to reduce impacts from construction-related fugitive dust emissions, including any cumulative impacts. With implementation of ConnectMenlo AQ-2b1 and AQ-2b2, fugitive dust emissions would be reduced, and the impact would be ***less than significant with mitigation***.

Operation

The criteria pollutant emissions that would be generated during Proposed Project operations were quantified using CalEEMod methodologies and EMFAC2021. Long-term emissions would be caused by vehicle trips, area sources (e.g., cleaning supplies, architectural coatings, landscape maintenance equipment), and the onsite combustion of natural gas for commercial culinary purposes. In addition, stationary-source emissions would be associated with intermittent use of thirteen diesel-powered emergency generators with ratings ranging from 324 to 2,900 horsepower and each would conservatively be assumed to be tested 50 hours per year. Net Proposed Project emissions are calculated by subtracting existing year 2019 operational criteria pollutant emissions from full buildout year 2026 conditions.

The Proposed Project's estimated unmitigated daily operational emissions for existing year 2019, full buildout year 2026, and net emissions are presented in Tables 3.4-8, 3.4-9, and 3.4-10, respectively, and compared to BAAQMD's recommended mass emission thresholds. Please refer to Appendix 3.4-1 for detailed assumptions and daily operational emissions estimates and refer to Appendix 3.4-2 for air quality emissions calculations.

Table 3.4-8. Estimated Unmitigated Average Daily Operational Emissions Existing Conditions (Year 2019)

	Average Daily Emissions (lb/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Architectural Coating	3	0	0	0
Consumer Products	19	0	0	0
Landscaping	< 1	< 1	< 1	< 1
Onsite Natural Gas Combustion	1	8	1	1
Vehicle Trips (Mobile Sources)	27	44	22	5
Backup Diesel Generator	< 1	< 1	< 1	< 1
Total Operational Emissions	50	52	23	5

Modeling files provided in Appendix 3.4-2.
Totals may not add up because of rounding.
lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter
[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

[48] In the 2017 Update to the BAAQMD CEQA Guidelines, these measures are in Table 8-3.

Table 3.4-9. Estimated Unmitigated Average Daily Operational Emissions Full Buildout Conditions (Year 2026)

	Average Daily Emissions (lb/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Architectural Coating	12	0	0	0
Consumer Products	68	0	0	0
Landscaping	2	1	< 1	< 1
Onsite Natural Gas Combustion	< 1	1	< 1	< 1
Vehicle Trips (Mobile Sources)	55	64	58	11
Backup Diesel Generators	1	7	< 1	< 1
Total Operational Emissions	137	73	59	12

Modeling files provided in Appendix 3.4-2.

Notes:

Totals may not add up because of rounding.

lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 3.4-10. Estimated Net Unmitigated Average Daily Operational Emissions

	Average Daily Emissions (lb/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Existing Conditions (Year 2019)	50	52	23	5
Full Build-Out Conditions (Year 2026)	137	73	59	12
Total Net Operational Emissions	88	21	37	7
BAAQMD Significance Threshold	54	54	82	54
Exceeds Threshold?	Yes	No	No	No

Modeling files provided in Appendix 3.4-2.

Notes:

Totals may not add up because of rounding.

lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

As shown in Table 3.4-10, net operation of the Proposed Project would not generate levels of NO_X or particulate matter that would exceed BAAQMD-recommended mass emission thresholds. However, operation of the Proposed Project would generate levels of ROG that would exceed BAAQMD's ROG threshold. ROG emissions from consumer products constitute the majority of operational ROG emissions associated with the Proposed Project. Therefore, unmitigated operation of the Proposed Project would result in a cumulatively considerable net increase in any criteria air pollutant for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards.

Implementation of Mitigation Measure AQ-1.2 would decrease Proposed Project full build-out operational ROG emissions, as shown in Table 3.4-11. Mitigation Measure AQ-1.2 requires the Project Sponsor to use low-VOC architectural coatings for all Proposed Project buildings. However, as shown in Table 3.4-12, net mitigated operational ROG emissions would still exceed BAAQMD's ROG threshold. Most of the emissions that contribute to this exceedance result from the volume of consumer products used, which is dependent on a project's size. Larger projects have more people who use more consumer products, such as hair spray, deodorant, cleaning products, etc., than smaller projects but are subject to the same mass emissions threshold. The City and Project Sponsor have minimal control over what consumer products users purchase, and there are no additional mitigation measures to reduce ROG from consumer products. Other main contributors to ROG emissions are vehicles. As discussed in the Transportation section, with mitigation, the Proposed Project would comply with the City's VMT threshold. Therefore, mitigated operation of the Proposed Project would result in a cumulatively considerable net increase in any criteria air pollutant for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards. This impact would be ***significant and unavoidable*.**

Table 3.4-11. Estimated Mitigated Average Daily Operational Emissions Full Buildout Conditions (Year 2026)

	Average Daily Emissions (lb/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Architectural Coating	5	0	0	0
Consumer Products	68	0	0	0
Landscaping	2	1	< 1	< 1
Onsite Natural Gas Combustion	< 1	1	< 1	< 1
Vehicle Trips (Mobile Sources)	55	64	58	11
Backup Diesel Generators	1	7	< 1	< 1
Total Operational Emissions	130	73	59	12

Modeling files provided in Appendix 3.4-2.

Totals may not add up because of rounding.

lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 3.4-12. Estimated Net Mitigated Average Daily Operational Emissions

	Average Daily Emissions (lb/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Existing Conditions (Year 2019)	50	52	23	5
Full Build-Out Conditions (Year 2026)	130	73	59	12
Total Net Operational Emissions	80	21	37	7
BAAQMD Significance Threshold	54	54	82	54
Exceeds Threshold?	Yes	No	No	No

Totals may not add up because of rounding.

lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Construction + Operations

Construction is expected to occur during Project operation because the Project will be constructed over a period of several years. In years when construction is scheduled to coincide with Project operation, construction emissions were combined with operational emissions. This analysis conservatively assumed that the buildings constructed in each year of the construction program would be occupied and fully operational upon completion. This is conservative because occupancy and operation of each phase would likely ramp up over time. The combined construction and operational emissions were compared with average daily emissions thresholds, using the 365 days per year to average annual emissions for both construction and operations, as shown in Table 3.4-13 and Table 3.4-14. Please refer to Appendix 3.4-1 for detailed assumptions and daily construction-related emissions estimates. Please refer to Appendix 3.4-2 for criteria pollutant emissions calculations.

As shown in Table 3.4-13, construction plus operation of the Proposed Project would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X. Unmitigated particulate matter emissions would not exceed BAAQMD's particulate matter thresholds. As shown in Table 3.4-14, after implementation of Mitigation Measures AQ-1.1 and AQ-1.2 as well as ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2, construction plus net operational emissions would remain in excess of BAAQMD's recommended threshold for ROG. Therefore, mitigated construction plus operation of the Proposed Project would result in a cumulatively considerable net increase in any criteria air pollutant for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards. This impact would be ***significant and unavoidable***.

Table 3.4-13. Estimated Unmitigated Average Daily Construction plus Operational Emissions of Criteria Air Pollutants and Precursors

	Average Daily Emissions (lb/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Year 1	-50	-50	-23	-5.2
Year 2	-45	11	-21	-3.9
Year 3	-31	72	-17	0.2
Year 4	9.3	7.2	-17	-2.2
Year 5	73	29	7.7	2.7
Year 6	97	21	30	6.1
Full Buildout	88	21	37	7.0
Maximum Average Daily Emissions	97	72	37	7
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	Yes	Yes	No	No

Source: Modeling files provided in Appendix 3.4-2.

Totals may not add up because of rounding.

lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ evaluate exhaust and fugitive emissions.

Table 3.4-14. Estimated Mitigated Average Daily Construction plus Operational Emissions of Criteria Air Pollutants and Precursors

	Average Daily Emissions (lb/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Year 1	-50	-50	-23	-5.2
Year 2	-47	-7.6	-22	-4.7
Year 3	-39	-5.1	-22	-4.4
Year 4	-19	-17	-19	-3.9
Year 5	36	6.3	5.8	1.0
Year 6	74	16	29	5.6
Full Buildout	80	21	37	7.0
Maximum Average Daily Emissions	80	21	37	7
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	Yes	No	No	No

Source: Modeling files provided in Appendix 3.4-2.

Totals may not add up because of rounding.

lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ evaluate exhaust and fugitive emissions.

Impact AQ-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations. The Proposed Project would expose sensitive receptors to substantial pollutant concentrations. (LTS/M)

Sensitive land uses are generally considered to include those uses where exposure to pollutants could result in health-related risks for sensitive individuals, including children and the elderly. Per BAAQMD, typical sensitive receptors are residences, hospitals, and schools. Parks and playgrounds where sensitive receptors (e.g., children and seniors) are present would also be considered sensitive receptors.[49] The nearest offsite sensitive land uses are the Wund3rSCHOOL and Open Mind School and residences generally south of the Project Site. Onsite residential receptors would occupy Proposed Project buildings as they are completed. The existing onsite Dialysis Center, which would temporarily remain onsite during construction, was also included as a sensitive receptor. The maximum health risks associated with the Dialysis Center are the same or less than the health risks presented in Tables 3.4-15 and 3.4-16 under *Scenarios 1, 2, and 3: Construction plus Operations*. See Appendix 3.4-3 for the Dialysis Center health risk memorandum.

The primary pollutants of concern with regard to health risks for sensitive receptors are criteria pollutants, specifically CO at potential intersection hot spots, asbestos, DPM, and localized $PM_{2.5}$. Each of these topics is analyzed in the paragraphs that follow.

[49] Bay Area Air Quality Management District. 2017. *California Environmental Quality Act Air Quality Guidelines.* May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: March 15, 2022.

Localized Carbon Monoxide Hot Spots

Continuous engine exhaust may elevate localized CO concentrations, resulting in hot spots. Receptors exposed to these CO hot spots may have a greater likelihood of developing adverse health effects. CO hot spots are typically observed at heavily congested intersections where a substantial number of gasoline-powered vehicles idle for prolonged durations.

Peak-hour traffic volumes at all roadways in the vicinity were analyzed to determine whether CO emitted by Project-generated traffic would exceed BAAQMD screening criteria. Maximum traffic volumes at the intersections under all scenarios would be less than BAAQMD's recommended screening criterion of 44,000 vehicles per hour. Also, intersection traffic volumes under all scenarios would not exceed the screening criterion of 24,000 vehicles per hour that BAAQMD recommends for areas where vertical and/or horizontal mixing is substantially limited. In addition, the Proposed Project would be consistent with the TDM requirements of the City/County Association of Government's Congestion Management Plan as discussed in Section 4 of the AQTR. The Proposed Project would not result in, or contribute to, a localized concentration of CO that would exceed the applicable NAAQS or CAAQS. This impact would be ***less than significant***.

Toxic Air Contaminants

Asbestos

Asbestos is a naturally occurring mineral that was previously used in building construction because of its heat resistance and strong insulating properties. Exposure to asbestos, however, has been shown to cause many disabling and fatal diseases, including lung cancer, mesothelioma, and pleural plaques. Demolition of the existing hardscape (asphalt and concrete) and buildings on the Project Site may expose workers and nearby receptors to asbestos if the material was used during construction of the original hardscape and buildings. However, the Proposed Project would comply with BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation, and Manufacturing. The purpose of this rule is to control emissions of asbestos to the atmosphere during demolition and building renovation. Because the applicant would be required to control asbestos emissions according to BAAQMD regulations, receptors would not be exposed to substantial asbestos risks, and impacts associated with asbestos emissions would be ***less than significant.***

Criteria Air Pollutants

Consistent with the Friant Ranch decision, this section discusses the potential health effects that may result from significant and unavoidable ROG emissions as a result of the Proposed Project. As discussed above under Impact AQ-2, construction emissions as a result of the Project would be below the BAAQMD thresholds of significance. Operational emissions as a result of the Project would be below BAAQMD thresholds of significance for all pollutants excluding ROG, as summarized above under Impact AQ-2.

Because ROG emissions are the only pollutants that would exceed thresholds of significance, the resulting criteria pollutant in consideration for potential health effects is ozone. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG, also sometimes referred to as volatile organic compounds [VOCs] by some regulatory agencies) and NO_X in the presence of sunlight. The main sources of ROG and NO_X, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by

wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases, such as asthma, bronchitis, and emphysema.

As the formation of ozone is due to complex reactions between ROG and NO_X emissions in the presence of sunlight, the process of determining impacts is computationally intensive. The BenMAP-CE is an open source model from the EPA that estimates health impacts resulting from changes in air quality—specifically, ground-level ozone and fine particles. BenMAP relies on reported air quality information and health literature and is used by the EPA to inform the process for setting the National Ambient Air Quality Standards at levels protective of human health. The BenMAP health endpoints for ozone that are typically used in national rulemaking include mortality, emergency room visits (respiratory), and hospital admissions (respiratory). There are assumptions associated with several of the BenMAP inputs, including exposure estimates and health statistics, which can add to the uncertainty in the BenMAP results. Also, because BenMAP relies on epidemiological studies that are not necessarily specific to the Study Area and local populations, there is some uncertainty regarding the generalizability of the epidemiological results. Accordingly, there are limitations related to determining the precise health effect caused by a project's addition of air pollutants to an air basin on any individual. Instead, modeling is most useful to provide how health outcomes for a general population are correlated to air quality.

Results from assessments completed for other similarly-sized projects in the SFBAAB have shown that health impacts from exceedances of BAAQMD's ROG and NO_X thresholds would be minimal. As noted above, while only Project operational ROG emissions would exceed thresholds of significance, emissions of both NO_X and ROG are presented for three project analyses in the Bay Area for comparison to the Proposed Project as these are the primary precursors to ozone. For example, for three projects in the Bay Area with ROG and NO_X emissions that ranged from 79–458 lbs/day and 125–153 lbs/day, respectively, potential health effects were far below background incidence rates for all health endpoints.[50]

As summarized above, the Proposed Project is estimated to generate 21 lbs/day of NO_X and 80 lbs/day of ROG, which is similar to or below the emission levels of the projects referenced above. We thus anticipate that health impacts would be similarly de minimis.

Toxic Air Contaminants and Localized $PM_{2.5}$

DPM is a carcinogen contained in the exhaust of diesel internal-combustion engines. Project-related construction activities would generate DPM (PM_{10} exhaust)[51] from off-road equipment and heavy-duty trucks. $PM_{2.5}$ exhaust and fugitive dust emissions would be generated from off-road equipment, onsite soil movement, and on-road travel of heavy-duty trucks and workers' vehicles.

Operational activities would generate TACs from vehicles and the emergency generators. DPM would be released from emergency generators during testing and maintenance as well as the use of diesel-fueled vehicles. Other TACs, in the form of ethylbenzene, toluene, hexane, xylenes, benzene, styrene, 1,3-butadiene, acrolein, propylene, formaldehyde, methanol, acetaldehyde, methyl ethyl ketone, and naphthalene, would be released from gasoline-fueled vehicles. $PM_{2.5}$ exhaust and fugitive dust emissions would also be generated from Project vehicles as well as the emergency generators. These activities could expose offsite receptors to incremental increases in health risks.

[50] Ramboll US Corporation. 2022. *CEQA Air Quality, Greenhouse Gas and Health Risk Assessment Technical Report*. February. Accessed: February 21, 2022.

[51] Per BAAQMD guidance, PM_{10} exhaust is used as a surrogate for DPM.

Health impacts from exposure to DPM include cancer risks and chronic non-cancer risks. The HRA for the Proposed Project included an evaluation of annual concentrations of $PM_{2.5}$ from exhaust and fugitive dust sources. As discussed previously, the cancer risk was evaluated for four scenarios: 1) exposure beginning at the start of construction; 2) exposure beginning at the start of grading and utility installation for the Area 2[52]; 3) exposure beginning at the conclusion of Town Square and Residential/Shopping District construction when residents would move in; and 4) exposure beginning at the conclusion of Project construction when the Project is fully operational.

Scenarios 1, 2, and 3: Construction plus Operations

Table 3.4-15 presents the maximum unmitigated health risks for sensitive receptors near the Project Site. The evaluation of cancer risk was based on a total exposure duration of 30 years. The health impacts associated with Project construction and operation at onsite sensitive receptors is also presented.[53] As shown in Table 3.4-15, the unmitigated health risk results would not exceed BAAQMD's recommended health risk thresholds for the non-cancer hazard index; however, the Proposed Project would exceed BAAQMD's cancer risk and annual $PM_{2.5}$ concentration thresholds. The maximum health risks associated with the Dialysis Center are the same or less than the health risks presented in Tables 3.4-15 and 3.4-16 under *Scenarios 1, 2, and 3: Construction plus Operations*. See Appendix 3.4-3 for the Dialysis Center health risk memorandum. Therefore, impacts would be potentially significant without mitigation.

Table 3.4-15. Estimated Unmitigated Project-Level Health Risk Results from Construction plus Operations

Scenario	Cancer Risk (cases per million)[a]	Non-Cancer Chronic Risk[b]	Annual $PM_{2.5}$ Concentrations ($\mu g/m^3$)[b]
Construction plus Operations (offsite)	58	0.11	0.56
Construction plus Operations (onsite)	172	0.23	1.1
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	Yes	No	Yes

See Appendix 3.4-2 for detailed modeling files.
$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less
[a.] Maximum cancer risk for the onsite Maximally Exposed Individual Receptor (MEIR) is associated with Scenario 3. Maximum cancer risk for the offsite MEIR is associated with Scenario 2.
[b.] Maximum chronic risk and $PM_{2.5}$ concentration for the onsite MEIR is associated with Scenario 3. Maximum chronic risk and $PM_{2.5}$ concentration for the offsite MEIR is associated with Scenario 1.

To mitigate the cancer risk and $PM_{2.5}$ concentration exceedances, Mitigation Measure AQ-1.1 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR would be implemented. The Proposed Project would trigger the requirement for ConnectMenlo EIR Mitigation Measure AQ-3b and would be consistent with the measure. ConnectMenlo EIR Mitigation Measure AQ-3a would not apply to the Proposed Project. As shown in Table 3.4-16, with implementation of Mitigation Measure AQ-1.1 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, the incremental increase in health risks would be less than all BAAQMD-recommended health risk thresholds. Therefore, mitigated construction and operational emissions

[52] Area 2 includes Parcel 6, Parcel 7, South Garage, Office Building 1, Office Building 2, Office Building 3, Office Building 5, and Office Building 6.

[53] The maximum health risks associated with the Dialysis Center are the same or less than the health risks presented in Tables 3.4-15 and 3.4-16. See Appendix 3.4-3 for the Dialysis Center health risk memorandum.

would not expose sensitive receptors to substantial pollutant concentrations and associated health risks. Impacts would be ***less than significant with mitigation.***

Table 3.4-16. Estimated Mitigated Project-Level Health Risk Results from Construction plus Operations

Scenario	Cancer Risk (cases per million)[a]	Non-Cancer Chronic Risk[b]	Annual $PM_{2.5}$ Concentrations ($\mu g/m^3$)[b]
Construction plus Operations (offsite)	9.2	0.01	0.18
Construction plus Operations (onsite)	9.8	0.01	0.13
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	No	No	No

See Appendix 3.4-2 for detailed modeling files.
Notes:
$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter
[a.] Maximum cancer risk for the onsite MEIR is associated with Scenario 3. Maximum cancer risk for the offsite MEIR is associated with Scenario 2.
[b.] Maximum chronic risk and $PM_{2.5}$ concentration for the onsite MEIR is associated with Scenario 3. Maximum chronic risk and $PM_{2.5}$ concentration for the offsite MEIR is associated with Scenario 1.

Scenario 4: Operations Only

Table 3.4-17 presents the incremental increase in health risks for maximally affected residential receptors with respect to operational emissions only. As shown in Table 3.4-17, the unmitigated health risk from operations would be less than all BAAQMD-recommended health risk thresholds. The Proposed Project would trigger the requirement for ConnectMenlo EIR Mitigation Measure AQ-3b; the Proposed Project would be consistent with Mitigation Measure AQ-3b. In addition, ConnectMenlo EIR Mitigation Measure AQ-3a would not apply to the Proposed Project. Therefore, unmitigated operational emissions would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be ***less than significant***.

Table 3.4-17. Estimated Unmitigated Project-Level Health Risk Results from Operations Only

Scenario	Cancer Risk (cases per million)[a]	Non-Cancer Chronic Risk[b]	Annual $PM_{2.5}$ Concentrations ($\mu g/m^3$)[b]
Operations Only (offsite)	3.4	0.004	0.12
Operations Only (onsite)	3.3	0.01	0.11
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	No	No	No

See Appendix 3.4-2 for detailed modeling files.
Notes:
$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter
[a.] Maximum cancer risk for the onsite MEIR is associated with Scenario 3. Maximum cancer risk for the offsite MEIR is associated with Scenario 4.
[b.] Maximum chronic risk and $PM_{2.5}$ concentration for the onsite MEIR is associated with Scenario 3. Maximum chronic risk and $PM_{2.5}$ concentration for the offsite MEIR is associated with Scenario 1.

Impact AQ-4: Other Air Emissions. The Proposed Project would result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people. (LTS/M)

Although offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and air districts. According to BAAQMD, land uses associated with odor complaints typically include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants.[54] Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, and schools, warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, work sites, and commercial areas.

Potential odor emitters during construction include diesel exhaust and evaporative emissions generated by asphalt paving and the application of architectural coatings. Construction-related activities near existing receptors would be temporary in nature, and construction activities would not result in nuisance odors. Potential odor emitters during operations would include exhaust from vehicles, fumes from the reapplication of architectural coatings, and emissions from the proposed sanitary sewer pump station. Odor impacts would be limited to circulation routes, parking areas, areas immediately adjacent to recently painted structures, and the proposed sanitary sewer pump station. Although such brief exhaust- and paint-related odors may be considered adverse, they would not be atypical of developed urban areas. Wastewater Pumping Facilities are land uses listed in BAAQMD's Odor Screening Distances Table. While the Wastewater Pumping Facilities considered in the Odor Screening Distance is likely a much larger scale than the Project's sewer pump station, the pump station may have the potential to emit objectionable odors. Consequently, odors from the pump station could adversely affect a substantial number of people, and impacts would be considered ***significant***.

As stated in the ConnectMenlo EIR, the following City General Plan goals and policies would serve to minimize potential conflicts between land uses:

Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.

> **Policy LU-2.3: Mixed Use Design.** Allow mixed-use projects with residential units if project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and transport and use of potentially hazardous materials.

Goal LU-4: Promote the development and retention of business uses that provide goods or services needed by the community that generate benefits to the City, and avoid or minimize potential environmental and traffic impacts.

> **Policy LU-4.5: Business Uses and Environmental Impacts**. Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

As stated above, the Proposed Project generally is not expected to create objectionable odors to sensitive receptors and thus would not create compatibility issues related to odors, as stated in Policy LU-2.3. Specifically, the office, residential, and commercial uses associated with the Proposed Project are compatible with each other because none produce substantial objectionable odors. All cooking areas in

[54] Bay Area Air Quality Management District. 2017. *California Environmental Quality Act Air Quality Guidelines.* May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: March 15, 2022.

commercial kitchens will be covered with hoods. The exhaust from culinary uses is intended to go to the roof of the buildings and be disbursed with grease rated fans. In this case the odors dissipate before they can get back to occupied areas. For areas with low roofs or otherwise needing grease exhaust adjacent to occupied areas, the Proposed Project proposes to use a pollution control unit (PCU) to clean the air. Further, consistent with Policy LU-4.5, the Proposed Project would develop and retain business uses without creating objectionable odors. However, as stated above, odors from the pump station could adversely affect a substantial number of people, resulting in a significant impact. This feature of the Proposed Project is consistent with the goals and policies in the General Plan related to odor.

Last, BAAQMD Regulation 7 contains requirements on the discharge of odorous substances after the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period, alleging that a person has caused odors perceived at or beyond the property line of such person and deemed to be objectionable by the complainants in the normal course of their work, travel or residence [BAAQMD 7-102]. The operations within the Proposed Project would be subject to this regulation and would comply with the requirements if the regulation becomes applicable via BAAQMD 7-102, which is not expected. Therefore, the Proposed Project would be in compliance with BAAQMD Regulation 7.

The Proposed Project would implement Mitigation Measure AQ-1.4, which requires the sewer pump station to be equipped with a molecular neutralizer. With implementation of Project Mitigation Measure AQ-1.4 and compliance with BAAQMD Regulation 7, this impact would be ***less than significant with mitigation*.**

Project Mitigation Measure AQ-1.4: Molecular Neutralizer for Odors.

The Project Sponsor and West Bay Sanitary District shall install a molecular neutralizer at the proposed sanitary sewer pump station to convert hydrogen sulfide gas into a biodegradable effluent during sewer pump operations. The molecular neutralizer shall be installed prior to the commencement of sewer pump operations.

Cumulative Impacts

Impact C-AQ-1: Cumulative Air Quality Impacts. Cumulative development would result in a significant and unavoidable cumulative impact on air quality; thus, the Proposed Project would be a cumulatively considerable contributor to a significant cumulative impact on air quality. (SU)

Summary of Analysis in the ConnectMenlo EIR

As discussed in Section 4.2, *Air Quality*, of the ConnectMenlo EIR, the geographic context for cumulative impacts related to air quality is the SFBAAB. Development of past, current, and future projects within the SFBAAB had or have the potential to increase criteria air pollutants. However, the City and surrounding areas are required to comply with state and local regulations related to renewable energy, fuel efficiency, and energy-efficient building materials and construction practices.

The ConnectMenlo EIR determined that criteria air pollutant emissions generated by cumulative development would exceed BAAQMD's project-level significance thresholds and contribute to the nonattainment designations for the SFBAAB and that implementation of ConnectMenlo in combination with past, present, and reasonably foreseeable projects elsewhere within the SFBAAB would result in a significant cumulative impact with respect to air quality, even with implementation of ConnectMenlo EIR Mitigation Measures AQ-2a through AQ-3b. Therefore, the ConnectMenlo EIR determined that cumulative impacts related to criteria air pollutants under ConnectMenlo would be ***significant and unavoidable***.

Cumulative Impacts with the Proposed Project

Criteria Pollutants

Consistent with the ConnectMenlo EIR, the geographic context for cumulative air quality impacts with the Proposed Project includes the SFBAAB. As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at the 123 Independence Drive project and East Palo Alto projects. As with the Proposed Project, the 123 Independence Drive project and East Palo Alto projects, as well as other projects in the area, would be required to comply with existing local and regional plans adopted to minimize potential cumulative air quality impacts; however, some projects nonetheless could exceed criteria pollutant thresholds for pollutants for which the SFBAAB is in nonattainment status. Therefore, these additional projects would not alter the cumulative impact determination stated in the ConnectMenlo EIR, and the cumulative impact with respect to air quality would remain significant and unavoidable.

The Proposed Project would not result in a substantial change in the ConnectMenlo project and would not cause new or substantially more severe significant air quality impacts than those analyzed in the ConnectMenlo EIR. The Proposed Project, however, would be a cumulatively considerable contributor to the significant and unavoidable cumulative impact identified in the ConnectMenlo EIR. Therefore, consistent with the conclusion in the ConnectMenlo EIR, the Proposed Project in combination with other past, present, and reasonably foreseeable future projects would result in a ***significant and unavoidable cumulative impact*** with respect to criteria pollutants.

Toxic Air Contaminants and PM2.5

According to BAAQMD's CEQA Guidelines, combined risk levels should be determined for all TAC sources within 1,000 feet of a project site and compared to BAAQMD's cumulative health risk thresholds.[55]

Nearby TAC sources as well as Proposed Project's construction and operational emissions could contribute to a cumulative health risk for sensitive receptors near the Project Site. BAAQMD's inventory of stationary health risks were used to estimate the combined levels of health risk from existing stationary sources in combination with the Proposed Project. Geographic information system (GIS) raster files provided by BAAQMD were used to estimate roadway and railway emissions.[56] The methods used to estimate Proposed Project-related TAC emissions are described under Impact AQ-3 and in Appendix 3.4-1. The results of the cumulative impact assessment are summarized in Table 3.4-18. This table shows the health risk values for the Proposed Project's maximally affected receptors and the health risk contributions from existing sources. The sum of the Proposed Project's and existing background health risk results were compared to BAAQMD cumulative thresholds. Individual background contributions from existing sources are included in Appendix 3.4-1.

As shown in Tables 3.4-18 and 3.4-19, below, after implementation of Mitigation Measures AQ-1.1 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, the combined level of health risks from the Proposed Project and other local sources of TACs would be less than all BAAQMD-recommended cumulative health risk thresholds. Therefore, the levels of health risk associated with TACs emitted by the Proposed Project in combination with the level of health risk associated with other nearby TAC sources would not result in a significant cumulative local health risk at any nearby sensitive land uses. This impact would be ***less than significant with mitigation.***

[55] Ibid.

[56] Winkel, Jackie. Principal environmental planner, Bay Area Air Quality Management District. April 12, 2018—email to Darrin Trageser, ICF, Sacramento, CA, regarding GIS files containing data regarding background health risks from railroads, major roads, and highway sources within BAAQMD jurisdiction.

Table 3.4-18. Maximum Mitigated Cumulative Health Risks (onsite)

Source	Maximum Affected Onsite Receptor		
	Cancer Risk (per million)[a]	Non-Cancer Chronic Hazard Index[b]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Contribution from Existing Sources			
Stationary	0.1	< 0.01	0.03
Roadways	0.2	< 0.01	0.01
Highways	9.1	—	0.19
Major Streets	3.9	—	0.08
Rail	2.4	—	< 0.01
Existing Total	15.7	< 0.01	0.31
Contribution from Project			
Project Construction	7.2	0.01	0.04
Project Operations	2.5	< 0.01	0.09
Existing + Construction + Operations	**25**	**0.02**	**0.44**
BAAQMD Cumulative Thresholds	100	10.0	0.8
Exceeds Thresholds?	**No**	**No**	**No**

See Appendix 3.4-2 for detailed modeling files.
Totals may not add up because of rounding.
Notes:
$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less
a. Maximum cumulative cancer risk.
b. Data were not available for chronic values for roadway and rail sources.

Table 3.4-19. Maximum Mitigated Cumulative Health Risks (offsite)

Source	Maximum Affected Offsite Receptor		
	Cancer Risk (per million)[a]	Non-Cancer Chronic Hazard Index[b]	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Contribution from Existing Sources			
Stationary	0.01	< 0.01	< 0.01
Roadways	1.3	< 0.01	0.20
Highways	8.0	—	0.21
Major Streets	2.1	—	0.09
Rail	2.5	—	< 0.01
Existing Total	13.9	< 0.01	0.50
Contribution from Project			
Project Construction	7.6	0.01	0.06
Project Operations	1.5	< 0.01	0.12
Existing + Construction + Operations	**23**	**0.01**	**0.68**
BAAQMD Cumulative Thresholds	100	10.0	0.8
Exceeds Thresholds?	**No**	**No**	**No**

See Appendix 3.4-2 for detailed modeling files.
Totals may not add up because of rounding.
Notes:
$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less
[a] Maximum cumulative cancer risk.
[b] Data were not available for chronic values for roadway and rail sources.

Odors

As described in Impact AQ-4, after implementation of Mitigation Measure AQ-1.4, the odor impact from the Proposed Project would be less significant. Since other projects in the vicinity would not include odor-generating uses according to BAAQMD's CEQA Guidelines, the level of odors emitted by the Proposed Project in combination with the level of odors associated with other nearby projects would not result in a significant cumulative odor impact. This impact would be ***less than significant with mitigation***.

3.5 Energy

This section describes the existing environment and regulatory setting for energy within Menlo Park related to the Willow Village Master Plan Project (Proposed Project). It describes the potential impacts related to energy resources and energy consumption that would result from implementation of the Proposed Project. This section incorporates information from the *Assessment of Energy Use and Impact*, *Willow Village Project* (Energy Assessment) prepared by Ramboll for the Proposed Project and peer reviewed by ICF (see Appendix 3.5-1).

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable comments included requests to remove energy offsets and credit options.

Existing Conditions

Environmental Setting

Energy resources in California include natural gas, electric, water, wind, oil, coal, solar, geothermal, and nuclear resources. Energy production and energy use both result in the depletion of nonrenewable resources, such as oil, natural gas, and coal, and emissions of pollutants.

State Energy Resources and Use

California's diverse portfolio of energy resources produced approximately 2,449.4 trillion British thermal units (BTUs) in 2019.[1] According to the California Energy Commission, total electric generation for California in 2019 (the most recent year for which data are available) was approximately 277,704 gigawatt hours. California's non-carbon-dioxide-emitting electric generation categories, including nuclear, hydroelectric, and renewable generation, accounted for more than 57 percent of total in-state generation in 2019. California's in-state electric generation was approximately 200,475 gigawatt hours.[2] Excluding offshore areas, the state ranked seventh in the nation in crude oil production in 2019 (the most recent year for which data are available), producing the equivalent of approximately 920.1 trillion BTUs.[3] Other energy sources in the state include natural gas (220.8 trillion BTUs), nuclear (168.8 trillion BTUs), and biofuel (31.4 trillion BTUs).[4,5,6]

1 U.S. Energy Information Administration. 2021e. *Table P5B—Primary Energy Production Estimates, Renewable and Total Energy, in Trillion BTU, Ranked by State, 2019*. Available: https://www.eia.gov/state/seds/sep_prod/pdf/P5B.pdf. Accessed: March 14, 2022.

2 California Energy Commission. 2021. 2019. *Total System Electric Generation*. Available: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation#:~:text=In%202019%2C%20total%20generation%20for,to%2055%20percent%20in%202018. Accessed: March 14, 2022.

3 U.S. Energy Information Administration. 2021f. *Table P5A—Primary Energy Production Estimates, Fossil Fuels and Nuclear Energy, in Trillion BTU, Ranked by State, 2019*. Available: https://www.eia.gov/state/seds/sep_prod/pdf/ P5A.pdf. Accessed: March 14, 2022.

4 No coal production occurs in California.

5 U.S. Energy Information Administration. 2021e. Table P5B—Primary Energy Production Estimates, Renewable and Total Energy, in Trillion BTU, Ranked by State, 2019.

6 U.S. Energy Information Administration. 2021f. Table P5A—Primary Energy Production Estimates, Fossil Fuels and Nuclear Energy, in Trillion BTU, Ranked by State, 2019.

With a relatively mild Mediterranean climate and strict energy-efficiency requirements, California has lower energy consumption rates than other parts of the United States. According to the U.S. Energy Information Administration, California consumed approximately 7,802.3 trillion BTUs of energy in 2019.[7,8] California's per capita energy consumption of approximately 197.8 million BTUs was ranked second lowest in the nation as of 2019.[9]

In 2019, the transportation sector consumed the greatest amount of energy (3,073.3 trillion BTUs, or 39 percent), followed by the industrial (1,805.2 trillion BTUs, or 23 percent), commercial (1,468.1 trillion BTUs, or 19 percent), and residential (1,455.7 trillion BTUs, or 19 percent) sectors.[10] Natural gas accounted for the majority of energy consumption (2,217.2 trillion BTUs, or 28 percent), followed by gasoline (1,688.1 trillion BTUs, or 22 percent); renewable energy, including nuclear electric power, hydroelectric power, biomass, and other renewables (1,445.6 trillion BTUs, or 19 percent); distillates and jet fuel (1,168.9 trillion BTUs, or 15 percent); and interstate electricity (692.7 trillion BTUs, or 9 percent), with the remaining 7 percent coming from a variety of other sources.[11] Of the natural gas consumed, industrial uses consumed approximately 37 percent, followed by residential uses (22 percent) and commercial uses (12 percent), among many other uses.[12]

Per capita energy consumption, in general, is declining because of improvements in energy efficiency and designs. However, despite this reduction in per capita energy use, the state's total overall energy consumption (i.e., non-per capita energy consumption) is expected to grow over the next several decades as a result of increases in population, jobs, and vehicle miles traveled (VMT).

Regional Energy Resources and Use

Electricity

On January 26, 2016, the Menlo Park City Council joined Peninsula Clean Energy (PCE) to procure greenhouse gas– (GHG-) free power for the community.[13] PCE's power comes from a mix of clean energy sources, including solar, wind, geothermal, biomass and biowaste, and hydroelectric generation resources. PCE

[7] One BTU is the amount of energy required to heat 1 pound of water by 1°F at sea level. BTU is the standard unit of energy used in the United States and based on the English system of units (foot-pound-second system).

[8] U.S. Energy Information Administration. 2021a. *Table C11—Energy Consumption Estimates by End-Use Sector, Ranked by State, 2019.* Available: https://www.eia.gov/state/seds/sep_sum/html/rank_use.html. Accessed: March 14, 2022

[9] U.S. Energy Information Administration. 2021b. *Table C14—Energy Consumption Estimates per Capita by End-Use Sector, Ranked by State, 2019.* Available: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_sum/html/rank_use_capita.html&sid=US. Accessed: March 14, 2022.

[10] U.S. Energy Information Administration. 2021a. Table C11—Energy Consumption Estimates by End-Use Sector, Ranked by State, 2019.

[11] U.S. Energy Information Administration. 2021c. *California State Energy Profile*. Available: https://www.eia.gov/ state/?sid=CA#tabs-1. Accessed: March 14, 2022.

[12] U.S. Energy Information Administration. 2021d. *Natural Gas Consumption by End Use—California*. Available: https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm. Accessed: March 14, 2022.

[13] On January 26, 2016, the Menlo Park City Council approved a motion to join Peninsula Clean Energy and receive additional renewable power. Peninsula Clean Energy is part of a Community Choice Energy program, a locally controlled community organization that enables local residents and businesses to have a choice as to where their energy comes from. Community Choice Energy programs allow local governments to pool the electricity demands of their communities, purchase power with higher renewable content, and reinvest in local infrastructure.

delivers power to its customers through existing Pacific Gas and Electric Company (PG&E) utility infrastructure.[14]

PCE offers its customers 100 percent GHG-free electricity with a higher percentage of energy from renewable sources. Although PG&E customers in Menlo Park are automatically enrolled in PCE, customers may opt out and continue to purchase electricity from PG&E. However, more than 95 percent of residents and businesses remain enrolled with PCE. Furthermore, PCE allows customers to choose between two different electricity product operations: ECOplus (approximately 50 percent renewable electricity sources and 100 percent carbon-free sources) and ECO100 (100 percent renewable electricity).[15,16]

Although PCE provides electricity to most residents and businesses in Menlo Park, it uses PG&E's distribution system to serve Menlo Park customers. Historically PG&E has provided natural gas and electricity services to the vast majority of Northern California, including Menlo Park and the Project Site. PG&E is a publicly traded utility company that, under contract with the California Public Utilities Commission (CPUC), generates, purchases, and distributes energy. PG&E's service area covers 70,000 square miles, roughly extending north to south from Eureka to Bakersfield and east to west from the Sierra Nevada to the Pacific Ocean. PG&E's electricity distribution system consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines.

PG&E's, electricity is generated from a combination of traditional sources, such as coal-fired plants, nuclear power plants, and hydroelectric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants, or "solar farms." "The grid," or bulk electric grid, is a network of high-voltage transmission lines that link power plants to the PG&E system. The distribution system, comprising lower-voltage secondary lines, is at the street and neighborhood level. It consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to individual customers.

In addition to its base plan, PG&E has two plan options, known as Solar Choice options, which give customers the option of purchasing energy from solar resources. The first Solar Choice option provides up to 50 percent of a customer's energy from solar resources, while the other option provides up to 100 percent of a customer's energy from solar resources.

In 2019, San Mateo County consumed approximately 4,325.2 million kilowatts of electricity. In San Mateo County, electricity was consumed primarily by the non-residential sector (64 percent), followed by the residential sector (36 percent). Electricity usage for different land uses varies substantially by the types of uses in a building, the types of construction materials used, and the efficiency of the electricity-consuming devices.

[14] PCE charges each of its customers a delivery charge for maintenance of PG&E's wires and infrastructure and the delivery of electricity to customers.

[15] Peninsula Clean Energy. 2021. *What Are My Rates?* Available: https://www.peninsulacleanenergy.com/for-businesses/. Accessed: March 14, 2022.

[16] Renewable energy is produced from resources that are naturally replenished as they are used, while carbon-free energy is produced from resources that do not emit GHGs into the atmosphere. Many resources are both renewable and carbon free (such as wind and solar), some resources are renewable but not carbon free (such as biomass), and others are carbon free but not renewable (such as nuclear).

Table 3.5-1 outlines PG&E's and PCE's power mix in 2019, compared to the power mix for the state, and Table 3.5-2 outlines Menlo Park's electricity and natural gas consumption from 2010 to 2015 (the most recent year for which data are available). The table identifies the renewable and non-renewable energy sources for PCE and PG&E. It should be noted that some GHG free sources are not considered renewable (e.g., nuclear is GHG free but not renewable).

Table 3.5-1. PG&E, PCE, and the State of California Power Mix in 2019

Energy Resources	PG&E Option: Base	PG&E Option: 50% Solar Choice	PG&E Option: 100% Solar	PCE Option: ECOplus	PCE Option: ECO100	California Power Mix 2019
Eligible Renewable	**29%**	**64%**	**100%**	**52%**	**100%**	**32%**
Biomass and waste	*3%*	*2%*	*0%*	*8%*	*0%*	*2%*
Geothermal	*2%*	*1%*	*0%*	*9%*	*0%*	*5%*
Small hydroelectric	*2%*	*1%*	*0%*	*5%*	*0%*	*2%*
Solar	*12%*	*56%*	*100%*	*12%*	*50%*	*12%*
Wind	*9%*	*5%*	*0%*	*18%*	*50%*	*10%*
Non-Renewable	**71%**	**36%**	**0%**	**48%**	**0%**	**68%**
Coal	*0%*	*0%*	*0%*	*0%*	*0%*	*3%*
Large hydroelectric	*27%*	*14%*	*0%*	*37%*	*0%*	*15%*
Natural gas	*0%*	*0%*	*0%*	*0%*	*0%*	*34%*
Nuclear	*44%*	*22%*	*0%*	*1%*	*0%*	*9%*
Other	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
Unspecified[a]	*0%*	*0%*	*0%*	*10%*	*0%*	*7%*
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: PG&E. 2019. *Where Your Electricity Comes From*. Available: https://www.pge.cos/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2019/1019-Power-Content-Label.pdf. Accessed: July 9, 2021.
California Energy Commission. 2019. *2019 Power Content Label—Peninsula Clean Energy*. Available: https://www.energy.ca.gov/filebrowser/download/3244. Accessed: July 9, 2021.
a. Electricity from transactions that are not traceable to specific generation sources are classified as unspecified sources of power.

Table 3.5-2. Existing Energy Consumption at the Main Project Site

Energy	Existing Usage
Electricity	13,484 MWh/year
Natural Gas	30,274 MMBtu/year
Gasoline	1,201,685 gallons/year
Diesel	543,432 gallons/year

Source: See Appendix 3.5-1 of this Draft EIR for the *Assessment of Energy Use and Impact, Willow Village Project* prepared by Ramboll.
MWh = megawatt hour; MMBtu= million British thermal units

Natural Gas

PG&E's natural gas (i.e., methane) delivery system includes 42,000 miles of natural gas distribution pipelines and 6,700 miles of transmission pipelines. PG&E's gas transmission system serves approximately 15 million energy customers in California. The system is operated under an inspection and monitoring program in real time on a 24-hour basis, with leak inspections, surveys, and patrols continuously taking place along the pipelines. Gas delivered by PG&E originates in gas fields in California, the Southwest, the Rocky Mountains, and Canada. Transmission pipelines send natural gas from the fields and storage facilities. The smaller distribution pipelines deliver gas to individual businesses or residences.[17]

In San Mateo County, approximately 214.4 million therms of natural gas were consumed in 2019 (the most recent year for which data are available). In 2019, natural gas in San Mateo County was consumed primarily by the residential sector (56 percent), followed by the non-residential sector (44 percent).[18]

Project Site Resources and Use

The 59-acre main Project Site contains 20 buildings with a mix of office, research-and-development (R&D), and warehousing uses, totaling approximately 1 million square feet (sf). The Proposed Project also includes the parcels west of Willow Road on the north and south sides of Hamilton Avenue (i.e., Hamilton Avenue Parcels North and South). The 1.8-acre Hamilton Avenue Parcel North (consisting of two legal parcels) is currently developed with approximately 16,000 sf of retail uses. The 1.3-acre Hamilton Avenue South Parcel is currently developed with approximately 4,500 sf of retail uses and a Chevron service station. Table 3.5-2 provides the existing energy usage at the main Project Site.[19]

As stated previously, although PG&E delivers power, maintains the electrical grid and other infrastructure, and handles customer billing, electricity in Menlo Park is purchased through PCE for customers who remain enrolled in the program (more than 95 percent of customers in Menlo Park). Natural gas is purchased through PG&E. The Project Site is served by existing natural gas and electric infrastructure provided by PG&E. Natural gas and electricity is delivered to the Project Site through rights-of-way for electric and natural gas lines. A PG&E transmission tower is located in the northeast corner of the main Project Site, and overhead power lines are located throughout the site. Natural gas pipelines are located below ground in adjacent public rights-of-way along US 101.[20]

Regulatory Setting

Federal

As discussed in Sections 3.4, *Air Quality*, and 3.6, *Greenhouse Gas Emissions*, of this Draft EIR, the National Highway Traffic Safety Administration (NHTSA) sets Corporate Average Fuel Economy (CAFE) standards to improve average fuel economy (i.e., reduce fuel consumption) and reduce GHG emissions generated by cars and light-duty trucks. On March 31, 2020 NHTSA and the U.S. Environmental Protection Agency (EPA)

[17] Pacific Gas and Electric Company. 2021. *Learn About the PG&E Natural Gas System*. Available: https://www.pge.com/ en_US/safety/how-the-system-works/natural-gas-system-overview/natural-gas-system-overview.page. Accessed: March 14, 2022.

[18] California Energy Commission. n.d. *Gas Consumption by County—San Mateo County 2019*. Available: https://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed: March 14, 2022.

[19] The energy assessment (Appendix 3.5-1) prepared by Ramboll includes net new energy use and therefore does not include existing development and energy consumption at Hamilton Avenue Parcels North and South where existing uses would remain.

[20] U.S. Department of Transportation. n.d. *NPHMS Public Viewer – Gas Transmission Pipelines, San Mateo County*. Available: https://pvnpms.phmsa.dot.gov/PublicViewer/. Accessed: March 14, 2022.

finalized the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which set fuel economy and carbon dioxide standards that would increase 1.5 percent in stringency each year from model years 2021 through 2026. These standards applied to both passenger cars and light trucks. On December 21, 2021, NHTSA published its CAFE Preemption rule, which repeals 2019's SAFE Vehicles Rule Part One: One National Program. That rule had codified the preemption of state and local laws related to fuel economy standards. Specifically, the 2019 rule had targeted California's preemption waiver as applied to the greenhouse gas emissions standards and zero-emission vehicle mandate. NHTSA's 2021 rule thus reopens pathways for state and local fuel economy laws.

State

California has adopted statewide legislation to address various aspects of climate change and GHGs, which often pertain directly or indirectly to energy resources and uses. This section focuses on state legislation that specifically mentions energy use or energy resources. For other state legislation that focuses mainly on GHG reductions and climate change, refer to Section 3.6, *Greenhouse Gas Emissions*, of this Draft EIR.

Assembly Bill 1493, Pavley Rules (2002, amendments 2009)/Advanced Clean Cars (2011)

Known as Pavley I, Assembly Bill (AB) 1493 provided the nation's first GHG standards for automobiles. AB 1493 required the California Air Resources Board (CARB) to adopt vehicle standards to lower GHG emissions from automobiles and light-duty trucks to the maximum extent feasible beginning in 2009. In 2012, strengthening of the Pavley standards (referred to previously as Pavley II but now referred to as the Advanced Clean Cars measures) was adopted for vehicle model years 2017 through 2025. Together, the two standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025. The increase in fuel economy will help lower the demand for fossil fuels.

California Energy Efficiency Standards for Residential and Nonresidential Buildings—California Green Building Standards Code (2011), Title 24 Updates

The California Green Building Standards Code (Part 11, Title 24), or CALGreen, was adopted as part of the California Building Standards Code (24 California Code of Regulations). CALGreen, which applies to the planning, design, operation, construction, use, and occupancy of newly constructed buildings, required energy- and water-efficient indoor infrastructure to be installed in all new projects, beginning January 1, 2011. CALGreen also required newly constructed buildings to develop a waste management plan and divert at least 50 percent of the materials generated during construction.

The current Building Energy Efficiency Standards were adopted in 2019 and took effect on January 1, 2020. Under the 2019 standards, low-rise residential construction uses about 53 percent less energy than homes constructed under the 2016 standards, while nonresidential buildings will use about 30 percent less energy. Later standards are expected to require zero net energy for new commercial buildings. Updated CALGreen and the Building Energy Efficiency Standards were recently approved and will take effect on January 1, 2023. The updates will result in increased building energy efficiency compared to the current standards.

Executive Order B-16-12 (2012)

Executive Order (EO) B-16-12 orders state entities, under the direction of the governor, including CARB, the California Energy Commission, and the CPUC, to support rapid commercialization of zero-emission vehicles. It also directs these entities to achieve various benchmarks related to zero-emission vehicles.

Senate Bill 350, Chapter 547, Clean Energy and Pollution Reduction Act of 2015

Senate Bill (SB) 350 (DeLeon), also known as the Clean Energy and Pollution Reduction Act of 2015, was approved by the California Legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions require the following by 2030: (1) a Renewables Portfolio Standard (RPS)[21] of 50 percent and (2) doubling of the statewide energy efficiency savings related to natural gas and electricity end uses. In order to meet these provisions, the bill requires large utilities to develop and submit integrated resource plans that detail how the utilities will reduce GHG emissions and increase the use of clean energy resources while meeting customers' needs.

Senate Bill 100—The 100 Percent Clean Energy Act of 2018 (2018)

SB 100 builds on SB 350, the Clean Energy and Pollution Reduction Act of 2015. SB 100 increases the 2030 RPS target set in SB 350 to 60 percent and requires 100 percent of retail sales of electricity to California end-user customers and 100 percent of electricity procured to serve state agencies to be from renewable and other zero-carbon resources by 2045.

Regional

PCE 2020 Integrated Resource Plan

PCE is a Community Choice Aggregation energy program that serves the entirety of San Mateo County, including Menlo Park. PCE adopted the 2020 IRP on July 23, 2020, to provide guidance for serving the electricity needs of the residents and businesses in the county while fulfilling regulatory requirements, and achieving PCE's overall goal of providing 100 percent GHG-free electricity on a 24/7 basis by 2025.[22] The plan contains the following strategic goals that are relevant to the Proposed Project:

- Secure sufficient, low-cost clean sources of electricity that achieve PCE's priorities while ensuring reliability and meeting regulatory mandates;
- Strongly advocate for public policies that support PCE's organizational priorities; and
- Implement robust energy programs that reduce GHG emissions, align energy supply and demand, and provide benefits to community stakeholders.

PG&E Integrated Resource Plan

PG&E adopted the 2020 Integrated Resource Plan (IRP) on September 1, 2020, to provide guidance for serving the electricity and natural gas needs of residents and businesses within its service area while fulfilling regulatory requirements. As mentioned previously, since electric customers in Menlo Park mostly purchase their electricity through PCE, this plan is more applicable to natural gas customers in Menlo Park. The summary is contained here for reference since some electric customers continue to purchase energy from PG&E. The IRP contains the following objectives that are relevant to the Proposed Project:

[21] The RPS is one of California's key programs for promoting renewable energy use within the state. The program sets forth continuous procurement of renewable energy for load-serving entities within California (California Energy Commission 2021).

[22] Peninsula Clean Energy. 2021. Our Path to 24/7 Renewable Energy by 2025. Available: https://www.peninsulacleanenergy.com/wp-content/uploads/2021/11/Whitepaper-OUR-PATH-TO-247-RENEWABLE-ENERGY-BY-2025.pdf. Accessed: March 14, 2022.

- **Clean Energy**: In 2019, PG&E delivered nearly 30 percent of its electricity from RPS-eligible renewable resources, such as solar, wind, geothermal, biomass, and small hydropower. In addition, PG&E's GHG-free energy production, which encompasses renewable resources, large hydropower, and nuclear, satisfied all of PG&E's bundled retail sales in 2019.
- **Reliability**: PG&E's IRP analysis includes PG&E's contribution to system and local reliability, in compliance with the CPUC's resource adequacy requirements, especially as California transitions toward higher shares of GHG-free generation resources.
- **Affordability**: PG&E's IRP analysis selects resources to meet the state's clean energy and reliability goals and provides a system average rate forecast in compliance with the CPUC's requirements for investor-owned utilities.

Local

City of Menlo Park General Plan

The City of Menlo Park (City) General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2015–2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The following goals and policies from the Land Use Element adopted to avoid or minimize environmental impacts are relevant to the consumption of energy resources and the Proposed Project:

Goal LU-4: Promote and encourage existing and new businesses to be successful and attract entrepreneurship and emerging technologies for providing goods, services, amenities, local job opportunities, and tax revenue for the community while avoiding or minimizing potential environmental and traffic impacts.

> **Policy LU-4.5, Business Uses and Environmental Impact:** Allow modifications to business operations and structures that promote revenue generating uses for which potential environmental impacts can be mitigated.

Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

> **Policy LU-7.1, Sustainability:** Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.
>
> **Policy LU-7.9, Green Building:** Support sustainability and green building best practices through the orientation, design, and placement of buildings and facilities to optimize their energy efficiency in preparation of state zero-net energy requirements for residential construction in 2020 and commercial construction in 2030.
>
> **Program LU-7.A, Green Building Operation and Maintenance:** Employ green building and operation and maintenance best practices, including increased energy efficiency, use of renewable energy and reclaimed water, and drought-tolerant landscaping for all projects.
>
> **Program LU-7.C, Sustainability Criteria:** Establish sustainability criteria and metrics for resource use and conservation and monitor performance of projects of a certain minimum size.
>
> **Program LU-7.D, Performance Standards:** Establish performance standards in the zoning ordinance that require new development to employ environmentally friendly technology and design to conserve energy and water and minimize the generation of indoor and outdoor pollutants.

Program LU-7.E, Greenhouse Gas Emissions: Develop a GHG standard for development projects that would help reduce communitywide GHG emissions to meet City and statewide reduction goals.

The following goals and policies from the Open Space/Conservation Element adopted to avoid or minimize environmental impacts are relevant to the consumption of energy resources and the Proposed Project:

Goal OSC-4: Promote sustainability and climate action planning.

Policy OSC-4.1, Sustainable Approach to Land Use Planning to Reduce Resource Consumption: Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher-density residential and mixed-use development to be located adjacent to commercial centers and transit corridors, and (3) retail and office areas to be located within walking and biking distance of transit or existing and proposed residential development.

Policy OSC-4.2, Sustainable Building: Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.

Policy OSC-4.3, Renewable Energy: Promote the installation of renewable energy technology at residences and businesses by encouraging education, employing social marketing methods, establishing standards, and/or providing incentives.

Policy OSC-4.4, Vehicles Using Alternative Fuel: Explore the potential for installing infrastructure, such as electric plug-in recharging stations, for vehicles that use alternative fuel.

Policy OSC-4.5, Energy Standards in Residential and Commercial Construction: Encourage projects to achieve a high level of energy conservation, exceeding standards set forth in the California Energy Code for residential and commercial development.

The following goals and policies from the Circulation Element adopted to avoid or minimize environmental impacts are relevant to the consumption of energy resources and the Proposed Project:

Goal CIRC-1: Provide and maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe, and active community and quality of life throughout Menlo Park.

Goal CIRC-2: Increase accessibility for and use of streets by pedestrians, bicyclists, and transit riders.

Policy CIRC-2.11, Design of New Development: Require new development to incorporate designs that prioritize safe pedestrian and bicycle travel and accommodate senior citizens, people with mobility challenges, and children.

Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.

Policy CIRC-3.1, Vehicle Miles Traveled: Support development and transportation improvements that help reduce per service population (or other efficiency metric) vehicle miles traveled.

Policy CIRC-3.2, Greenhouse Gas Emissions: Support development, transportation improvements, and emerging vehicle technology that help reduce per capita (or other efficiency metric) greenhouse gas emissions.

Goal CIRC-4: Improve Menlo Park's overall health, wellness, and quality of life through transportation enhancements.

Policy CIRC-4.1, Global Greenhouse Gas Emissions: Encourage the safer and more widespread use of nearly zero-emission modes, such as walking and biking, and lower emission modes like transit, to reduce greenhouse gas emissions.

Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.

Policy CIRC-5.1, Transit Service and Ridership: Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities.

Goal CIRC-6: Provide a range of transportation choices for the Menlo Park community.

Policy CIRC-6.3, Shuttle Service: Encourage increased shuttle service between employment centers and the downtown Menlo Park Caltrain station.

The following goals and policies from the Housing Element adopted to avoid or minimize environmental impacts are relevant to the consumption of energy resources and the Proposed Project:

Goal H-2: Maintain, protect, and enhance existing housing and neighborhoods.

Policy H-2.6, Renewable Energy/Energy Conservation in Housing: Encourage energy efficiency and/or renewable energy in both new and existing housing and promote energy conservation and/or renewable energy in the design of all new residential structures and promote incorporation of energy conservation and/or renewable energy and weatherization features in existing homes. In addition, the City will support the actions contained in the City's Climate Action Plan (CAP).

Menlo Park Municipal Code

As discussed in Chapter 2, *Project Description*, the main Project Site is located in the Residential Mixed-Use, Bonus (R-MU-B) and Office, Bonus (O-B) zoning districts. The Hamilton Avenue Parcels North and South are located in the Neighborhood Commercial District, Special (C-2-S). Consistent with the goals identified in ConnectMenlo, the City passed Ordinance No. 1024 for the Office (O) zoning district and Ordinance No. 1026 for the Residential Mixed-use (R-MU) zoning district under Title 16 of the Menlo Park Municipal Code. Ordinance Nos. 1024 and 1026 include the following requirements that would be applicable to the Proposed Project:

Sections 16.43.140 and 16.45.130, Green and Sustainable Building

In addition to meeting all applicable regulations specified in Title 12 (Buildings and Construction), the following provisions shall apply to projects (implementation of these provisions may be subject to separate discretionary review and environmental review pursuant to CEQA):

(1) Green Building.

(A) Any new construction, addition, or alteration of a building shall be required to comply with Table 16.43.140(1)(B) (O District) or Tables 16.45.130(1)(B) and 16.45.130(1)(C) (R-MU District). (These tables summarize green building requirements for new construction or alterations to non-residential and residential buildings. The requirements vary, based on the size of the building. Buildings more than 100,000 gross square feet, would be required to meet Leadership in Energy and Environmental Design (LEED) Gold requirements for Building

Design and Construction. Buildings of 10,000 to 100,000 square feet would be required to meet LEED Silver requirements; buildings of less than 10,000 square feet would not require LEED certification. LEED credits include installing prewiring for electric-vehicle (EV) charging stations at a minimum of 5 percent of the total number of parking stalls, installing EV charging stations at a minimum of six parking stalls plus 1 percent of the total number of parking stalls in the prewired locations, enrolling in EPA's Energy Star Portfolio Manager, and submitting documentation of compliance, as required by the City)

(2) Energy.

(A) For all new construction, the project will meet 100 percent of energy demand (electricity and natural gas) through any combination of the following measures:

(i) Onsite energy generation,

(ii) Purchase of 100 percent renewable electricity through Peninsula Clean Energy or PG&E in an amount equal to the annual energy demand of the project,

(iii) Purchase and installation of local renewable energy generation in Menlo Park in an amount equal to the annual energy demand of the project,

(iv) Purchase of certified renewable energy credits and/or certified renewable energy offsets annually in an amount equal to the annual energy demand of the project. (For the GHG impact analysis in this CEQA document, it is assumed that this measure refers to carbon offsets from a CARB-approved registry or the California Air Pollution Control Officers Association's GHG Reduction Exchange and that the carbon offsets would be real, additional, permanent, verifiable, and enforceable, as defined in 17 California Code of Regulations Section 95802.)

If a local amendment to the California Energy Code is approved by the California Energy Commission, the following provision becomes mandatory:

The project will meet 100 percent of energy demand (electricity and natural gas) through a minimum of 30 percent of the maximum feasible onsite energy generation, as determined by an onsite renewable energy feasibility study and any combination of the measures in Subsections (2)(A)(ii) to (iv). The onsite renewable energy feasibility study shall demonstrate the following cases, at a minimum:

a. Maximum onsite generation potential;

b. Solar feasibility for roof and parking areas, excluding roof-mounted heating, ventilation, and air-conditioning equipment; and

c. Maximum solar generation potential solely on the roof area.

As of publication of this Draft EIR the above described local amendment to the California Energy Code has not been approved by the California Energy Commission.

Reach Code

The 2019 California Building Standards Code and the California Code of Regulation took effect on January 1, 2020. The City of Menlo Park adopted local amendments to the State Building Code that would require electricity as the only fuel source for new buildings (not natural gas). This ordinance only applies to newly constructed buildings from the ground up, and does not include additions or remodels. Specifically, it would require:

1. New low rise residential buildings (three stories or less) to have electric fuel source for space heating, water heating and clothes dryers. Stoves may still use natural gas if desired. Pre-wiring for electric appliances is required where natural gas appliances are used.
2. New nonresidential and high-rise residential buildings to be all-electric with some exceptions and produce a minimum amount of on-site solar based on square footage.
    - Exceptions include:
        - Life science buildings may use natural gas for space heating.
        - Public agency owned and operated emergency operations centers (such as fire stations and police stations) may use natural gas.
        - Nonresidential kitchens (such as for-profit restaurants and cafeterias) may appeal to use natural gas stoves.
        - For all exceptions that are granted, natural gas appliance locations must be electrically pre-wired for future electric appliance installation.
    - Solar requirements:
        - Less than 10,000 square feet requires a minimum of three kilowatt photovoltaic system
        - Greater than or equal to 10,000 square feet requires a minimum of five kilowatt photovoltaic system

Electric Vehicle Charger Requirements

The City of Menlo Park adopted amendments to the CALGreen EV Charging requirements within the California Building Standards Code on October 23, 2018. The EV requirements are intended to:

- Increase the availability of EV charging infrastructure within the City;
- Provide for residents and employees with electric vehicles; and
- Lower barriers for those looking to shift from fossil fuel vehicles to electric vehicles.

In addition, new multi-family residential developments and non-residential developments that are approximately 10,000 square feet or larger, are required to comply with the local amendments to the CALGreen code and install EV chargers and prepare for future installation.

Climate Action Plan

The City's 2030 CAP, includes actions to reduce Menlo Park's GHG emissions. The City's CAP was adopted with the purpose of reducing GHGs community-wide and meeting the reduction target (i.e., carbon neutral by 2030).[23] The City has identified GHG reduction measures related to transportation, energy, and land use sectors, which can be coupled with state and existing local actions to reduce GHG emissions. GHG emissions largely involve energy consumption (i.e., fossil-fuel usage). The CAP identifies the following strategies to reach carbon neutrality by 2030.

1. Explore policy/program options to convert 95 percent of existing buildings to all-electric by 2030
2. Set citywide goals for increasing electric vehicles to 100 percent of new vehicles by 2025 and decreasing gasoline sales 10 percent a year from a 2018 baseline

[23] Through its adoption of the City's 2030 CAP, the City Council adopted a climate goal that calls for zero carbon by 2030. This will be achieved through a 90 percent reduction in carbon dioxide equivalent (CO_2e) emissions from 2005 levels and elimination of the remaining 10 percent of CO_2e through direct carbon-removal measures.

3. Expand access to electric vehicle (EV) charging for multifamily and commercial properties
4. Reduce vehicle miles traveled (VMT) by 25 percent or an amount recommended by the Complete Streets Commission
5. Eliminate the use of fossil fuels from municipal operations
6. Develop a climate adaption plan to protect the community from sea level rise and flooding

The most recent update to the City's CAP, the 2030 CAP, was adopted in April 2021.[24] The 2030 CAP updated emissions inventories and adopted a climate goal that calls for net zero carbon by 2030.

Environmental Impacts

This section describes the impact analysis related to energy use for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the Project would have a significant effect if it would result in any of the conditions listed below.

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Methods for Analysis

Energy impacts associated with construction and operation of the Proposed Project were assessed and quantified, using standard and accepted software tools and techniques. The analysis also considered the list of energy impact possibilities and potential conservation measures included in Appendix F of the CEQA Guidelines for determining whether a project would result in the wasteful, inefficient, or unnecessary consumption of energy resources. For a more detailed discussion of the Proposed Project's consistency with Appendix F, refer to Appendix 3.5-1 of this Draft EIR.

Project Construction

Construction of the Proposed Project would use energy, such as electricity for mobile offices and fuel for off-road equipment, haul trucks, vendor trips, and workers' trips. The construction schedule, equipment operating details, trip numbers and lengths, and material quantities were provided by the Project Sponsor. The calculation of energy consumption from vehicles, in the form of fuel use, was based on the number of trips and VMT, along with fuel efficiency data from EMFAC2021. Trip counts were provided by the Project Sponsor for hauling and trips by workers and vendors. California Emissions Estimator Model (CalEEMod) defaults were used for worker trip lengths and Project-specific information was provided for vendor and hauling trips. The estimate of fuel use from off-road construction equipment was consistent with EPA's AP-42, diesel fuel, using Project-specific information provided by the Project Sponsor.

[24] Ibid.

Project Operation

Fuel use was estimated using EMFAC2021 for on-road VMT by residents, employees, and visitors. Trip generation rates and total VMT for each land use were provided by Hexagon. The data were used to estimate energy consumption for motor vehicles traveling to and from the Project Site.

Energy consumption associated with the Project Site includes the combustion of natural gas and electricity usage, including the electricity used to convey water to the Project Site. However, in an effort to reduce GHG emissions, the Proposed Project would be entirely electrically powered, with the exception of natural gas usage for commercial culinary uses. Therefore, energy use totals for the Project Site are based on Project-specific electricity and natural gas studies, as provided by the Project Sponsor. Energy consumption associated with the Proposed Project was estimated and presented under existing (2019)[25] and future (2026) conditions. Energy associated with water conveyance was estimated using CalEEMod and added to the energy usage of the respective components.

For ease of comparison across all energy consumption amounts, gallons of diesel and gasoline was converted to BTUs, assuming an energy intensity of 120,286 BTUs per gallon of gasoline and 137,381 BTU per gallon of diesel.[26] In addition, electricity was converted to BTUs assuming an intensity of 3.412 million BTU per megawatt of electricity. Detailed model assumptions and inputs for the calculations can be found in Appendix 3.5-2.

Summary of Analysis in the ConnectMenlo EIR

Impacts on energy supply facilities, transmission infrastructure, and capacity—specifically, those related to natural gas and electrical service—were analyzed in the ConnectMenlo EIR under Impact UTIL-13 (pages 4.14-76 to 4.14-81). The ConnectMenlo EIR determined that future development, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies and zoning regulations that have been prepared to promote energy conservation and efficiency by implementing sustainable building practices and reducing automobile dependency and determined impacts to be less than significant. No mitigation measures were recommended. In addition, energy conservation was evaluated in Section 4.14.5 of the ConnectMenlo EIR, consistent with CEQA Guidelines Appendix F. The ConnectMenlo EIR did not quantify energy demand associated with buildout of ConnectMenlo; however, a discussion of the regulatory setting concerning energy use and conservation, including the City's Climate Action Plan, was included.

Impacts and Mitigation Measures

Impact EN-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources. The Proposed Project would not result in significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. (LTS)

Construction

Construction activities would include the demolition of all buildings and structures on the main Project Site and the construction of new buildings, establishment of various open spaces, and the installation of

[25] Energy use for existing conditions was based on 2019 historical data provide by Peninsula Innovation Partners, LLC.

[26] U.S. Energy Information Administration. 2022. *Units and Calculators Explained*. Available: https://www.eia.gov/energyexplained/units-and-calculators/. Accessed: March 14, 2022.

infrastructure. The Proposed Project would alter Hamilton Avenue Parcels North and South (totaling 3.1 acres) to accommodate realignment of Hamilton Avenue at Willow Road for Project Site access. In addition, the Proposed Project would include construction of the Willow Road Tunnel northwest of the main Project Site, under the existing Dumbarton Cutoff at Willow Road. Other offsite transportation and utility improvements would include the roundabout at the Hetch Hetchy right-of-way; underground utility lines along Hamilton Avenue, Chilco Street, Willow Road, and University Avenue; PG&E substation upgrades and associated utilities lines; and various intersection improvements, which may be required in compliance with the City's transportation impact analysis guidelines. The Proposed Project would consist of two primary phases, within which building construction could overlap. Construction activities would include demolition, grading, utility work, tunnel construction, roadway improvements, and landscaping improvements. Building construction would consist of excavation, foundation, and core and shell phases; tenant improvements; and interior improvements.

Construction-related energy usage would include the electricity needed to power electric construction equipment or deliver water to the construction site, the gasoline and diesel fuel used for transporting workers and materials to and from the construction site, and the fuel used for the operation of off-road equipment. Construction-related energy usage and consumption would vary throughout the course of Project buildout and depend on the level of activity, the length of the construction period, the specific construction operations, the types of equipment, and the number of workers. However, construction equipment would use higher-tier engines (Tiers 3 and 4), include limitations on idling, comply with waste reduction requirements, and use grid power rather than generators once available at the construction site; therefore, construction would result in a ***less-than-significant*** energy impact. The estimated construction-related energy consumption for the Proposed Project is provided in Table 3.5-3. As shown, Project construction would consume approximately 491,993 million BTUs over the approximately five-year construction period.

Table 3.5-3. Estimated Construction Energy Consumption from the Proposed Project

Source		Usage (units vary)	Usage (Million BTU)
Electricity	Water Consumption	26,689	91
	Off-Road Construction Equipment	56,309	192
	Electricity Total (kWh)	**82,998 kWh**	**283**
Diesel	On-Road Construction Trips (gallons)	480,639	66,030
	Off-Road Construction Equipment (gallons)	2,389,804	328,314
	Diesel Total (gallons)	**2,870,443**	**394,344**
Gasoline	On-Road Construction Trips (gallons)	809,457	97,366
	Gasoline Total (gallons)	**809,457**	**97,366**
Project Construction Total Energy Consumption 491,993			

Source: See Appendix 3.5-1 of this Draft EIR for the *Assessment of Energy Use and Impact, Willow Village Project* prepared by Ramboll.
million BTU = million British thermal units

Operation

Operation of the Proposed Project would result in the consumption of electricity, natural gas, diesel, and gasoline (e.g., for emergency generator testing, heating, cooling, landscape maintenance). Operational

energy consumption was evaluated under existing-year (2019) and buildout-year (2026) conditions. The Project would implement a number of programs to reduce energy consumption (e.g., meeting LEED Gold status, except buildings of less than 10,000 square feet; complying with increasingly stringent Title 24 Building Energy Efficiency and Green Building standards, and complying with the Menlo Park Municipal Code and reach codes. Mobile fuel use would be reduced through an extensive TDM program. Mobile fuel also would be displaced through use of EV charging stations. Solid waste energy use would be reduced through diversion, recycling, and composting programs. The Proposed Project also would incorporate on-site solar generation, and water and waste reduction measures, including low-water landscaping, low-flow toilets, and low-flow faucets. The analysis does not quantify all of the Project's energy saving measures Therefore, the analysis is a conservative analysis. Table 3.5-4 includes the operational energy analysis (expressed in terms of million BTU) for the Proposed Project. The Proposed Project's net energy consumption is the difference in operational energy consumption between 2026 with-Project conditions and existing (2019) conditions at the Project Site.

Table 3.5-4. Estimated Operational Energy Consumption of the Proposed Project

Condition/Source	Million BTU/Year
Existing (2019)	
Electricity	46,009
Natural Gas	30,274
Mobile – gasoline	144,546
Mobile – diesel	74,657
Total[a]	295,486
Proposed Project (2026)	
Electricity	277,518
Natural Gas	3,806
Mobile – gasoline	351,661
Mobile – diesel	102,815
Total[b]	735,800
Net Increase with Proposed Project	
2026 v. Existing	440,316
Energy per Square Foot (Million BTU/sf)	
Existing (2019)	0.29
2026 with Proposed Project	0.20

Source: See Appendix 3.5-1 of this Draft EIR for the *Assessment of Energy Use and Impact, Willow Village Project* prepared by Ramboll.

[a] Natural gas usage will be limited to commercial culinary facilities. This estimate includes a small fraction of natural gas vehicle use.

[b] Totals may not add up because of rounding.

Million BTU/sf = million BTUs per square foot

As shown in Table 3.5-4, buildout of the Proposed Project would increase operational energy consumption on the Project Site by approximately 440,316 million BTUs compared with existing conditions. However, energy use per square foot would decrease to 0.20 million BTU per square foot compared with the existing condition, which is 0.29 million BTU per square foot, despite the increase in building area (i.e., more than double). This decrease in energy usage per square foot is attributable to the energy efficiency measures incorporated into the Proposed Project, which are described below.

All individual buildings greater than 10,000 sf within the main Project Site would qualify for United States Green Building Council LEED Gold certification. The Proposed Project would also comply with the City's reach code[27] and EV charging requirements for all new buildings. In addition, for new buildings in the Proposed Project, building orientation would be refined to enable effective solar control and façade design measures, such as exterior shading and glazing treatments, which would provide daylight and mitigate heat gain. Glazing designs and envelope construction assemblies in the new buildings would consider thermal performance appropriate for the building type. For all new buildings on the main Project Site, 100 percent of the respective energy demands would be supplied through a combination of any of the following measures: (i): generate energy onsite, (ii) purchase 100 percent renewable electricity through PCE or PG&E in an amount equal to annual energy demand, (iii) purchase and install local renewable energy generation within Menlo Park in an amount equal to annual energy demand, and/or (iv) purchase certified renewable energy credits and/or certified renewable energy offsets annually in an amount equal to annual energy demand. Furthermore, the Proposed Project would enroll in and use the Energy Star Portfolio Manager for all buildings of 10,000 sf or more and incorporate dual plumbing to use recycled water in all buildings on the main Project Site. Recycled water would be provided by the West Bay Sanitary District through a regional system or onsite treatment plants for recycled water. The Proposed Project would also implement low-impact development and green infrastructure strategies to manage rainwater onsite. The Campus District would install photovoltaic panels on the rooftops of the garages, office buildings, and the event building to generate solar energy. The Residential/Shopping District and Town Square District also would install photovoltaic panels on rooftops where feasible. Furthermore, the Proposed Project would implement robust Transportation Demand Management (TDM) programs for the main Project Site that would encourage alternative modes of transportation to reduce single-occupant vehicle use as well as fuel consumption. The Proposed Project's TDM programs would include, as appropriate for the applicable use, programs such as carpool ride-matching and car-share services, transit shuttle services, short- and long-term bicycle parking, dedicated parking for vanpools, a guaranteed ride home for emergency situations, showers and lockers, a commute assistance center/website, passenger loading zones, pedestrian connections, Transportation Management Association participation, and promotional programs, such as transit pass subsidies and a Clipper Card program for new tenants and employees regarding transportation alternatives, which would reduce VMT and, consequently, the amount of energy (i.e., gasoline and diesel) consumed.

Based on the above analysis, operation of the Proposed Project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources, and this impact would be ***less than significant***. No mitigation is required. Although not required to support a less-than-significant determination or quantified for the purposes of this analysis, implementation of Mitigation Measure TRANS-6a from the certified

[27] In 2019, the City of Menlo Park adopted local amendments to the California Building Standards Code that would require electricity as the only fuel source for new buildings (not natural gas). This ordinance (Menlo Park Municipal Code Chapter 12.16) applies only to newly constructed buildings and does not include additions or remodeled buildings.

ConnectMenlo EIR, as discussed in Section 3.3, *Transportation,* of this Draft EIR, updated the City's Transportation Impact Fee (TIF) program to secure a funding mechanism for future pedestrian and bicycle improvements and mitigate impacts from future projects (based on current standards at the time the ConnectMenlo Final EIR was certified) to reduce the number of vehicle trips, which would reduce the Proposed Project's annual gasoline and diesel usage. The Proposed Project would be required to pay the TIF, as applicable. Should the improvements funded by Mitigation Measure TRANS-6a be implemented, the Proposed Project's energy usage is anticipated to be less than the amount presented in Table 3.5-4, above.

Impact EN-2: Conflict with Energy Plan. The Proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (LTS)

State and local renewable energy and energy efficiency plans applicable to the Proposed Project are discussed above under *Regulatory Framework.* State plans include the AB 1493 Pavley Rules, California Title 24 energy efficiency standards, EO B-16-12, SB 350, and SB 100. Each contains required standards related to energy efficiency and renewable energy development. Local plans that address energy efficiency to achieve the state's RPS mandates include PG&E's and PCE's 2020 IRPs and the City's CAP. The City's General Plan and Municipal Code also include goals, policies, and requirements related to energy use and energy reductions.

As discussed above under Impact EN-1, the Proposed Project would incorporate sustainability and transportation demand management features. Under the Proposed Project, energy use by square foot on the main Project Site would decrease compared to existing conditions, despite the increase in building area that would occur. The Proposed Project on the main Project Site would meet United States Green Building Council LEED Gold certification, with the exception of buildings of less than 10,000 square feet. The Proposed Project would meet the City's reach code and EV charging requirements. In addition, all new buildings on the main Project Site would meet 100 percent of energy demand through a combination of onsite energy generation, the purchase of 100 percent renewable electricity, purchase and installation of local renewable energy generation within the city, or purchase of certified renewable energy credits and/or offsets. Under the City's reach code, natural gas usage would be limited to commercial cooking facilities in for-profit business that would be open to the public and would require approval by the Environmental Quality Commission, the current City Council–appointed body for reviewing exception requests. Furthermore, the Proposed Project would incorporate TDM programs for the main Project Site to reduce energy consumption (e.g., gasoline or diesel usage), install photovoltaic panels, and enroll in the Energy Star Portfolio Manager for all new buildings of 10,000 sf or more on the main Project Site.

The Proposed Project would be required to comply with state and local renewable energy and energy efficiency plans. As a result, it would benefit from renewable energy development and increases in energy efficiency. Energy usage from increases in VMT and the number of average daily trips in the area is expected to become more efficient under regulations included in Pavley and EO B-16-12, which address average fuel economy and commercialization of zero-emission vehicles, respectively. Building energy efficiency is also expected to increase as a result of compliance with Title 24 building codes, which are expected to move toward zero net energy for new construction and 100 percent renewable energy under SB 350 and SB 100 regulations. With implementation of the Proposed Project, PG&E and PCE would continue to pursue the procurement of renewable energy sources to meet their RPS portfolio goals and comply with state regulations. Therefore, the Proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and the impact would be ***less than significant***. No mitigation is required.

Cumulative Impacts

Impact C-EN-1: Cumulative Energy Impacts. Cumulative development would result in a less-than-significant cumulative impact on energy resources; thus, the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on energy resources. (LTS)

Summary of Analysis in the ConnectMenlo EIR

As discussed in Section 4.14, *Utilities and Service Systems*, of the ConnectMenlo EIR, the geographic context for cumulative impacts related to natural gas and electrical service demands considered PG&E's service area. Development of past, current, and future projects within PG&E's service area had or have the potential to increase demand for electricity and natural gas. However, the City and surrounding areas are required to comply with state and local regulations related to renewable energy, fuel efficiency, and energy-efficient building materials and construction practices.

The ConnectMenlo EIR determined that cumulative impacts related to natural gas and electrical service demands would be less than significant and that implementation of ConnectMenlo would not significantly contribute to such impacts. Therefore, the ConnectMenlo EIR determined that cumulative impacts related to natural gas and electric service demands under ConnectMenlo would be ***less than significant***.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative energy impacts with the Proposed Project includes PG&E's service area. As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at the123 Independence Drive project and East Palo Alto projects. As with the Proposed Project, the 123 Independence Drive project and East Palo Alto projects, as well as other projects in the area, would be required to comply with existing local and regional plans adopted to minimize potential cumulative energy impacts. Therefore, these additional projects would not alter the cumulative impact determination stated in the ConnectMenlo EIR, and the cumulative impact with respect to energy would remain less than significant.

The Proposed Project would not result in a substantial change in the ConnectMenlo project and would not cause new or substantially more severe significant energy impacts than those analyzed in the ConnectMenlo EIR. Therefore, consistent with the conclusion in the ConnectMenlo EIR, the Proposed Project in combination with other past, present, and reasonably foreseeable future projects would result in a ***less-than-significant cumulative impact*** with respect to energy resources. No additional mitigation measures would be required.

3.6 Greenhouse Gas Emissions

This section presents a summary of the current state of climate change science, a summary of greenhouse gas (GHG) emission sources in California, a summary of applicable regulations, quantification of Project-generated GHG emissions, a discussion about the potential contribution of Project-generated GHG emissions to global climate change, a qualitative analysis of the Proposed Project's consistency with plans to reduce GHG emissions, and mitigation for significant impacts where feasible. Supporting GHG calculations are presented in Appendix 3.4-2.

As stated in Section 4.6, *Greenhouse Gas Emissions,* of the General Plan and M-2 Area Zoning Update (ConnectMenlo) Environmental Impact Report (EIR), climate change is a global problem, and GHG impacts are inherently cumulative. This is because GHGs contribute to the global phenomenon that is climate change, regardless of where they are emitted. Climate change is the result of the individual contributions of countless past, present, and future sources. Therefore, consistent with the ConnectMenlo EIR, GHG impacts are inherently cumulative, and the analysis herein is inclusive of cumulative impacts.

No comments regarding GHG emissions were received in response to the Notice of Preparation (NOP).

Existing Conditions

Environmental Setting

Global Climate Change

The process known as the *greenhouse effect* keeps the atmosphere near Earth's surface warm enough for the successful habitation of humans and other life forms. The greenhouse effect is created by sunlight that passes through the atmosphere. Some of the sunlight striking Earth is absorbed and converted to heat, which warms the surface. The surface emits a portion of this heat as infrared radiation, some of which is re-emitted toward the surface by GHGs. Human activities that generate GHGs increase the amount of infrared radiation absorbed by the atmosphere, thereby enhancing the greenhouse effect and amplifying the warming of Earth.

Increases in fossil fuel combustion and deforestation have exponentially increased concentrations of GHGs in the atmosphere since the Industrial Revolution.[1] Rising atmospheric concentrations of GHGs, in excess of natural levels, have resulted in increasing global surface temperatures—a process commonly referred to as *global warming*. Higher global surface temperatures have, in turn, resulted in changes to Earth's climate system, including increases in ocean temperature and acidity, reduced sea ice, variable precipitation, and increases in the frequency and intensity of extreme weather events.[2] Large-scale changes to Earth's system are collectively referred to as *climate change.*

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environments Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and

1 Intergovernmental Panel on Climate Change. 2007. *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Available: https://www.ipcc.ch/site/assets/uploads/2018/05/ar4_wg1_full_report-1.pdf. Accessed: March 17, 2022.

2 Intergovernmental Panel on Climate Change. 2018. *Global Warming of 1.5°C.* Contribution of Working Group I, II, and III (Summary for Policy Makers). Available: https://www.ipcc.ch/sr15/. Accessed: March 14, 2022.

options for adaptation and mitigation. The IPCC estimates that human-induced warming reached approximately 1 degree Celsius (°C) above pre-industrial levels in 2017 and is increasing at a rate of 0.2°C per decade. Under the current nationally determined contributions of mitigation from each country until 2030, global warming is expected to rise to 3°C by 2100 and continue afterward.[3] Large increases in global temperatures could have substantial adverse effects on the natural and human environments in California and worldwide.

Greenhouse Gases

The principle anthropogenic (human-made) GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds, including sulfur hexafluoride, hydrofluorocarbons (HFCs), and perfluorocarbons. The primary GHGs that would be emitted by Project-related construction and operations include CO_2, CH_4, and N_2O. The principal characteristics of these pollutants are discussed below.

Carbon dioxide enters the atmosphere through the combustion of fossil fuel (i.e., oil, natural gas, coal), solid waste decomposition, plant and animal respiration, and chemical reactions (e.g., from manufacturing cement). CO_2 is also removed from the atmosphere, or *sequestered*, when it is absorbed by plants as part of the biological carbon cycle.

Methane is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices as well as the anaerobic decay of organic waste in municipal solid waste landfills.

Nitrous oxide is emitted by agricultural and industrial activities as well as the combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method for comparing GHG emissions is the global warming potential (GWP) methodology defined in IPCC reference documents. IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO_2e), which compares the gas in question to that of the same mass of CO_2. By definition, CO_2 has a GWP of 1.

Table 3.6-1 lists the global warming potential of CO_2, CH_4, and N_2O and their lifetimes in the atmosphere.

Table 3.6-1. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gas	Global Warming Potential (100 years)	Lifetime (years)
Carbon Dioxide (CO_2)	1	—[a]
Methane (CH_4)	25	12
Nitrous Oxide (N_2O)	298	114

Source: California Air Resources Board. 2020a. *GHG Global Warming Potentials*. Available: https://ww2.arb.ca.gov/ghg-gwps. Accessed: November 3, 2021.

a. No lifetime (years) for carbon dioxide was presented by the California Air Resources Board.

[3] Ibid.

The California Air Resources Board (CARB) recognizes the importance of reducing emissions of short-lived climate pollutants, as described in the *Regulatory Setting,* to achieve the state's overall climate change goals. Short-lived climate pollutants have atmospheric lifetimes on the order of a few days to a few decades, and their relative climate-forcing impacts, when measured in terms of how they heat the atmosphere, can be tens, hundreds, or even thousands of times greater than that of CO_2.[4] Given their short-term lifespan and warming impact, short-lived climate pollutants are measured in terms of CO_2e using a 20-year time period. The use of GWPs with a time horizon of 20 years captures the importance of the short-lived climate pollutants and gives a better perspective as to the speed at which emission controls will affect the atmosphere relative to CO_2 emission controls. The Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy), as discussed in the *Regulatory Setting*, addresses CH_4, HFC gases, and anthropogenic black carbon. CH_4 has lifetime of 12 years and a 20-year GWP of 72. HFC gases have lifetimes of 1.4 to 52 years and a 20-year GWP of 437 to 6,350. Anthropogenic black carbon has a lifetime of a few days to weeks and a 20-year GWP of 3,200.[5]

Greenhouse Gas Reporting

A GHG inventory is a quantification of all GHG emissions and sinks[6] within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (e.g., for global and national entities) or on a small scale (e.g., for a building or person). Several agencies have developed tools for quantifying emissions from certain sources.

Potential Climate Change Effects

Climate change is a complex process that has the potential to alter local climatic patterns and meteorology. Although modeling indicates that climate change will result in sea-level rise, both globally and in San Francisco Bay, as well as changes in climate and rainfall, among other effects, there remains uncertainty about characterizing precise local climate characteristics and predicting precisely how various ecological and social systems will react to changes in the existing climate at the local level. Regardless of this uncertainty, it is widely understood that substantial climate change has occurred and will continue to occur in the future, although the precise extent will take further research to define. Specifically, the effects from global climate change in California and worldwide include the following:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates, with a corresponding increase in atmospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures.[7]
- Rising average global sea levels, due primarily to thermal expansion in the oceans and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets.[8]

[4] California Air Resources Board. 2017. *Short-Lived Climate Pollutant Reduction Strategy*. Available: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf. Accessed: March 17, 2022.

[5] Ibid.

[6] A GHG sink is a process, activity, or mechanism that removes a GHG from the atmosphere.

[7] California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment Statewide Summary Report*. Available: https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf. Accessed: March 17, 2022.

[8] Intergovernmental Panel on Climate Change. 2018. *Global Warming of 1.5°C.* Contribution of Working Group I, II, and III (Summary for Policy Makers). Available: https://www.ipcc.ch/sr15/. Accessed: March 14, 2022.

- Changing weather patterns, including changes in precipitation and wind patterns, and more energetic episodes of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold, and intense tropical cyclones.[9]
- Declining Sierra Nevada snowpack levels, which account for approximately half of the surface water storage in California. Snow levels could decline by 70 to as much as 90 percent over the next 100 years.[10]
- Increases in the number of days that could be conducive to ground-level ozone formation (e.g., clear days with intense sunlight) by the end of the 21st century in areas with high levels of ozone. The number of days could increase by 25 to 85 percent, depending on the future temperature scenario.[11]
- Increases in the potential for erosion of California's coastlines as well as seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.[12]
- The severity of drought conditions in California could be exacerbated (e.g., durations and intensities could be amplified, ultimately increasing the risk of wildfires and consequential damage).[13]
- Under changing climate conditions, agricultural operations are forecast to experience lower crop yields due to extreme heat waves, heat stress, increased water needs of crops and livestock (particularly during dry and warm years), and new and changing pest and disease threats.[14]

The impacts of climate change, such as increases in the number of heat-related events, droughts, and wildfires, pose direct and indirect risks to public health, with people experiencing worsening episodes of illness and an earlier death. Indirect impacts on public health include increases in incidents of vector-borne diseases, stress and mental trauma due to extreme events and disasters, economic disruptions, and residential displacement.[15]

Regulatory Setting

Federal

There is currently no federal overarching law specifically related to climate change or reductions in GHG emissions. Under the Obama administration, the U.S. Environmental Protection Agency (EPA) had been developing regulations under the Clean Air Act (CAA). There have also been settlement agreements between EPA, several states, and nongovernmental organizations to address GHG emissions from electric generating plants and refineries. In addition, EPA issued an Endangerment Finding and a Cause or Contribute Finding. EPA also adopted a Mandatory Reporting Rule and Clean Power Plan. Under the Clean Power Plan, EPA issued regulations to control CO_2**Error! Bookmark not defined.** emissions from new and existing coal-fired power plants. However, on February 9, 2016, the Supreme Court issued a stay regarding these regulations pending litigation. In addition, former EPA Administrator Scott Pruitt signed a measure to repeal the Clean Power Plan.

9 Ibid.

10 California Natural Resources Agency. 2018. *California's Fourth Climate Change Assessment Statewide Summary Report*. Available: https://www.energy.ca.gov/sites/default/files/2019-11/Statewide_Reports-SUM-CCCA4-2018-013_Statewide_Summary_Report_ADA.pdf. Accessed: March 17, 2022.

11 Ibid.

12 Ibid.

13 Ibid.

14 Ibid.

15 Ibid.

Corporate Average Fuel Economy Standards

The National Highway Traffic Safety Administration's (NHTSA's) Corporate Average Fuel Economy (CAFE) standards require substantial improvements in fuel economy and reductions in GHG emissions generated by passenger cars and light-duty trucks sold in the United States. On August 2, 2018, NHTSA and EPA proposed amendments to the current fuel efficiency standards for passenger cars and light-duty trucks and new standards for model years 2021 through 2026. Under the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, current 2020 standards would be maintained through 2026. On September 19, 2019, EPA and NHTSA issued a final action on the One National Program Rule, which is considered Part One of the SAFE Vehicles Rule and a precursor to the proposed fuel efficiency standards. The One National Program Rule enables EPA/NHTSA to provide nationwide uniform fuel economy and GHG vehicle standards by 1) clarifying that federal law preempts state and local tailpipe GHG standards, 2) affirming NHTSA's statutory authority to set nationally applicable fuel economy standards, and 3) withdrawing California's CAA preemption waiver to set state-specific standards.

EPA and NHTSA published their decision to withdraw California's waiver and finalize regulatory text related to the preemption on September 27, 2019 (84 *Federal Register* 51310). California, 22 other states, the District of Columbia, and two cities filed suit against Part One of the SAFE Vehicles Rule on September 20, 2019 (*California et al. v. United States Department of Transportation et al.,* 1:19-cv-02826, U.S. District Court for the District of Columbia). On October 28, 2019, the Union of Concerned Scientists, Environmental Defense Fund, and other groups filed a protective petition for review after the federal government sought to transfer the suit to the D.C. Circuit (*Union of Concerned Scientists v. National Highway Traffic Safety Administration*). The lawsuit filed by California and others is stayed pending resolution of the petition.

EPA and NHTSA published final rules to amend and establish national CO_2 and fuel economy standards on April 30, 2020 (Part Two of the SAFE Vehicles Rule) (85 *Federal Register* 24174). The revised rule changes the national fuel economy standards for light-duty vehicles from 46.7 to 40.4 miles per gallon in future years. California, 22 other states, the District of Columbia filed a petition for review of the final rule on May 27, 2020.[16]

On January 20, 2021, the president issued an executive order, directing EPA and NHTSA to review the SAFE Vehicles Rule, Part One, and propose a new rule for suspending, revising, or rescinding it by April 2021. The executive order also required EPA and NHTSA to propose a new rule for suspending, revising, or rescinding Part Two by July 2021. On April 22, 2021, NHTSA announced that it proposed to repeal the SAFE Vehicles Rule, Part One, allowing California the right to set its own standards.[17] On December 21, 2021, NHTSA published its CAFE Preemption Rule, which repealed 2019's SAFE Vehicles Rule, Part One: One National Program. That rule had codified preemption of state and local laws related to fuel economy standards. NHTSA's 2021 rule thus reopens pathways for state and local fuel economy laws.

[16] *California et al. v. United States Department of Transportation et al.*, 1:19-cv-02826, U.S. District Court for the District of Columbia.

[17] U.S. Department of Transportation, National Highway Traffic Safety Administration. 2021. *Corporate Average Fuel Economy Preemption.* Available: https://www.federalregister.gov/documents/2021/05/12/2021-08758/corporate-average-fuel-economy-cafe-preemption. Accessed: March 17, 2022.

State

Statewide GHG Emission Targets and the Climate Change Scoping Plan

Reducing GHG emissions in California has been the focus of the state government for approximately two decades. GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (Assembly Bill [AB] 32 of 2006) and then reducing them to 40 percent below 1990 levels by 2030 (Senate Bill [SB] 32 of 2016). Executive Order S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2°C, the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected.[18] Executive Order B-55-18 further recognizes the climate stabilization goal adopted by 194 states and the European Union under the Paris Agreement. Based on the worldwide scientific agreement that carbon neutrality must be achieved by midcentury, Executive Order B-55-18 establishes a state goal to achieve carbon neutrality as soon as possible but no later than 2045 and achieve and maintain net negative emissions thereafter. Executive Order B-55-18 charges CARB with developing a framework for implementing and tracking progress toward these goals. This executive order extends Executive Order S-3-05 and acknowledges the role of increased carbon sequestration on natural and working lands for the state to achieve carbon neutrality and become net carbon negative.

California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), prepared by CARB, outlines the main strategies California will implement to achieve the legislated GHG emissions target for 2030 and "substantially advance toward our 2050 climate goals."[19] It identifies the reductions needed by each GHG emission sector (e.g., industry, transportation, electricity generation). The state has also passed more detailed legislation to address GHG emissions associated with industrial sources, transportation, electricity generation, and energy consumption, as summarized below. CARB is currently preparing the 2022 Scoping Plan Update, which will assess progress toward achieving the SB 32 2030 target, identifying the need for potential adjustments to stay on track, and laying out a path to achieve carbon neutrality no later than 2045, consistent with Executive Order B-55-18.[20]

Transportation-related Standards and Regulations

As part of its Advanced Clean Cars program, CARB established more stringent GHG emissions standards and fuel efficiency standards for fossil fuel–powered on-road vehicles. These regulations are projected to reduce GHG emissions from new vehicles by approximately 40 percent in 2025 relative to 2012 model year vehicles.[21] In addition, the program's zero-emission vehicle (ZEV) regulation requires battery, fuel cell, and plug-in hybrid electric vehicles to make up a growing percentage of California's new vehicle sales.

---

18 United Nations. 2015. *Historic Paris Agreement on Climate Change: 195 Nations Set Path to Keep Temperature Rise Well below 2 Degrees Celsius.* December 13. Available: https://unfccc.int/news/finale-cop21. Accessed: March 17, 2022.

19 California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*. November. Pages 1, 3, 5, 20, 25, and 26. Available: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: March 17, 2022.

20 California Air Resources Board. 2021. *PATHWAYS Scenario Modeling – 2022 Scoping Plan Update*. Available: https://ww2.arb.ca.gov/sites/default/files/2021-12/Revised_2022SP_ScenarioAssumptions_15Dec.pdf. Accessed: March 17, 2022.

21 California Air Resources Board. 2021. *Advanced Clean Cars Program*. Available: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about. Accessed: March 17, 2022.

By 2025, when the rules are fully implemented, the statewide fleet of new cars and light-duty trucks will emit 75 percent less smog-forming pollution than the statewide fleet in 2012.[22]

Executive Order B-48-18, signed into law in January 2018, requires all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, 200 hydrogen fueling stations available, and 250,000 electric-vehicle (EV) charging stations installed by 2025. Furthermore, it specifies that 10,000 of these charging stations must be direct-current fast chargers. Executive Order N-79-20 states that 100 percent of new passenger cars and trucks sold in the state are to be zero-emission vehicles by 2035, 100 percent of medium- and heavy-duty trucks and buses for all operations are to be zero-emission vehicles by 2045 (by 2035 for drayage trucks, where feasible), and 100 percent of off-road vehicles, as well as equipment, are to be zero-emission vehicles by 2035, where feasible. Executive Order N-79-20 directed CARB to partner with the Governor's Office of Business and Economic Development and other agencies to develop the Zero-Emissions Vehicle Market Development Strategy, which was released in February 2022.[23]

In 2007, CARB adopted the Low-Carbon Fuel Standard to reduce the carbon intensity of California's transportation fuels. The Low-Carbon Fuel Standard applies to fuels used by on-road motor vehicles as well as off-road vehicles, including construction equipment. In addition to regulations to address issues related to tailpipe emissions and transportation fuels, the state legislature has passed regulations to address issues related to the number of miles driven in on-road vehicles.

Since passage of SB 375 in 2008, CARB has required metropolitan planning organizations to adopt plans that show reductions in GHG emissions from passenger cars and light-duty trucks in their respective regions for 2020 and 2035.[24] These plans link land use and housing allocations to transportation planning and related mobile-source emissions. The Metropolitan Transportation Commission (MTC) serves as the metropolitan planning organization for the nine counties in the Bay Area region, including San Mateo County, which is where the Project Site is located. In 2014, the MTC adopted Plan Bay Area, the area's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). MTC was asked by CARB to achieve a 10 percent per capita reduction in emissions compared to 2005 levels by 2020 and a 16 percent per capita reduction by 2035. CARB confirmed that the region would achieve the targets by implementing the SCS.[25] In March 2018, CARB revised the SB 375 targets for various metropolitan planning organizations across the state, including the MTC, which saw a revised 2035 target of 19 percent per capita reduction.[26] In 2021, the MTC and ABAG adopted Plan Bay Area 2050, which sets out a path toward

[22] Ibid.

[23] Governor's Office of Business and Economic Development. 2022. *California Zero-Emission Vehicle Market Development Strategy.* Available: https://static.business.ca.gov/wp-content/uploads/2021/02/ZEV_Strategy_Feb2021.pdf. Accessed: March 17, 2022.

[24] California Air Resources Board. 2018a. *SB 375 Regional Greenhouse Gas Emissions Reduction Targets*. Approved by the California Air Resources Board on March 22, 2018. Available: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: March 17, 2022.

[25] California Air Resources Board. 2018. *Technical Evaluation of the Greenhouse Gas Emissions Reduction Quantification for the Association of Bay Area Governments' and Metropolitan Transportation Commission's SB 375 Sustainable Communities Strategy*. June. Available: https://ww3.arb.ca.gov/cc/sb375/mtc_final_staff_report_0718.pdf. Accessed: March 17, 2022.

[26] California Air Resources Board. 2018a. *SB 375 Regional Greenhouse Gas Emissions Reduction Targets*. Approved by the California Air Resources Board on March 22, 2018. Available: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: March 17, 2022.

achieving a 20 percent per capita reduction in GHG emissions from passenger cars and light-duty trucks by 2035. CARB provided comments on the SCS and technical modeling in summer 2021.[27]

Under SB 743, in 2013, the Governor's Office of Planning and Research (OPR) implemented changes to the California Environmental Quality Act (CEQA) Guidelines, including the addition of Section 15064.3, which requires CEQA transportation analyses to move away from a focus on vehicle delay and level of service and instead evaluate a project based on vehicle miles traveled (VMT).[28] The intent behind SB 743 and the revisions to the CEQA Guidelines is to integrate and balance congestion management, infill development, active transportation, and GHG emissions reductions. In support of these changes, OPR published its Technical Advisory on Evaluating Transportation Impacts in CEQA, which recommends that the determination of the transportation impact of a project be based on whether project-related VMT per capita (or VMT per employee) would be 15 percent lower than that of existing development in the region.[29] OPR's technical advisory explains that this criterion is consistent with Section 21099 of the California Public Resources Code, which states that the criteria for determining significance must "promote the reduction in greenhouse gas emissions."[30] This metric is intended to replace the use of vehicle delay and level of service to measure transportation-related impacts. More detail about SB 743 is provided under Regulatory Setting in Section 3.1, Transportation. At the time when the EIR for ConnectMenlo was prepared, the California Natural Resources Agency had not yet adopted OPR's proposed addition of Section 15064.3 to the CEQA Guidelines.

Legislation Associated with Electricity Generation

The state passed legislation that requires increasing use of renewables to produce electricity for consumers. Specifically, California utilities are required to generate 33 percent of their electricity from renewables by 2020 (SB X1-2 of 2011), 52 percent by 2027 (SB 100 of 2018), 60 percent by 2030 (also SB 100 of 2018), and 100 percent by 2045 (also SB 100 of 2018).

Building Energy Efficiency Standards (Title 24, Part 6)

The energy consumption of new residential and nonresidential buildings in California is regulated by the California Code of Regulations (CCR), Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Commission (CEC) updates the California Energy Code every 3 years with more stringent design requirements to reduce energy consumption, resulting in lower GHG emissions. The 2019 California Energy Code, which took effect on January 1, 2020, requires builders to use more energy-efficient building technologies to comply with requirements regarding energy use. New residential construction (i.e., three stories or less) is required to include solar panels to offset the estimated electrical demands of each unit (CCR, Title 24, Part 6, Section 150.1[c]14). CEC estimates that the 2019 California Energy Code's combination of required energy-efficiency features and mandatory solar panels will result in new residential units that use 53 percent less energy than those that were designed to meet the 2016 California Energy Code. CEC also estimates that the 2019

---

27 California Air Resources Board. 2022. *Association of Bay Area Governments (ABAG) & Metropolitan Transportation Commission (MTC)*. Available: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plans-evaluations/association-bay-area. Accessed: March 17, 2022.

28 Governor's Office of Planning and Research. 2017a. *Proposed Updates to the CEQA Guidelines*. November. Available: http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf. Accessed: March 17, 2022.

29 Governor's Office of Planning and Research. 2017b. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. November. Available: http://www.opr.ca.gov/docs/20171127_Transportation_Analysis_TA_Nov_2017.pdf. Accessed: March 17, 2022.

30 Ibid.

California Energy Code will result in new commercial buildings that use 30 percent less energy than those that were designed to meet the 2016 California Energy Code, primarily through the transition to high-efficacy lighting.[31] The standards of the 2022 California Energy Code build off the 2019 standards by encouraging efficient electric heat pumps, establishing electric-ready requirements for new homes, expanding solar photovoltaic and battery storage standards, strengthening ventilation standards, and more.[32]

Clean Energy and Pollution Reduction Act of 2015

SB 350 was approved by the California legislature in September 2015 and signed by Governor Brown in October 2015. Its key provisions require the following by 2030: 1) a Renewables Portfolio Standard (RPS) of 50 percent and 2) a doubling of energy efficiency by 2030, including improvements to the efficiency of existing buildings. These provisions will be implemented by future actions of the California Public Utilities Commission and CEC.

Solid Waste Diversion Regulations

To minimize the amount of solid waste that must be disposed of in landfills, the state legislature passed the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties were required to divert 25 percent of all solid waste from landfill facilities by January 1, 1995, and 50 percent by January 1, 2000. Through other statutes and regulations, this 50 percent diversion rate also applies to state agencies. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal.

In 2011, AB 341 modified the California Integrated Waste Management Act and directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling. As of July 1, 2012, the resulting mandatory commercial recycling required certain businesses that generate 4 cubic yards or more of commercial solid waste per week to arrange recycling services. To comply with this requirement, businesses could either separate recyclables and self-haul them or subscribe to a recycling service with mixed-waste processing. AB 341 also established a statewide recycling goal of 75 percent; under AB 939, the 50 percent disposal reduction mandate still applied to cities and counties.

Cap-and-Trade Program

CARB administers the state's cap-and-trade program, which covers GHG sources that emit more than 25,000 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year), such as refineries, power plants, and industrial facilities. This market-based approach to reducing GHG emissions provides economic incentives for achieving GHG emission reductions.

[31] California Energy Commission. 2018. *2019 Building Energy Efficiency Standards: Frequently Asked Questions.* March. Available: https://www.energy.ca.gov/sites/default/files/2020-06/Title24_2019_Standards_detailed_faq_ada.pdf. Accessed: March 17, 2022.

[32] California Energy Commission. 2021. *2022 Building Energy Efficiency Standards Summary.* August. Available: https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf. Accessed: March 17, 2022.

Short-Lived Climate Pollutant Reduction Strategy

In 2014, SB 605 directed CARB, in coordination with other state agencies and local air districts, to develop a comprehensive SLCP Reduction Strategy. In 2016, SB 1383 directed CARB to approve and implement the SLCP Reduction Strategy to achieve the following reductions in SLCPs:

- 40 percent reduction in CH4 relative to 2013 levels by 2030,
- 40 percent reduction in HFC gases relative to 2013 levels by 2030, and
- 50 percent reduction in anthropogenic black carbon relative to 2013 levels by 2030.

SB 1383 also establishes the following targets for reducing organic waste in landfills as well as CH_4 emissions from dairy and livestock operations, as follows:

- 50 percent reduction in organic waste disposal relative to 2014 levels by 2020,
- 75 percent reduction in organic waste disposal relative to 2014 levels by 2025, and
- 40 percent reduction in CH4 emissions from livestock and dairy manure management operations relative to the livestock and dairy sectors' 2013 levels by 2030.

CARB and CalRecycle are currently developing regulations to achieve the organic waste reduction goals under SB 1383. In January 2019 and June 2019, CalRecycle proposed new and amended regulations to CCR Title 14 and Title 27. Among other things, the regulations set forth minimum standards for organic waste collection, hauling, and composting. The final regulations will take effect on or after January 1, 2022; the final regulations are not currently in effect.

CARB adopted the SLCP Reduction Strategy in March 2017 as a framework for achieving the CH_4, HFC, and anthropogenic black carbon reduction targets set by SB 1383. The SLCP Reduction Strategy includes 10 measures to reduce SLCPs, which fit within a wide range of ongoing planning efforts throughout the state, including CARB's and CalRecycle's proposed rulemaking on organic waste diversion (discussed above).

Water Conservation Act of 2009

The overall goal of SB X7-7, the Water Conservation Act of 2009, was to reduce per capita urban water use by 20 percent as of December 31, 2020. The state was required to make incremental progress toward this goal by reducing per capita water use by at least 10 percent by December 31, 2015. This act is an implementing measure of the 2017 Scoping Plan that will continue to be implemented beyond 2020. Reductions in water consumption reduce the amount of energy, as well as the emissions, associated with conveying, treating, and distributing the water; emissions from wastewater treatment are also reduced.

Regional

Metropolitan Transportation Commission

The MTC is the metropolitan planning organization for the nine counties that make up the San Francisco Bay Area and the San Francisco Bay Area Air Basin (SFBAAB), which includes Menlo Park. The first per capita GHG emissions reduction targets for the SFBAAB were 7 percent by 2020 and 15 percent by 2035 relative to 2005 levels. In 2013, MTC adopted an SCS as part of its RTP for the SFBAAB. This was known as Plan Bay Area. The plan goes beyond regional per capita targets and calls for 10 and 16 percent reductions in per capita GHG emissions by 2020 and 2035, respectively.[33] On July 26, 2017, the strategic

[33] Metropolitan Transportation Commission and Association of Bay Area Governments. 2013. *Plan Bay Area.* Adopted: July 18. Available: http://files.mtc.ca.gov/library/pub/28536.pdf. Accessed: March 17, 2022.

update to this plan, known as Plan Bay Area 2040, was adopted by the Association of Bay Area Governments and the MTC. As a limited and focused update, Plan Bay Area 2040 builds upon the growth pattern and strategies developed in the original Plan Bay Area but with updated planning assumptions that incorporate the key economic, demographic, and financial trends since 2013.[34] As required by SB 375, CARB updated the per capita GHG emissions reduction targets in 2018. The new targets (i.e., reductions in per capita GHG emissions of 10 percent by 2020 and 19 percent by 2035 relative to 2005 levels) are addressed in the latest update to Plan Bay Area, Plan Bay Area 2050, which was approved by ABAG and the MTC in October 2021. Plan Bay Area 2050 carries forward many of the development and funding strategies of Plan Bay Area 2040.

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is the primary agency responsible for addressing air quality concerns in the San Francisco Bay Area, including San Mateo County. Its role is discussed further in Section 3.4, *Air Quality*. BAAQMD also recommends methods for analyzing project-related GHGs in CEQA analyses as well as multiple GHG reduction measures for land use development projects. BAAQMD developed thresholds of significance that align with the statewide GHG target mandated by AB 32 to provide a uniform scale for determining the CEQA significance of GHG emissions associated with land use and stationary-source projects. In developing GHG thresholds, BAAQMD's goals included ease of implementation, the use of standard analysis tools, and emissions mitigation that would be consistent with AB 32 of 2006. However, BAAQMD has not yet adopted thresholds of significance or guidance for determining whether a project's GHG emissions would be consistent with the statewide GHG target established by SB 32 in 2016 (i.e., 40 percent below 1990 levels by 2030). On February 16, 2022, BAAQMD released a draft justification report for the proposed thresholds that are intended to meet both the 2030 target of SB 32 and the long-term goal of carbon neutrality by 2045 (Executive Order B-55-18, discussed earlier). The draft thresholds underwent a 30-day public review and comment period, beginning February 16, 2022, and ending March 18, 2022.[35]

Local

Menlo Park Climate Action Plan

The City of Menlo Park's (City's) 2030 Climate Action Plan (CAP) includes actions to reduce Menlo Park's GHG emissions. The City's CAP was adopted with the purpose of reducing GHGs community-wide and meeting the reduction target (i.e., carbon neutral by 2030). The City has identified GHG reduction measures related to the transportation, energy, and land use sectors that can be coupled with state and existing local actions to reduce GHG emissions. The CAP identifies the following strategies to reach carbon neutrality by 2030:

- Explore policy/program options to convert 95 percent of existing buildings to all-electric by 2030
- Set citywide goals for increasing electric vehicles to 100 percent of new vehicles by 2025 and decreasing gasoline sales 10 percent a year from a 2018 baseline
- Expand access to electric vehicle (EV) charging for multifamily and commercial properties

[34] Metropolitan Transportation Commission and Association of Bay Area Governments. 2017. *Plan Bay Area 2040.* Adopted: July 26. Available: http://2040.planbayarea.org/files/2020-02/Final_Plan_Bay_Area_2040.pdf. Accessed: March 17, 2022.

[35] BAAQMD's draft guidance has been published but has not been adopted at this point.

- Reduce vehicle miles traveled (VMT) by 25 percent or an amount recommended by the Complete Streets Commission
- Eliminate the use of fossil fuels from municipal operations
- Develop a climate adaption plan to protect the community from sea level rise and flooding

The most recent update to the City's CAP, the 2030 CAP, was adopted in April 2021.[36] The 2030 CAP updated emissions inventories and adopted a climate goal that calls for zero carbon by 2030. The CAP also aims for a 90 percent reduction in CO_2e emissions from 2005 levels by 2030. Table 3.6-2 highlights the City's GHG emissions inventory for 2005, 2017, and 2030.

Table 3.6-2. City of Menlo Park Community Greenhouse Gas Emissions Inventory ($MTCO_2e$)

Emissions Sources	2005	2017	2030
Vehicle Travel (mobile-source)	137,628	158,686	18,373
Natural Gas Combustion	102,295	95,742	13,656
Electricity Consumption	87,617	21,528	—
Solid Waste Generation	21,745	8,424	2,903
Total Greenhouse Gas Emissions (metric tons CO_2e)	**349,285**	**284,380**	**34,933**

Source: City of Menlo Park. 2020. *Climate Change Action Plan*. Available: http://www.menlopark.org/305/Climate-Action-Plan. Accessed: November 3, 2021.
Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent

CEQA authorizes reliance on a previously approved GHG emissions reduction plan (e.g., a CAP) that was prepared as a "plan for the reduction of greenhouse gas emissions," per Section 15183.5 of the CEQA Guidelines. This section of the CEQA Guidelines establishes opportunities for CEQA tiering when projects are consistent with adopted GHG emissions reduction plans and their impacts can be determined to be less than significant, provided the GHG emissions reduction plans meet specific criteria established under Section 15183.5, including adoption in a public process following environmental review.

The City adopted the CAP in April 2021; however, the CAP does not meet the requirements for tiering because the City determined that the draft 2030 CAP was intended to serve as a policy framework for future actions and, therefore, was exempt from environmental review.[37,38]

Consequently, because the City's 2030 CAP does not satisfy the tiering requirements established in Section 15183.5 of the CEQA Guidelines, it cannot be used to determine the significance of an individual project's GHG emissions. However, the 2030 CAP is a relevant plan for the purpose of reducing GHG emissions within Menlo Park; therefore, consistency with applicable 2030 CAP policies is analyzed in Impact GHG-2.

[36] Ibid.

[37] City of Menlo Park. 2020. *Staff Report 20-152-CC: Receive and File the Environmental Quality Commission's 2030 Climate Action Plan and Adopt Resolution No. 6575 to Adopt the Climate Action Plan as Amended with the Staff's Implementation Strategy.* June. Available: https://menlopark.org/DocumentCenter/View/25680/F1-20200714-CC-CAP. Accessed: March 17, 2022.

[38] CEQA Guidelines Section 15262 specifically states the following: "A project involving only feasibility or planning studies for possible future actions that the agency, board, or commission has not approved, adopted, or funded does not require the preparation of an EIR or negative declaration but does require consideration of environmental factors. This section does not apply to the adoption of a plan that will have a legally binding effect on later activities."

Menlo Park General Plan

The City General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2015–2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The following policies from the Open Space and Conservation Element were adopted to avoid or minimize environmental impacts and pertain to the Proposed Project:

Goal OSC4: Promote Sustainability and Climate Action Planning.

Policy OSC4.1: Sustainable Approach to Land Use Planning to Reduce Resource Consumption. Encourage, to the extent feasible, (1) a balance and match between jobs and housing, (2) higher-density residential and mixed-use development adjacent to commercial centers and transit corridors, and (3) retail and office areas within walking and biking distance of transit or existing and proposed residential developments.

Policy OSC4.2: Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.

Policy OSC4.3: Renewable Energy. Promote the installation of renewable energy technology, such as in residences and businesses, by supporting education, employing social marketing methods, establishing standards, and/or providing incentives.

Policy OSC4.4: Vehicles Using Alternative Fuel. Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug-in recharging stations.

Policy OSC4.5: Energy Standards in Residential and Commercial Construction. Encourage projects to achieve a high level of energy conservation, exceeding standards set forth in the California Energy Code for residential and commercial development.

Policy OSC4.6: Waste Reduction Target. Strive to meet the California State Integrated Waste Management Board per-person target of waste generation per person per day through source reduction, reuse, and recycling programs.

Policy OSC4.8: Waste Diversion. Develop and implement a zero-waste policy or implement standards, incentives, or other programs that would lead the community toward a zero-waste goal.

The following policies from the Land Use Element were adopted to avoid or minimize environmental impacts and pertain to the Proposed Project:

Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities, and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

Policy LU-7.1: Sustainability. Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste.

Policy LU-7.5: Reclaimed Water Use. Implement use of adequately treated "reclaimed" water (i.e., recycled/nonpotable water sources, including graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) through dual plumbing systems for outdoor and indoor uses, as feasible.

Policy LU-7.9: Green Building. Support sustainability and green building best practices through the orientation, design, and placement of buildings and facilities to optimize their energy efficiency in preparation of state zero net energy requirements for residential construction in 2020 and commercial construction in 2030.

Program LU-7.A: Green Building Operation and Maintenance. Employ green building as well as operation-and-maintenance best practices, such as increasing energy efficiency, using renewable energy and reclaimed water, and installing drought-tolerant landscaping, for all projects.

Program LU-7.C: Sustainability Criteria. Establish sustainability criteria and metrics for resource use and conservation and monitor performance of projects of a certain minimum size.

Program LU-7.D: Performance Standards. Establish performance standards in the zoning ordinance that require new development to employ environmentally friendly technology and design to conserve energy and water and minimize the generation of indoor and outdoor pollutants.

Program LU-7.E: Greenhouse Gas Emissions. Develop a greenhouse gas (GHG) standard for development projects that would help reduce communitywide GHG emissions to meet City and statewide reduction goals.

The following policies from the Circulation Element were adopted to avoid or minimize environmental impacts and pertain to the Proposed Project:

Goal CIRC-3: Increase mobility options to reduce traffic congestion, greenhouse gas emissions, and commute travel time.

Policy CIRC-3.1: Vehicle Miles Traveled. Support development and transportation improvements that help reduce per-service-population (or other efficiency metric) vehicle miles traveled.

Policy CIRC-3.2: Greenhouse Gas Emissions. Support development, transportation improvements, and emerging vehicle technology that help reduce per capita (or other efficiency metric) greenhouse gas emissions.

Goal CIRC-4: Improve Menlo Park's overall health, wellness, and quality of life through transportation enhancements.

Policy CIRC-4.1: Global Greenhouse Gas Emissions. Encourage the safer and more widespread use of nearly zero emission modes, such as walking and biking, and lower-emission modes, such as transit, to reduce greenhouse gas emissions.

Goal CIRC-5: Support local and regional transit that is efficient, frequent, convenient, and safe.

Policy CIRC-5.1: Transit Service and Ridership. Promote improved public transit service and increased transit ridership, especially to employment centers, commercial destinations, schools, and public facilities.

The following policies from the Housing Element were adopted to avoid or minimize environmental impacts and pertain to the Proposed Project:

Goal H-2: Maintain, protect, and enhance existing housing and neighborhoods.

Policy H-2.6: Renewable Energy/Energy Conservation in Housing. Encourage energy efficiency and/or renewable energy in both new and existing housing and promote energy conservation and/or renewable energy in the design of all new residential structures and promote incorporation of energy conservation and/or renewable energy and weatherization features in existing homes. In addition, the City will support the actions contained in the City's CAP.

Menlo Park Municipal Code

As discussed in Chapter 2, *Project Description*, the main Project Site is in the O-B (Office, Bonus) and R-MU-B (Residential, Mixed-Use Bonus) zoning districts. Hamilton Avenue Parcels North and South are

zoned C-2-S (Neighborhood Commercial, Special). Consistent with the goals identified in ConnectMenlo, the City passed Ordinance No. 1024 Office (O-B) and Ordinance No. 1026 for the Residential Mixed-Use (R-MU-B) zoning district under Title 16 of the Menlo Park Municipal Code. Ordinance No. 1024 and No. 1026 include the requirements discussed below, which would be applicable to GHG-emitting activities associated with the Proposed Project on the main Project Site.

Sections 16.43.140 and 16.45.130, Green and Sustainable Building

In addition to meeting all applicable regulations specified in Title 12 (Buildings and Construction), the following provisions shall apply to projects (implementation of these provisions may be subject to separate discretionary review and environmental review pursuant to CEQA):

(1) Green Building.

(A) Any new construction, addition, or alteration of a building shall be required to comply with Table 16.43.140(1)(B) (O District) or Tables 16.45.130(1)(B) and 16.45.130(1)(C) (R-MU District). (These tables summarize green building requirements for new construction or alterations to non-residential and residential buildings. The requirements vary, based on the size of the building. Buildings of more than 100,000 gross square feet would be required to meet Leadership in Energy and Environmental Design (LEED) Gold requirements for Building Design and Construction. Buildings of 10,000 to 100,000 gross square feet would be required to meet LEED Silver requirements; buildings of less than 10,000 gross square feet would not be required to meet LEED requirements. LEED credits include installing prewiring for electric-vehicle (EV) charging stations at a minimum of 5 percent of the total number of parking stalls, installing EV charging stations at a minimum of six parking stalls plus 1 percent of the total number of parking stalls in the prewired locations, enrolling in EPA's Energy Star Portfolio Manager, and submitting documentation of compliance, as required by the City.)

(2) Energy.

(A) For all new construction, the project will meet 100 percent of energy demand (electricity and natural gas) through any combination of the following measures:

(i) Onsite energy generation,

(ii) Purchase of 100 percent renewable electricity through Peninsula Clean Energy or Pacific Gas and Electric Company (PG&E) in an amount equal to the annual energy demand of the project,

(iii) Purchase and installation of local renewable energy generation in Menlo Park in an amount equal to the annual energy demand of the project

(iv) Purchase of certified renewable energy credits and/or certified renewable energy offsets annually in an amount equal to the annual energy demand of the project.

If a local amendment to the California Energy Code is approved by the CEC, the following provision becomes mandatory:

The project will meet 100 percent of energy demand (electricity and natural gas) through a minimum of 30 percent of the maximum feasible onsite energy generation, as determined by an onsite renewable energy feasibility study and any combination of the measures in Subsections (2)(A)(ii) to (iv). The onsite renewable energy feasibility study shall demonstrate the following cases at a minimum:

a. Maximum onsite generation potential;

b. Solar feasibility for roof and parking areas, excluding roof-mounted heating, ventilation, and air-conditioning equipment; and

c. Maximum solar generation potential solely on the roof area.

As of publication of this Draft EIR the above described local amendment to the California Energy Code has not been approved by the California Energy Commission.

Reach Code

The 2019 California Building Standards Code and the California Code of Regulation took effect on January 1, 2020. The City of Menlo Park adopted local amendments to the State Building Code that would require electricity as the only fuel source for new buildings (not natural gas). This ordinance only applies to newly constructed buildings from the ground up, and does not include additions or remodels. Specifically, it would require:

1. New low rise residential buildings (three stories or less) to have electric fuel source for space heating, water heating and clothes dryers. Stoves may still use natural gas if desired. Pre-wiring for electric appliances is required where natural gas appliances are used.
2. New nonresidential and high-rise residential buildings to be all-electric with some exceptions and produce a minimum amount of onsite solar based on square footage.
3. Exceptions include:
    a. Life science buildings may use natural gas for space heating.
    b. Public agency owned and operated emergency operations centers (such as fire stations and police stations) may use natural gas.
    c. Nonresidential kitchens (such as for-profit restaurants and cafeterias) may appeal to use natural gas stoves.
    d. For all exceptions that are granted, natural gas appliance locations must be electrically pre-wired for future electric appliance installation.
4. Solar requirements:
    a. Less than 10,000 square feet requires a minimum of three kilowatt photovoltaic system
    b. Greater than or equal to 10,000 square feet requires a minimum of five kilowatt photovoltaic system

Electric-Vehicle (EV) Charger Requirements

The City of Menlo Park adopted amendments to the California Green Building Standards Code (CALGreen) EV Charging requirements within the California Building Standards Code on October 23, 2018.

The EV requirements are intended to:

- Increase the availability of EV charging infrastructure within the city;
- To provide for residents and employees with electric vehicles; and
- Lower barriers for those looking to shift from fossil fuel vehicles.

New multi-family residential developments and nonresidential developments 10,000 square feet and above are required to comply with the local amendments to the CALGreen code and install EV chargers and prepare for future installation.

Environmental Impacts

This section describes the impact analysis related to greenhouse gases for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

CEQA Guidelines Section 15064 and relevant portions of Appendix G of the CEQA Guidelines recommend that a lead agency consider a project's consistency with relevant adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. In Appendix G of the CEQA Guidelines, two questions are provided to help assess whether a project would result in a potentially significant impact related to climate change. These questions ask whether a project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs.

CEQA Guidelines Section 15064.4(b) also states that, when assessing the significance of impacts from GHG emissions, a lead agency should consider 1) the extent to which a project may increase or reduce GHG emissions compared with existing conditions, 2) whether a project's GHG emissions would exceed a threshold of significance that the lead agency has determined to be applicable to the project, and 3) the extent to which a project would comply with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

At the time of preparation of this CEQA document, the most recent adopted version of BAAQMD's CEQA guidance was published in May 2017.[39] In February 2022, BAAQMD released a draft justification report for updating the CEQA GHG thresholds of significance. The 2022 draft guidelines and justification report underwent a 30-day public review and comment period, beginning February 16, 2022, and ending March 18, 2022, and will be considered for adoption by BAAQMD's Board of Directors at a future date. Until new guidelines are formally adopted, the May 2017 guidance is the most relevant for projects in the Bay Area.[40]

[39] Bay Area Air Quality Management District. 2017. *California Environmental Quality Act Air Quality Guidelines.* May 2017 update. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: March 17, 2022.

[40] Bay Area Air Quality Management District. 2022. *CEQA Thresholds and Guidelines Update*. Available: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines. Accessed: March 17, 2022.

Construction-Generated Emissions of Greenhouse Gases

BAAQMD's adopted CEQA Guidelines (2017) do not identify a GHG threshold for construction-related emissions, nor do the 2022 draft thresholds. Instead, BAAQMD recommends that GHG emissions from construction be quantified and disclosed and a determination regarding the significance of the GHG emissions be made with respect to whether a project would be consistent with emission reduction goals in AB 32. AB 32 has been superseded by SB 32, whose targets will be met through implementing the programs in the CARB Scoping Plan. BAAQMD further recommends incorporation of best management practices (BMPs) to reduce GHG emissions during construction, as feasible and practical. This approach is used to evaluate construction-generated emissions.

Operational Emissions of Greenhouse Gases

In its 2017 guidance, BAAQMD recommended that land use development projects be evaluated using a GHG efficiency metric that can be expressed in $MTCO_2e$ per service population per year ($MTCO_2e$/SP/year); the service population is the sum of the number of residents and full-time-equivalent employees supported by a project. More specifically, BAAQMD's 2017 guidance recommends a significance threshold of 4.6 $MTCO_2e$/SP/year. BAAQMD substantiated this efficiency threshold in the justification report it published in October 2009.[41] BAAQMD determined that land use development projects with an operational GHG efficiency level that does not exceed 4.6 $MTCO_2e$/SP/year would be consistent with the statewide GHG target of achieving 1990 GHG emission levels by 2020, as mandated by AB 32. However, the GHG efficiency threshold of 4.6 $MTCO_2e$/SP/year is not an indicator as to whether a land use development project would be aligned with the statewide GHG target mandated by SB 32 (i.e., 40 percent below 1990 emissions levels by 2030).

In February 2022, BAAQMD released a draft justification report for updating the CEQA GHG thresholds of significance. These proposed updates considered new state reduction targets (e.g., SB 32) and carbon neutrality by 2045, along with evolving case law. Of particular note with the proposed update to the thresholds is BAAQMD's emphasis on (1) avoiding development of fossil fuel infrastructure in new buildings that will be in place for decades and therefore potentially conflicting with carbon neutrality by 2045 and (2) ensuring consistency with a qualified GHG reduction strategy (also known as a Climate Action Plan). Specifically, BAAQMD is proposing two options for evaluating the significance of land use projects.

Under BAAQMD's proposed thresholds, for projects' GHG contribution to be less than cumulatively considerable, projects would have to comply with either Option A or Option B:[42]

A. Projects must include, at a minimum, the following project design elements:
    1. Buildings
        a. Projects will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
        b. Projects will not result in wasteful, inefficient, or unnecessary electrical usage, as determined by the analysis required under CEQA Section 21100(b)(3) and CEQA Guidelines Section 15126.2(b).

[41] Bay Area Air Quality Management District. 2009. Revised Draft Options and Justification Report: California Environmental Quality Act Thresholds of Significance. October. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/revised-draft-ceqa-thresholds-justification-report-oct-2009.pdf?la=en. Accessed: March 17, 2022.

[42] Bay Area Air Quality Management District. 2022. *Draft Justification Report. CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans.* February. Available: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/~/media/ffb719cfa04a438d9c7be10007a5abdf.ashx. Accessed: March 17, 2022.

2. Transportation
    a. Achieve compliance with the electric-vehicle requirements in the most recently adopted version of the California Green Building Standards Code (CALGreen), Tier 2.
    b. Achieve a reduction in project-generated vehicle miles traveled (VMT), below the regional average, consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
        i. Residential projects: 15 percent below existing VMT per capita,
        ii. Office projects: 15 percent below existing VMT per employee, and
        iii. Retail projects: no net increase in existing VMT.

B. Be consistent with a local GHG reduction strategy that meets the criteria under CEQA Guidelines Section 15183.5(b)

The February 2022 justification report, which contains evidence and the rationale for the proposed thresholds, noted that adoption of the thresholds is expected to occur in spring 2022, following a public review period of 30 days. As of the writing of this EIR, BAAQMD's adopted GHG thresholds remain the thresholds in the 2017 CEQA Guidelines, which have not been updated to address 2030 or recent case law regarding the analysis of GHG emissions under CEQA. Given the lack of finality of BAAQMD's draft GHG thresholds, the City developed its own GHG threshold for use in this EIR. Under the threshold, the Proposed Project would have a significant impact on climate change if it would not achieve the following:

- Building Sources (i.e., energy water, waste, area): Net zero operational GHG emissions
- Transportation Sources: Consistency with City's VMT threshold (adopted pursuant to SB 743) and consistency with the RTP/SCS

Similar to BAAQMD's proposed threshold, the City's threshold supports the state's goal of carbon neutrality by 2045 by setting the threshold for non-mobile sources at net zero. A net-zero threshold for non-mobile sources is more comprehensive than just the prohibition of natural gas in buildings because buildings can have other sources of GHG emissions (e.g., emergency generators, area sources, electricity for non-carbon-free sources). Under a net-zero threshold, emissions would need to be offset, which would occur primarily by increasing onsite solar capacity. Adding onsite solar capacity will be important as the state transitions away from natural gas from fossil fuel sources (as opposed to renewable natural gas), which will increase the strain on the state's electrical grid. Also similar to BAAQMD's proposed threshold, the threshold of significance employed in this EIR separates non-mobile sources from mobile sources and requires mobile sources to meet a VMT threshold consistent with state goals for reducing GHG emissions from mobile sources.

The City relied on the following state regulations and professional technical guidance to support the threshold used herein:

- *Governor's Office of Planning and Research (OPR), Discussion Draft: CEQA and Climate Change Advisory (December 2018)* ("OPR GHG Guidance"). The OPR GHG Guidance recommends a route to streamlining project-level CEQA analysis of GHGs by separately assessing the impacts of transportation and building energy emissions. Specifically, the OPR GHG Guidance states that "a land use development project that produces low vehicle miles traveled, achieves applicable building energy efficiency standards, uses no natural gas or other fossil fuels, and includes Energy Star appliances where available may be able to demonstrate a less-than-significant greenhouse gas impact associated with

project operation." The OPR GHG Guidance also states that projects that generate a 15 percent reduction in per-capita residential and per-employee office VMT and no increase in per employee retail VMT compared to existing regional/citywide conditions "may have a less-than significant impact, both for transportation and the greenhouse gas emissions associated with transportation." The City's VMT threshold reflects OPR's guidance.

- *OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018)* ("OPR VMT Guidance"). OPR suggests that VMT-based GHG thresholds for vehicle emissions support California's GHG reduction goals, as stipulated in SB 32 and the 2017 Scoping Plan. The OPR VMT Guidance states that "[b]ased on OPR's extensive review of the applicable research, and in light of an assessment by the California Air Resources Board quantifying the need for VMT reduction in order to meet the state's long-term climate goals, OPR recommends that a per capita or per employee VMT that is 15 percent below that of existing development may be a reasonable threshold . . . . Below these levels, a project could be considered low VMT and would, on that metric, be consistent with 2017 Scoping Plan Update assumptions that achieve climate state climate goals." The City's VMT threshold reflects OPR's guidance.
- *Association of Environmental Professionals ("AEP"), Final Whitepaper Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California (October 2016).* The AEP whitepaper identifies two hybrid concepts that evaluate transportation GHG emissions and non-transportation GHG emissions separately. The first hybrid concept would use the SB 375 GHG reduction targets as the GHG threshold for vehicles. The second hybrid concept would use the VMT thresholds established pursuant to SB 743 as the GHG threshold for vehicles.
- *California Air Resources Board ("CARB"), 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals (January 2019).* CARB identified per capita VMT reductions that would achieve state climate goals for 2030 and 2050. CARB wrote, "[c]ertain land use development projects located in areas that would produce rates of total VMT per capita that are approximately 14.3 percent lower than existing conditions, or rates of light-duty VMT per capita that are approximately 16.8 percent lower than existing conditions (either lower than the regional average or other appropriate planning context) could be, by virtue of their location and land use context, interpreted to be consistent with the transportation assumptions embedded in the 2017 Scoping Plan and with 2050 state climate goals." Consistency with the scoping plan and state climate goals is a good way to measure whether impacts would be less than significant.

This analysis estimates the Proposed Project's operational GHG emissions with respect to the above operational GHG emissions thresholds. Given the projected construction schedule, the earliest year the Proposed Project would become fully operational would be 2026. Details about how these values are estimated are provided under *Method of Analysis*, below.

The GHG analysis also includes a qualitative assessment of whether the Proposed Project would conflict with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions. The primary focus of this qualitative assessment is whether the Proposed Project would conflict with CARB's 2017 Scoping Plan, which, as explained in the *Regulatory Setting*, above, outlines the main strategies California will implement to achieve the legislated GHG emissions target for 2030 and "substantially advance toward our 2050 climate goals."[43] Where applicable, guidance from CARB, OPR, and other agencies related to long-term emissions reduction requirements is considered in the analysis.

[43] California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*. November. Pages 1, 3, 5, 20, 25, and 26. Available: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed: March 17, 2022

Although statewide targets beyond 2030 have been proclaimed in Executive Orders S-3-05 and B-55-18, the subsequent targets have not been codified by the state legislature, and no plans have been formally adopted (or subject to CEQA review) that lay out how these targets will be achieved, which emissions sectors in California will be responsible for achieving substantial reductions, or the role carbon sequestration efforts will play in achieving the targets. As discussed above, consistency with the City's 2030 CAP is analyzed in Impact GHG-2.

Methods for Analysis

The level of GHG emissions associated with construction and operation of the Proposed Project was assessed and quantified using the California Emissions Estimator Model (CalEEMod), version 2020.4.0, and CARB's 2021 EMission FACtor (EMFAC) model, consistent with BAAQMD guidance. A summary of the methodology is provided below. A full list of assumptions regarding modeling input parameters is provided in Appendix 3.4-2.

Zoning Ordinance Consistency

Menlo Park Municipal Code requirements for the O and R-MU zoning districts applicable to the main Project Site require all new construction projects to meet 100 percent of project energy demand through a combination of the measures described below. The Proposed Project on the main Project Site would meet 100 percent of its energy demand through a combination of the measures, which would help reduce GHG emissions.

Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A)(i), 16.45.130(2)(A)(i), Green and Sustainable Building, Onsite Energy Generation. This measure concerns the provision of onsite energy generation. For the main Project Site, the Proposed Project would install solar photovoltaic systems, or other onsite solar technology, that produce renewable energy in an amount at least equal to the Project's non-renewable energy use. The electricity mix provided by Peninsula Clean Energy and PG&E will increase its reliance on renewable energy over the Project's life. However, current solar capacity would be enough to offset non-renewable energy use during the first year of Project operation. Over time, the Proposed Project would produce more renewable energy than required to offset its non-renewable electricity use.

Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A)(ii), 16.45.130(2)(A)(ii), Green and Sustainable Building, 100 Percent Renewable Electricity. This measure concerns the purchase of 100 percent renewable energy in an amount equal to the energy demand of the Proposed Project on the main Project Site. For the Campus District, each office building owner or building manager would purchase 100 percent renewable electricity through Peninsula Clean Energy or PG&E in an amount equal to the annual onsite demand for electricity. In addition, for the Town Square District, the Residential/Shopping District, and buildings on Main Street in the Campus District with retail tenants, each building owner or building manager would encourage tenants to purchase 100 percent renewable electricity through Peninsula Clean Energy or PG&E. The Proposed Project would be subject to the City's reach code and required to install onsite renewable energy generation facilities. The Project Sponsor intends to produce enough onsite renewable energy to offset any non-renewable energy use by tenants.

Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A)(iii), 16.45.130(2)(A)(iii), Green and Sustainable Building, Purchase and Install of Renewable Energy Generation in the City. This measure concerns the purchase and installation of renewable energy generation in the city in an amount equal to the energy demand of the Proposed Project on the main Project Site. The Proposed Project would offset all of its non-renewable electricity and any natural gas use through onsite solar and therefore would not need to install offsite solar elsewhere in the city.

Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A)(iv), 16.45.130(2)(A)(iv) Green and Sustainable Building, Purchase of Certified Renewable Energy Credits and/or Certified Renewable Energy Offsets. This measure concerns the purchase of certified renewable energy credits and/or certified renewable energy offsets in an amount equal to the energy demand of the Proposed Project on the main Project Site. The Proposed Project would offset all of its non-renewable electricity and any natural gas use through onsite solar and therefore would not need to purchase offsets.

Menlo Park Municipal Code Section 12.18.080 (Amending California Green Building Standards Code Chapter 5, Section 5.106.5.3), Electric-Vehicle Charging. The Project Sponsor shall ensure that at least 15 percent of the parking stalls for passenger vehicles meet CALGreen Tier 2 standards for EVs and that all EV-capable spaces are EV ready, as defined in California Building Energy Efficiency Standards Title 24, Part 11. Making parking stalls EV ready requires the installation of dedicated branch circuits, circuit breakers, and other electrical components, including receptacles or blank covers, to support the future installation of one or more charging stations.

Construction-related Emissions

Short-term construction-generated GHG emissions were calculated using methodologies consistent with CalEEMod, version 2020.4.0,[44] as recommended by BAAQMD and other air districts in California. Modeling was based on Project-specific information, such as information regarding demolition, building size, the area to be graded, expected duration of construction, and the area to be paved, where available; assumptions regarding typical construction activities; and default values from CalEEMod, which consider a project's location and land use type.

Detailed model assumptions and inputs for the calculations can be found in Appendix 3.4-2.

Operational Emissions

As noted above, for purposes of this EIR, the evaluation of the transportation-related GHG impacts of the Proposed Project is based on consistency with the City's VMT threshold. As discussed in Section 3.3, *Transportation*, the Project meets the City's VMT thresholds for office, hotel, and retail uses and, with mitigation, would meet the City's VMT threshold for residential uses. Various Project features promote transportation efficiency, including its Transportation Demand Management (TDM) plans, mix of uses, and location in an urban area rather than a remote rural area. Although GHG emissions from mobile sources are not used in significance determinations for this EIR, GHG emissions emitted by motor vehicles from Project-related VMT were estimated with use of the vehicle emission factors from CARB's EMFAC2021;[45] traffic data, including daily VMT and the number of daily trips, from a transportation analysis conducted by Hexagon; and CalEEMod emission calculation methodologies.

As noted above, for purposes of this EIR, the evaluation of the building-related GHG impacts of the Proposed Project is based on achieving net-zero operational emissions. GHG emissions associated with landscape maintenance and backup diesel generator operation were estimated using the applicable CalEEMod emission calculation methodologies. GHG emissions associated with the consumption of water as well as the generation of wastewater and solid waste were estimated using CalEEMod emission calculation methodologies. The consumption estimates are provided in Appendix 3.4-2. GHG emissions

[44] California Air Pollution Control Officers Association. 2020. *CalEEMod, Version 4.0*. Available: http://www.caleemod.com/. Accessed: March 17, 2022.

[45] California Air Resources Board. 2021. *California Emission FACtor Model*. Available: https://arb.ca.gov/emfac/. Accessed: March 17, 2022.

associated with the onsite consumption of electricity were assumed to be zero with implementation of Menlo Park Municipal Code Sections 16.43.140(2)(A) and 16.45.130(2)(A); GHG emissions associated with onsite consumption of natural gas conservatively were included in the estimates. All GHG calculations and modeling data are provided in Appendix 3.4-2.

Summary of Analysis in the ConnectMenlo EIR

- Impacts related to GHG emissions were analyzed in the ConnectMenlo EIR as Impact GHG-1 (pages 4.6-28 to 4.6-35). The EIR included an emissions inventory for ConnectMenlo scenarios in 2020 and 2040. Emissions were estimated for 2020 to evaluate consistency with AB 32, which established a statewide target for 2020. Emissions were also estimated for 2040, which is the planning horizon year for ConnectMenlo. For the near-term target year of 2020, the city's GHG emissions were projected to be less than emissions under existing conditions as a result of state and federal regulations. However, the ConnectMenlo Final EIR found that development of the area would result in a substantial increase in GHG emissions compared with existing conditions (pre-2020 target) by the horizon year (2040) and would not achieve the 2040 efficiency target (per service population), which is based on a trajectory that leads to the 2050 goal of 80 percent below 1990 levels. The policies identified in the Menlo Park General Plan, as well as the TDM program, other green building sustainability measures in the Menlo Park Zoning Ordinance, and ConnectMenlo EIR Mitigation Measure GHG-1 (which required the City to update the CAP), would reduce GHG emissions to the extent feasible. However, additional state and federal actions would be necessary to ensure that regulated state and federal sources (i.e., sources outside the City's jurisdiction) would achieve the deep reductions needed to meet the 2050 target. Therefore, the ConnectMenlo Final EIR considered GHG emissions to be significant and unavoidable.
- Impacts related to consistency with GHG plans, policies, or regulations were analyzed in the ConnectMenlo EIR as Impact GHG-2 (pages 4.6-35 to 4.6-45). The EIR evaluated ConnectMenlo's consistency with the state's GHG emissions reductions objectives, which are embodied in AB 32, Executive Order B-30-15, Executive Order S-03-05, and SB 375. The ConnectMenlo Final EIR determined that the applicable plans adopted for the purpose of reducing GHG emissions include the 2017 Scoping Plan, Plan Bay Area, and the City's 2030 CAP. The ConnectMenlo Final EIR found that ConnectMenlo would be consistent with the regional objectives of Plan Bay Area and the City's CAP, but it could not be shown to be consistent with CARB's most recent scoping plan for reducing statewide GHG emissions and/or the statewide GHG reduction target established by SB 32, which was signed in September 2016. However, the ConnectMenlo Final EIR pointed out that CARB had not yet drafted a plan to achieve the statewide GHG emissions targets stated in Executive Order S-03-05; therefore, although ConnectMenlo supports progress toward the long term-goals identified in Executive Order B-30-15 and Executive Order S-03-05, it cannot yet be demonstrated that Menlo Park would achieve GHG emissions reductions that would be consistent with a 40 percent reduction below 1990 levels by 2030 or be on the path to achieving further GHG reductions beyond 2030. Therefore, the ConnectMenlo Final EIR determined that the level of GHG emissions associated with implementation of ConnectMenlo would be significant and unavoidable.

Impacts and Mitigation Measures

Impact GHG-1a: Generation of GHG Emissions during Construction. Construction of the Proposed Project would not generate GHG emissions that may have a significant impact on the environment. (LTS)

Project-related construction activities, including parking lot and building demolition, building construction, and other onsite and offsite improvements, would generate GHG emissions. Specifically, heavy-duty off-road equipment operation, material transport, and workers' commutes during construction of the Proposed Project would result in GHG emissions from exhaust. Based on modeling conducted with CalEEMod methodologies, it is estimated that Project-related construction would generate approximately 23,050 $MTCO_2e$ over the construction period (2021–2026) (see Appendix 3.4-2 for detailed input parameters and modeling results).[46]

Demolition and construction activities for the Proposed Project would result in the temporary generation of GHG emissions. Emissions would originate from the exhaust of both mobile and stationary construction equipment as well as exhaust from construction workers' vehicles and haul trucks for demolition debris removal and vendors' trucks for deliveries. Site grading and excavation would be required for building foundations, utility infrastructure installation, and landscaping. Construction-related GHG emissions from each specific source would vary substantially, depending on the level of activity, length of the construction period, specific construction operations, types of equipment, and number of personnel.

As described above, BAAQMD has not established a threshold for assessing construction-related GHG emissions and has not proposed to establish one. Rather, BAAQMD recommends evaluating whether construction activities would conflict with statewide emission reduction goals in AB 32.. AB 32 has been superseded by SB 32, whose targets will be met through implementing the programs in the Scoping Plan. The Scoping Plan does not contain any programs required to meet SB 32's targets that would be directly applicable to the Proposed Project's construction. As discussed in Table 3.6-7, below, the Proposed Project, including construction, would be consistent with the Scoping Plan's measures to reduce landfill waste through compliance with applicable waste diversion regulations and the fuel used in construction equipment would comply with statewide low-carbon fuel standards. Therefore, construction GHG emissions would not interfere with the attainment of the GHG reduction targets in SB 32 and impacts are less than significant without mitigation.

Even though no applicable regulatory authority (BAAQMD or the City) has an adopted threshold for construction GHG emissions, BAAQMD encourages the lead agency to incorporate BMPs to reduce GHG emissions during construction, as applicable. BAAQMD provides some examples of measures to reduce construction GHG emissions but does not have a list of BMPs necessary to meet a construction GHG threshold because BAAQMD does not provide such a threshold. Specifically, BAAQMD states that BMPs may include using alternative-fuel (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet; using local building materials for at least 10 percent of a project; and recycling or reusing at least 50 percent of construction waste or demolition materials. CARB's 2017 Scoping Plan, Appendix B, also includes examples of potentially feasible measures that could be considered by local agencies to reduce GHG emissions during construction. As stated in Appendix B to the Scoping Plan, however, "[t]his appendix should be viewed as a general reference document. It should not be interpreted as official guidance or as dictating requirements for a city or county in addressing greenhouse gases (GHGs) in its General Plan or for local project CEQA mitigation."

[46] Construction was conservatively assumed to begin in 2021. This is a conservative assumption from a GHG standpoint because fleet turnover as it pertains to construction equipment results in older, more polluting equipment being gradually replaced by cleaner, more efficient equipment.

Pursuant to ConnectMenlo Mitigation Measure AQ-2b1, and as recommended by the Scoping Plan, the Proposed Project must minimize idling times during construction by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure). Clear signage must be provided for construction workers at all access points. In addition, consistent with BAAQMD's suggestion and Menlo Park Municipal Code requirements, the Proposed Project would divert (i.e., salvage, recycle, or compost rather than send to a landfill) at least 65 percent of both inert and non-inert nonhazardous demolition and construction waste, as required by Menlo Park Municipal Code Chapter 12, Sections 12.18 and 12.48.

To further reduce construction GHG emissions, the Project Sponsor would comply with feasible and practical construction-related measures suggested in Appendix B to the 2017 Scoping Plan and BMPs identified by BAAQMD.

The following Scoping Plan Appendix B measures and BAAQMD-recommended BMPs may be incorporated into the proposed project subject to review of feasibility and practicality based on the specifics of the Proposed Project, including but not limited to the architectural design, availability of technological advances in equipment, and general availability of construction equipment and/or materials. The following list of measures is not an exhaustive list; the City and the Project Sponsor would review the comprehensive list of potential measures in Appendix B of the Scoping Plan and the BAAQMD recommended BMPs and determine which measures are feasible and practical for each specific building permit, based on an analysis from the Project Sponsor team. Documentation of feasible and practical measures would be required as project conditions for each building permit through the conditional development permit:

- Instead of using fossil fuel–based generators for temporary jobsite power, grid-sourced electricity from PG&E or Peninsula Clean Energy shall be used to power tools (e.g., drills, saws, welders) as well as any temporary office buildings used by construction contractors. This measure shall be required during all construction phases, except demolition, site grubbing, site grading, and the installation of electric, water, and wastewater infrastructure. This measure shall be implemented during building framing and erection of new buildings, all interior work, and the application of architectural coatings. Electrical outlets shall be designed according to PG&E's Greenbook standards and placed in accessible locations throughout the construction site. The Project Sponsor, or its primary construction contractor, shall coordinate with the utility to activate a temporary service account prior to starting construction (with the exception of demolition) to the extent feasible and practical as determined by the City based on an analysis by the Project Sponsor.
- Require diesel equipment fleets to be lower emitting than any current emission standard (statewide average equipment fleet tier) to the extent feasible and practical as determined by the City based on an analysis by the Project Sponsor.[47]
- Enforce idling time restrictions for construction vehicles.[48]
- Minimize tree removal, and mitigate indirect GHG emissions increases that occur because of vegetation removal, loss of sequestration, and soil disturbance, to the extent feasible and practical as determined by the City based on an analysis by the Project Sponsor.[49]

[47] Compliance with MM AQ-1.1 would satisfy this COA.

[48] Compliance with ConnectMenlo MM AQ-2b1 would satisfy this COA.

[49] The Proposed Project would necessitate tree removals but would comply with the City's tree replacement requirements.

- Use alternative-fuel (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet, to the extent feasible and practical as determined by the City based on a feasibility analysis by the Project Sponsor.
- Use local building materials for at least 10 percent of all project construction, to the extent feasible and practical as determined by the City based on a feasibility analysis by the Project Sponsor
- Recycle or reuse at least 50 percent of construction waste or demolition materials.

Impact GHG-1b: Generation of GHG Emissions during Operation. Operation of the Proposed Project would generate GHG emissions that may have a significant impact on the environment. (LTS/M)

As described in the *Thresholds of Significance* section, the analysis separates operational non-mobile sources and operational mobile sources.

Operational GHG Emissions from Non-Mobile Sources

Operation of the Proposed Project would result in non-mobile-source GHG emissions. These would be associated with landscape maintenance, periodic testing and operation of backup diesel generators, offsite electricity consumption associated with supplying water as well as conveying and treating wastewater, and the generation of solid waste.

Building operational emissions, such as those related to energy use, water use, area sources, and solid waste, are evaluated against a net-zero threshold because a project that does not alter the existing environment has no impact on the environment.

GHG emissions associated with onsite consumption of electricity and natural gas would be netted out to zero, considering existing conditions and implementation of Menlo Park Municipal Code Sections 16.43.140(2)(A) and 16.45.130(2)(A), including the reduction in Project GHG emissions due to onsite renewable energy production. The amount of onsite renewable energy proposed is also anticipated to offset fossil fuel use associated with the routine testing of onsite diesel emergency generators. Emissions associated with existing conditions (2019), first year of Proposed Project full build-out operation (2026), and net conditions (2026 minus 2019) are summarized in Tables 3.6-3, 3.6-4, and 3.6-5, respectively. All GHG emissions for existing operations on the Project Site were calculated for 2019 because data from 2020 and 2021 might not be representative of future normal operations, given the reduced activity resulting from the COVID-19 pandemic. All detailed calculations are provided in Appendix 3.4-2.

As shown in Table 3.6-3, operation of the existing onsite buildings that are to be demolished generated approximately 2,511 $MTCO_2e$ in 2019. As shown in Table 3.6-4, the Proposed Project's non-mobile operational GHG emissions during the first year of full buildout would be 1,453 $MTCO_2e$ (in 2026). Net non-mobile operational GHG emissions (2026 minus 2019) would be -1,056 $MTCO_2e$ per year, as shown in Table 3.6-5.

Because of the substantial reduction in natural gas use with the Proposed Project compared to existing conditions, non-mobile operational GHG emissions from the Proposed Project would be lower than the baseline condition. Furthermore, because the Proposed Project would not result in an increase in non-mobile operational GHG emissions, implementation of the Proposed Project would not contribute a significant amount of operational non-mobile-source GHG emissions to existing significant cumulative emissions. Accordingly, this impact would be ***less than cumulatively considerable***.

Table 3.6-3. Non-Mobile-Source Operational Greenhouse Gas Emissions by Sector for Existing Conditions, 2019 ($MTCO_2e$)

Emissions Source	Annual $MTCO_2e$
Landscape Maintenance (area source)	< 1
Electricity Consumption (onsite)	0
Natural Gas Consumption (onsite)	1,613
Backup Generators (stationary sources)	9
Solid Waste Disposal[a]	397
Water Consumption and Wastewater Treatment	492
Total Non-Mobile-Source Operational Emissions (***$MTCO_2e$/year***)[b]	**2,511**

Source: See Appendix 3.4-2 for detailed input parameters and modeling results.

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent

a. The level of GHG emissions associated with solid waste disposal accounts for the waste diversion requirements mandated by state regulations (e.g., AB 341).

b. Values may not add up because of rounding.

Table 3.6-4. Non-Mobile-Source Operational Greenhouse Gas Emissions by Sector for Full Buildout Conditions, 2026 ($MTCO_2e$)

Emissions Source	Annual $MTCO_2e$
Landscape Maintenance (area source)	22
Electricity Consumption (onsite)[b]	[0]
Natural Gas Consumption (onsite)	118
Backup Generators (stationary sources)	399
Solid Waste Disposal[a]	698
Water Consumption and Wastewater Treatment	217
Total Non-Mobile-Source Operational Emissions (***$MTCO_2e$/year***)[c]	**1, 453**

Source: See Appendix 3.4-2 for detailed input parameters and modeling results.

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent

a. The level of GHG emissions associated with solid waste disposal accounts for the waste diversion requirements mandated by state regulations (e.g., AB 341).

b. GHG emissions associated with onsite consumption of electricity would be offset with implementation of Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A) and 16.45.130(2)(A), which requires the Proposed Project to offset fully the GHG emissions associated with all onsite electricity on the main Project Site.

c. Values may not add up because of rounding.

Table 3.6-5. Net Operational Non-Mobile-Source Greenhouse Gas Emissions ($MTCO_2e$)

Total Emissions by Analysis Year	Annual $MTCO_2e$
Existing Conditions (2019)	2,511
Full Buildout (2026)	1,453
Total Non-Mobile-Source Net Operational Emissions[a] **(*$MTCO_2e$/year*)**	**-1,056**

Source: See Appendix 3.4-2 for detailed input parameters and modeling results.
Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent
[a] Values may not add up because of rounding.

Operational GHG Emissions from Mobile Sources

Operation of the Proposed Project would result in mobile-source GHG emissions, which would be associated with vehicle trips to and from the Project Site (i.e., Project-generated VMT). GHG impacts from vehicles are evaluated using the City's VMT threshold. This threshold provides information on whether a project is consistent with applicable plans, including Plan Bay Area, and goals to reduce GHG emissions by reducing VMT. In addition, using the same VMT threshold for both transportation and mobile-source GHG impacts ensures consistency throughout the EIR.

The Proposed Project would develop and implement TDM programs with trip reduction measures that would reduce vehicle traffic in and around the Project Site. Together, the TDM measures and Mitigation Measure TRA-1 would meet the City's trip and VMT reduction targets. The Proposed Project would implement TDM programs for the Residential/Shopping District, the Town Square District, and the Campus District. These may include, but would not be limited to, the following measures:

- Improved biking/walking network
- Bicycle amenities
- Improved public transit service
- Car-share program
- Tram service
- Commuter shuttles
- Parking management
- Emergency ride-home program
- Carpool and vanpool programs
- Commute assistance center
- Onsite housing

In addition, the Proposed Project would offer an advanced EV charging program to Meta workers. EV charging in the Campus District is free, and valets move cars into chargers to maximize charging time. The Proposed Project would also install EV charging stations in the Residential/Shopping District and Town Square District.

The Proposed Project's mobile-source GHG emissions are anticipated to decrease in subsequent years (to buildout year 2026) as older vehicles are replaced with newer, more GHG-efficient vehicles. Ongoing

implementation of more stringent fuel efficiency standards and EV integration into the overall vehicle fleet will also decrease GHG emissions. Moreover, by following Menlo Park Municipal Code Section 12.18.080 (amending California Green Building Standards Code Chapter 5, Section 5.106.5.3), the Proposed Project would ensure that 15 percent of the parking stalls for passenger vehicles would be EV ready, thereby supporting the projected future vehicle fleet. Mobile-source operational GHG emissions under existing (2019), full buildout (2026), and net (Buildout 2026 minus Existing 2019) conditions are provided in Table 3.6-6.

Table 3.6-6. Net Operational Mobile Greenhouse Gas Emissions ($MTCO_2e$)

Total Emissions by Analysis Year	Annual $MTCO_2e$
Existing (2019)	16,024
Full Buildout (2026)	32,790
Total Net Operational Mobile- Source Emissions ($MTCO_2e$/year)[a]	**16,766**

Source: See Appendix 3.4-2 for detailed input parameters and modeling results.
Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent
[a] Values may not add up because of rounding.

As noted above, the Proposed Project would develop and implement TDM programs with trip reduction measures to reduce vehicle traffic in and around the Project Site. Because the Proposed Project would implement TDM measures and Mitigation Measure TRA-1 to meet the City's trip and VMT reduction targets, implementation of the Proposed Project would not contribute a significant amount of operational mobile-source GHG emissions to existing significant cumulative emissions. Accordingly, this impact would *be* ***less than cumulatively considerable with mitigation.***

A discussion of the Proposed Project's VMT relative to the City's VMT threshold is presented in Section 3.3, *Transportation*, of this EIR.

Conclusion

Mitigation Measure TRA-1, presented in Section 3.3, *Transportation*, would ensure that operation of the Proposed Project would achieve the City's VMT thresholds, thereby reducing associated operational mobile-source GHG emissions. In addition, because the Proposed Project would not result in an increase in operational non-mobile-source GHG emissions, the Proposed Project's operational GHG emissions would not constitute a cumulatively considerable contribution to significant cumulative climate change impacts. Therefore, this impact would be ***less than cumulatively considerable with mitigation***.

Impact GHG-2: Conflicts with Applicable Plans and Policies. The Proposed Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs. (LTS/M)

Statewide Greenhouse Gas Reduction Targets and Plans

AB 32 and SB 32 outline the state's GHG emissions reduction targets for 2020 and 2030, respectively. Although not legislatively adopted, Executive Order S-03-05 establishes a long-term statewide goal to reduce GHG emissions to 80 percent below 1990 levels by 2050. Executive Order B-55-18 sets a more ambitious state goal of net zero GHG emissions by 2045 while acknowledging the important role of carbon sequestration to meet this target.

Consistency with the CARB 2017 *Scoping* Plan

As explained in the *Regulatory Setting*, above, CARB's 2017 Scoping Plan outlines the main strategies for California to achieve the legislated GHG emissions target for 2030 and "substantially advance toward our 2050 climate goals."[50] It identifies the reductions needed by each GHG emissions sector (e.g., industry, transportation, electricity generation).

There are multiple ways to demonstrate that operation of the Proposed Project would be qualitatively consistent with CARB's 2017 Scoping Plan. For example, Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A) and 16.45.130(2)(A), would require the Proposed Project on the main Project Site to use 100 percent renewable electricity or offset energy use from electricity from non-renewable sources, which the Proposed Project would do with onsite solar installations. This requirement would be consistent with the 2017 Scoping Plan's call for the state to transition from fossil fuels to electricity from carbon-free sources. Furthermore, per the City's reach code, natural gas usage would be limited to for-profit commercial kitchens serving uses open to the public, if an exception is granted by the Environmental Quality Commission. These zoning ordinance and reach code requirements recognize that the 2017 Scoping Plan calls for the state to be less reliant on natural gas (e.g., by designing buildings that are all electric or requiring all GHG emissions generated from onsite consumption of natural gas to be fully offset). In addition, the Proposed Project would follow Menlo Park Municipal Code Section 12.18.080 (amending California Green Building Standards Code, Chapter 5, Section 5.106.5.3), ensuring that a minimum of 15 percent of the parking spaces for passenger vehicles would be EV spaces, with another 10 percent designated as electric-vehicle supply equipment (EVSE), thereby supporting the projected future vehicle fleet. The 2017 Scoping Plan outlines the importance of converting the state's vehicle fleet to EVs and other types of zero-emission technologies as well as building the infrastructure needed to support these vehicles. Furthermore, a consistency analysis that considers the primary objectives found in the 2017 Scoping Plan is provided in Table 3.6-7. As demonstrated in Table 3.6-7, the Proposed Project would be consistent with the objectives.

Table 3.6-7. Project Consistency with Policies from the 2017 Scoping Plan (Appendix B) and Other Applicable Statewide Measures

Policy	Primary Objective	Project Consistency Analysis
SB 350 (superseded by SB 100)	Reduce GHG emissions in the electricity sector by implementing the 50 percent RPS, doubling energy savings, and taking other actions as appropriate to achieve the planning targets regarding GHG emissions reductions in the Integrated Resource Plan process.	**Consistent.** This is a state program that requires no action at the local or project level. Benefits Project-related electricity and water consumption. The Proposed Project on the main Project Site would implement Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A) and 16.45.130(2)(A), which would require 100 percent renewable energy and/or offsets of energy use from non-carbon-free sources of energy and therefore help reduce GHG emissions from electrical sources.
Low-Carbon Fuel Standard	Transition to cleaner/less-polluting fuels that have a lower carbon footprint.	**Consistent.** This is a state program that requires no action at the local or project level. Benefits Project-related vehicle travel. The Proposed Project would follow Menlo Park Municipal Code Section 12.18.080 (amending California Green Building Standards Code Chapter 5, Section 5.106.5.3), which requires 15 percent of parking spaces to be EV spaces and 10 percent to be EVSE spaces.

[50] Ibid.

Policy	Primary Objective	Project Consistency Analysis
Mobile-Source Strategy (Cleaner Technologies and Fuels Scenario)	Reduce GHGs and other pollutants from the transportation sector through a transition to zero- and low-emission vehicles, cleaner transit systems, and reductions in VMT.	**Consistent.** This is a state program that requires no action at the local or project level. The Proposed Project would incorporate TDM measures and Mitigation Measure TRA-1 to reduce the number of vehicle trips.
SB 1383	Approve and implement an SLCP strategy to reduce highly potent GHGs.	**Consistent.** This is a state program that requires no action at the local or project level. The Proposed Project would comply with the City's construction waste diversion requirements, which meet or exceed the state requirement for a 65 percent construction waste diversion, as codified in CALGreen. The Proposed Project would also be consistent with AB 341, which requires 75 percent of the Proposed Project's operational solid waste to be reduced, recycled, or composted.
California Sustainable Freight Action Plan	Improve freight efficiency, transition to zero-emission technologies, and increase the competitiveness of California's freight system.	**Not Applicable.** This is a state program that requires no action at the local or project level. This program aims to improve freight efficiency by 25 percent, deploy more than 100,000 zero-emission freight vehicles, and increase the competitiveness of California's freight system. The Proposed Project would not involve freight vehicles.
Post-2020 Cap-and-Trade Program	Reduce GHGs across the largest GHG emission sources.	**Not Applicable.** This a state program that requires no action at the local or project level. This program is not directly applicable to the Proposed Project because the Proposed Project is not a gross emitter of non-mobile-source GHG emissions and does not fall under the Cap-and-Trade Program.

Source: California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November. Available: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed: November 3, 2021.

As described under Impact GHG-1b, the Project Sponsor would ensure that the Proposed Project's operational GHG emissions from non-mobile sources would be net zero, which would exceed the statewide target for 2030 mandated by SB 32. In addition, as shown in Table 3.6-7, the Proposed Project would be consistent with the primary objectives of the 2017 Scoping Plan. The analysis presented under Impact GHG-1b indicates that operation of the Proposed Project would not conflict with implementation of CARB's 2017 Scoping Plan or attainment of the statewide GHG target for 2030 mandated by SB 32.

Consistency with Plan Bay Area 2040 and 2050

Plan Bay Area 2040, the RTP/SCS for the San Francisco Bay Area, was prepared by the MTC pursuant to the requirements of SB 375, as discussed in the *Regulatory Setting*, above. Plan Bay Area 2040 is a state-mandated, integrated long-range transportation and land use plan that demonstrates reductions in GHG

emissions from passenger cars and light-duty trucks.[51] Plan Bay Area 2050 carries forward many of the development and funding strategies of Plan Bay Area 2040. As explained in Section 3.3, *Transportation*, the Proposed Project would be consistent with Plan Bay Area 2040 and 2050 goals and performance targets for transportation system effectiveness. Specifically, the Proposed Project would increase the mode share for non-auto forms of transportation.

The Proposed Project's buildings on the main Project Site would be entirely electrically powered, with the exception of for-profit commercial culinary uses. The Proposed Project would offer an advanced EV charging program to Meta workers. EV charging in the Campus District is free, and valets move cars into chargers to maximize charging time. The Proposed Project would also install EV charging stations in the Residential/Shopping District. The Proposed Project would implement TDM programs for the Campus District and the Town Square/Residential Districts that may include, but would not be limited to, the following measures:

- Improved biking/walking network
- bicycle amenities
- Improved public transit service
- Car-share program
- Tram service
- Commuter shuttles
- Parking management
- Emergency ride-home program
- Carpool and vanpool programs
- Commute assistance center
- Onsite housing

The Proposed Project would demolish existing office, industrial, and warehouse buildings on the main Project Site and develop a new mixed-use neighborhood with up to 1,730 residential units, neighborhood-serving retail uses, office space, a hotel, new bicycle and pedestrian connections, and open space (including a Publicly Accessible Park, Dog Park, Elevated Park, and Town Square District) near existing residential and commercial uses, thereby reducing the demand for travel by single-occupancy vehicles. Furthermore, the Proposed Project would develop and implement TDM programs with trip reduction measures that would reduce vehicle traffic in and around the Project Site. Together, the TDM measures and Mitigation Measure TRA-1 would meet the City's trip and VMT reduction targets. The Proposed Project's bicycle and pedestrian facilities would also help reduce the demand for travel in single-occupancy vehicles. Through consistency with Plan Bay Area 2040 and 2050, the Proposed Project would fulfill one of the strategies identified in the 2017 Scoping Plan related to reducing GHG emissions from passenger vehicles.

[51] California Air Resources Board. 2018a. *SB 375 Regional Greenhouse Gas Emissions Reduction Targets.* Approved: March 22, 2018. Available: https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets. Accessed: November 3, 2021.

Consistency with the City of Menlo Park Climate Action Plan

The most recent update to the City's CAP, the 2030 CAP, was adopted in April 2021.[52] The 2030 CAP updated emissions inventories and adopted a climate goal that calls for net zero carbon by 2030. The CAP also aims for a 90 percent reduction in CO_2e emissions from 2005 levels by 2030. To achieve GHG reductions, the CAP promotes six different goals. Table 3.6-8 discusses the Proposed Project's consistency with the six 2030 CAP goals. As discussed in Table 3.6-8, the Proposed Project would be consistent with the goals of the 2030 CAP.

Table 3.6-8. City of Menlo Park 2030 Climate Action Plan

2030 Climate Action Plan Goals	Project Consistency
1. Explore policy/program options to convert 95 percent of existing buildings to all-electric buildings by 2030.	**Consistent/Not Applicable.** The Proposed Project is new construction and would not convert any existing buildings. However, the Proposed Project on the main Project Site would be consistent with Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A) and 16.45.130(2)(A), which requires the Project Sponsor to meet 100 percent of energy demand (electricity and natural gas) through any combination of four measures, including purchasing 100 percent renewable electricity through Peninsula Clean Energy or PG&E and implementing onsite solar generation to offset energy use associated with non-carbon-free energy, as proposed by the Project.
2. Set citywide goals for increasing electric-vehicle sales to 100 percent of new vehicle sales by 2025 and decreasing gasoline sales 10 percent a year from a 2018 baseline.	**Consistent.** The Proposed Project would follow Menlo Park Municipal Code Section 12.18.080 (amending California Green Building Standards Code Chapter 5, Section 5.106.5.3), which requires 15 percent of all parking spaces to be EV spaces and 10 percent to be designated EVSE.
3. Expand access to electric-vehicle charging for multi-family and commercial properties.	**Consistent**. As discussed in Goal 2, 15 percent of the Proposed Project's parking spots would be EV spaces, with 10 percent designated EVSE.
4. Reduce vehicle miles traveled by 25 percent or an amount recommended by the Complete Streets Commission	**Consistent.** As discussed in Section 3.3, Transportation, the Proposed Project would comply with the complete streets policy requirements of Caltrans and MTC. In addition, as discussed in Section 3.4, Air Quality, the Proposed Project would incorporate TDM measures and Mitigation Measure TRA-1 to reduce the number of trips and VMT. The Project's TDM program may include, but are not limited to, the following measures: • Improved biking/walking network • Bicycle amenities • Improved public transit service • Car-share program • Tram service • Commuter shuttles • Parking management • Emergency ride-home program

[52] Ibid.

2030 Climate Action Plan Goals	Project Consistency
	• Carpool and vanpool programs • Commute assistance center • Onsite housing The TDM program would meet City of Menlo Park Municipal Code TDM requirements. The Project would also add new retail and a grocery store to an area that lacks these resources.
5. Eliminate the use of fossil fuels from municipal operations.	**Consistent/Not Applicable.** The Proposed Project has no control over municipal operations and therefore would not conflict with this measure.
6. Develop a climate adaptation plan to protect the community from sea-level rise and flooding.	**Consistent/Not Applicable.** The Proposed Project would not conflict with the City's goal to develop a climate adaptation plan. However, the Proposed Project is incorporating resiliency with respect to sea-level rise and flooding into its civil plan for the main Project Site and Hamilton Avenue Parcel South. (Depending on the scope of any future construction for Hamilton Avenue Parcel North, sea-level rise and flooding resiliency may be incorporated.) As part of the design effort for these sites, building finished floor elevations will be proposed to meet City of Menlo Park codes and accommodate a future rise in sea levels: • Proposed buildings will have a minimum finished floor elevation of at least 13 feet NAVD88, which is 2 feet above the base flood elevation, and be set high enough so that site adaptations will not be necessary for even the highest estimates of sea-level rise for the useful life of the Project. • The entire project storm drain system is designed to drain to the City storm drain main in Willow Road, which in turn drains to the Ravenswood Pump Station (operated by the California Department of Transportation) northeast of the main Project Site along Bayfront Expressway. The storm drain system is therefore not hydraulically connected to the Bay and will not be impacted by sea-level rise.

Source: City of Menlo Park. 2020. *Climate Change Action Plan*. Available: http://www.menlopark.org/305/Climate-Action-Plan. Accessed: November 3, 2021.

Consistency with the City of Menlo Park General Plan and Reach Codes

As discussed above, the Proposed Project would be consistent with the ConnectMenlo EIR and City reach codes. Specifically, for GHG emissions, the Proposed Project on the main Project Site would follow Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A) and 16.45.130(2)(A), which requires new construction in the O and R-MU zoning districts to meet 100 percent of energy demand (electricity and natural gas) through any combination of four measures, including purchasing 100 percent renewable electricity through Peninsula Clean Energy or PG&E and providing onsite solar generation to offset energy

use associated with non-carbon-free energy, as proposed by the Project. The Proposed Project would comply with the City's reach code and limit the use of natural gas onsite to commercial kitchens, subject to the Environmental Quality Commission granting an exception. If an exception is granted, the amount of natural gas usage would need to be offset through the requirements presented above. In addition, the Proposed Project would follow Menlo Park Municipal Code Section 12.18.080 (amending California Green Building Standards Code Chapter 5, Section 5.106.5.3), which requires 15 percent of the parking spaces to be EV spaces and 10 percent to be designated EVSE. Therefore, the Proposed Project would be consistent with City General Plan goals and reach codes.

Conclusion

In summary, the quantitative efficiency of operations associated with the Proposed Project would be aligned with the statewide GHG target for 2030 mandated by SB 32 as well as Menlo Park Municipal Codes that require onsite or offsite renewable energy generation, the use of 100 percent renewable electricity, and/or renewable energy credits and/or certified renewable energy offsets. The City's reach code would significantly limit the onsite combustion of natural gas (an exception could be granted from the reach code by the Environmental Quality Commission for onsite commercial kitchens to use natural gas in their cooking facilities). If any natural gas is permitted to be used, the amount would be offset through the requirements presented above. The Menlo Park Municipal Code requires a minimum of 15 percent of the parking spaces for passenger vehicles to be EV spaces, with another 10 percent designated EVSE, thereby supporting the projected future vehicle fleet. Also, the Proposed Project would be consistent with Plan Bay Area 2040 and 2050, which are regional plans to reduce per-service-population VMT in the San Francisco Bay Area.

Mitigation Measures and Summary.

No mitigation measures are required to achieve net-zero non-mobile-source operational emissions. Implementation of Mitigation Measure TRA-1, which is presented in Section 3.3, *Transportation*, would ensure that operation of the Proposed Project would achieve the City's VMT thresholds, thereby reducing associated operational mobile-source GHG emissions.

Construction and operation of the buildings associated with Proposed Project would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The buildings would meet a net-zero operational GHG threshold. Implementation of Mitigation Measure TRA-1 would ensure that operation of the Proposed Project would result in a level of VMT that would meet the City's VMT thresholds. For these reasons, implementation of Mitigation Measure TRA-1 would result in the Proposed Project being consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions, thereby reducing this impact to ***less than cumulatively considerable with mitigation***.

Cumulative Impacts

As stated in Section 4.6, *Greenhouse Gas Emissions* of the ConnectMenlo EIR, climate change is a global problem, and GHG impacts are inherently cumulative. This is because GHGs contribute to the global phenomenon that is climate change, regardless of where they are emitted. Climate change is the result of the individual contributions of countless past, present, and future sources. Therefore, consistent with the ConnectMenlo EIR, GHG impacts are inherently cumulative, and the analysis above is inclusive of cumulative impacts.

3.7 Noise

This section describes existing noise conditions within the Project area, sets forth criteria for determining the significance of noise impacts, and estimates the likely noise impacts that would result from operation of the Proposed Project. Issues related to the Project's physical environmental impacts, as identified in response to the Notice of Preparation (NOP) (Appendix 1), were considered in preparing this analysis. Comments included requests to identify noise that may affect nearby school facilities, and concerns about construction noise experienced by adjacent neighborhoods, as well as concerns about potential noise increases from increases in traffic and the removal of trees. Concerns expressed in the comments on the NOP are addressed in the analysis of noise and vibration impacts included herein.

Overview Noise and Sound

A brief description of the noise and vibration concepts and terminology used in this assessment is provided below. Some of these are technical terms used in measuring sound and its effects, which are not easily explained in layman's terms.

- **Sound**. A vibratory disturbance transmitted by pressure waves through a medium such as air or water and capable of being detected by a receiving mechanism, such as the human ear or a microphone. Sound is characterized by various parameters, including the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable. Commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals. Although the dB scale is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing.
- **A-weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. The dBA scale is the most widely used scale for environmental noise assessments. Table 3.7-1 summarizes typical A-weighted sound levels for different noise sources.
- **Maximum Sound Levels (L_{max}).** The maximum sound level measured during the measurement period.
- **Minimum Sound Level (L_{min}).** The minimum sound level measured during the measurement period.
- **Equivalent Sound Level (L_{eq})**. The equivalent steady-state sound level that, in a stated period of time, contains the same acoustical energy. The 1-hour A-weighted equivalent sound level (L_{eq} 1h) is the energy average of A-weighted sound levels occurring over a 1-hour period.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with a 10 dB penalty added to sound levels between 10:00 p.m. and 7:00 a.m.

- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. L_{dn} and CNEL are typically within 1 dBA of each other and, for all intents and purposes, interchangeable.
- **Vibration Velocity Level (or Vibration Decibel Level, VdB).** The root-mean-square velocity amplitude for measured ground motion expressed in dB.
- **Peak Particle Velocity (PPV).** A measurement of ground vibration, defined as the maximum speed at which a particle in the ground is moving and expressed in inches per second (in/sec).
- **Sensitive Receptor.** Noise- and vibration-sensitive receptors, including land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

Table 3.7-1. Typical A-weighted Sound Levels

Common Outdoor Activities	Sound Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 mph at 50 feet		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Vacuum cleaner at 3 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban area, daytime	50	Dishwasher in next room
Quiet urban area, nighttime	40	Theater, large conference room (background)
Quiet suburban area, nighttime		
	30	Library
Quiet rural area, nighttime		Bedroom at night, concert hall (background)
Rustling of leaves	20	
		Broadcast/recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*. FTA Report 0123. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/ transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: December 20, 2021.

Human sound perception, in general, is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (i.e., barely noticeable) increase in noise; in practice, this means that the volume of traffic on a roadway would typically need to double to result in a noticeable increase in noise.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a point source, such as a stationary compressor or construction equipment, sound attenuates at a rate of 6 dB per doubling of distance. For a line source, such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance. Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates (or travels) over distance and affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a greater rate than sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers, such as buildings and topography, that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Trees and foliage do to not generally result in perceptible reductions in noise levels unless the foliage is sufficiently dense to completely block the view along the propagation path (Federal Highway Administration 2019). In general, if foliage is less than 10 meters in width, no attenuation occurs. If the foliage is close to 20 meters in thickness and the complete line of sight is blocked between the source and the receiver, attenuation of approximately 1 dB or less would be expected to occur (Federal Highway Administration 2019).

Community noise environments are generally perceived as quiet when the 24-hour average noise level is below 45 dBA, moderate in the 45 to 60 dBA range, and loud above 60 dBA. Very noisy urban residential areas are usually around 70 dBA CNEL. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA CNEL. Incremental increases of 3 to 5 dB to the existing 1-hour L_{eq} or CNEL are commonly used as thresholds for an adverse community reaction to a noise increase. However, there is evidence that incremental thresholds in this range may not be adequately protective in areas where noise-sensitive uses are located and CNEL is already high (i.e., above 60 dBA). In these areas, limiting noise increases to 3 dB or less is recommended.[1] Noise intrusions that cause short-term interior levels to rise above 45 dBA at night can disrupt sleep. Exposure to noise levels greater than 85 dBA for 8 hours or longer can cause permanent hearing damage.

[1] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment*. FTA Report 0123. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed: March 23, 2022.

Existing Conditions

Environmental Setting

The ambient noise environment in the city of Menlo Park is affected by a variety of noise sources, including vehicles, trains, aircraft, and stationary sources. The section that follows describes the existing noise environment and identifies the primary noise sources in the vicinity of the Project Site.

Existing Traffic Noise. Motor vehicles, with their distinctive noise characteristics, are a major source of noise in Menlo Park. The level of noise varies according to factors such as the volume of traffic, vehicle mix (i.e., percentage of cars and trucks), average traffic speed, and distance from the observer. Menlo Park is exposed to noise generated by traffic on US 101, Interstate (I) 280, State Route (SR) 84, El Camino Real, Middlefield Road, Willow Road, Ravenswood Avenue, Santa Cruz Avenue, and Sand Hill Road. Traffic is the main source of noise in the Project area. Primary noise-generating roadways in the vicinity of the Project Site include Willow Road (adjacent to the west), SR 84 (0.12 miles to the North), and O'Brien Drive (0.1 miles to the south and adjacent to the southeast corner) US 101 (adjacent to the southwest) and SR 84 (0.2 mile to the north). However, according to Figure 4.10-2 of the ConnectMenlo EIR which shows traffic noise contours, the Project Site is not within a noise contour of 60 dBA CNEL/L_{dn} or greater associated with US 101 or SR 84. Note that most land uses, including residential uses, are considered compatible with noise levels below this level. For office buildings and commercial uses, noise levels of up to 70 dBA CNEL/L_{dn} are considered to be normally acceptable

Existing Train Noise. Two rail lines traverse Menlo Park, the Dumbarton Rail Corridor and the Caltrain rail line. Although the Rail Corridor is adjacent to the Project Site, it is currently not used and not an active noise source. The Caltrain rail line is active, but the tracks are more than 1.5 miles from the Project Site. Therefore, existing train noise is not a factor in the noise environment in the Project area.

Aircraft Noise. Menlo Park is approximately 6 miles northwest of Moffett Federal Airfield, 14 miles northwest of San José International Airport, 15 miles southeast of San Francisco International Airport, and 18 miles south of Oakland International Airport. In addition, San Carlos Airport is approximately 5.6 miles northwest of the Project Site. The closest airport to the Project Site is Palo Alto Airport, which is approximately 1.75 miles away. According to the ConnectMenlo EIR, although Menlo Park does receive some noise from aircraft at these facilities, Menlo Park (including the Project Site) does not fall within airport land use planning areas, runway protection zones, or the 55 dBA CNEL noise contours (i.e., the lowest noise contour for aircraft noise typically presented) of any of the airports.

Existing Stationary-Source Noise. Stationary sources of noise may occur with all types of land uses. Menlo Park is developed with mostly residential, commercial, and light industrial uses. Stationary sources at commercial and light industrial uses include heating, ventilation, and air-conditioning (HVAC) systems; loading docks; and the machinery required for manufacturing processes. Noise generated by commercial uses is generally brief and intermittent. Industrial uses may generate noise continuously or intermittently, depending on the processes and types of machinery involved. The majority of Menlo Park's limited industrial operations are north of the city and separated from sensitive uses such as residences by rail lines or major roadways. The sound level perceived at a given receptor decreases with distance from the noise source. For uses located near major roads or thoroughfares, noise at noise-sensitive land uses from constant traffic generally exceeds the noise generated by individual and often intermittent noise sources at industrial uses.

Principal Noise Sources in the Project Area

Surrounding Land Uses

The main Project Site is bounded by Willow Road and residential zones to the west, the currently inactive SamTrans rail corridor to the north (Dumbarton Rail Corridor), offices and light industrial operations to the east, and offices and academic establishments to the south. The nearest noise-sensitive uses are the Mid-Peninsula High School, located adjacent to main Project Site's southwest border and Willow Road. The Open Mind School is approximately 90 feet south of the main Project Site, off O'Brien Drive. The nearest residential land uses are approximately 120 feet west of the main Project Site, on the west side of Willow Road. There are light industrial and commercial land uses to the east. The nearest of these is the UPS Costumer Center, approximately 55 feet east of the Project Site perimeter.

In addition, there are residential land uses to the south and west of the Hamilton Avenue Parcels. The nearest residential land use is approximately 25 feet south of the Hamilton Avenue Parcel South.

Existing Noise Levels

The existing ambient noise levels in the Project vicinity are dominated largely by the traffic on major roadways in the area. To quantify existing ambient noise levels in the vicinity of the Project Site, long- (24-hour) and short-term (15-minute) ambient noise measurements were conducted between Tuesday, July 27th, 2021, and Wednesday, July 28th, 2021. Long-term measurements were conducted using Piccolo II Type-2 sound level meters, and short-term measurements were conducted using a Larson Davis LxT Type-1 sound level meter. Weather conditions were clear and sunny when the measurements were conducted, with an average wind speed of 1.7 miles per hour and temperatures ranging from 65 to 79 degrees Fahrenheit.

Monitoring locations were selected to capture noise levels in areas that are sensitive to noise or representative of ambient levels throughout the day and night for areas near the Project Site. Existing noise levels in the Project area vary between measurement locations, as some are located near major roadways while others were conducted in more residential areas. Appendix 3.7 includes the complete dataset of measured noise. The noise measurement locations are shown in Figure 3.7-1, Noise Measurement Locations.

Short-Term Noise Monitoring

Five monitoring locations in and around the Project Site were selected to collect short-term ambient noise data. Short-term noise levels ranged from 55.9 dBA L_{eq} to 73.7 dBA L_{eq}. ST-1 was located along the northwestern border of the Project Site on Willow Road, between Hamilton Avenue and Ivy Drive (1380 Willow Road). The measured L_{eq} for this location was 65.2 dBA during the 15-minute measurement interval. ST-2, located on Willow Road between Hamilton Avenue and Ivy Drive, is adjacent to the southwestern border of the Project Site and is located near Mid-Peninsula High School. The ambient noise level at this location was measured to be 67.3 dBA L_{eq}. The dominant noise source at both ST-1 and ST-2 was vehicle traffic on the adjacent roadways.

Graphics ... 00040.18 (8/12/21) AB

ICF

Figure 3.7-1
Noise Measurement Locations

ST-3 was located near the northwest corner of the Open Mind School, near O'Brien Drive. This location is south of the Project Site. The recorded L_{eq} noise level was 55.8 dBA L_{eq} during the 15-minute measurement interval. The overall noise level at this location was dominated by mechanical hum likely from nearby HVAC equipment. ST-4 was located near the southwest corner of O'Brien Drive and University Avenue, southeast of the Project Site. Noise at this location was dominated by light vehicle traffic on the adjacent roadways and was measured to be 55.9 dBA L_{eq}. ST-5 was located on the west side of Willow Road, southwest of the Project Site, south of Ivy Drive and slightly north of O'Brien Drive. Noise levels at this location were measured to be 59.5 dBA L_{eq}. The dominant noise source at this location was traffic noise from the adjacent roadway (e.g., Willow Road). Refer to Table 3.7-2 for a summary of the short-term measurement results.

Long-Term Noise Monitoring

Four long-term monitoring locations near the Project Site were selected to collect long-term ambient noise data. L_{dn} noise levels from the long-term measurements ranged from 59.8 dBA L_{dn} to 77.1 dBA L_{dn}. LT-1, located on Kavanaugh Drive between Clarence Court and Gertrude Court (southeast of the Project Site) had an L_{dn} of approximately 67.9 dBA. LT-2, located on Willow Road between Ivy Drive and Hamilton Avenue (adjacent to the western border of the Project Site) had a measured L_{dn} noise level of 77.1 dBA L_{dn}. LT-3, located on the northwest corner of Alberni Street and Poplar Avenue (south of the Project Site), and had an L_{dn} noise level of 62.0 dBA L_{dn}. LT-4 (located west of the Project Site, on Carlton Avenue, south of Hamilton Avenue) had a L_{dn} noise level of 59.8 dBA L_{dn}. Refer to Table 3.7-3 for a summary of the long-term noise measurement results.

ConnectMenlo Noise Monitoring

In addition to the noise measurements conducted in 2021, the ConnectMenlo EIR included ambient noise monitoring data from various locations within the ConnectMenlo area. Short- and long-term measurements were taken on December 6 and 10, 2012; long-term noise level measurements were taken for a period of 24 hours on December 10 and 11, 2012. For the ConnectMenlo EIR, existing ambient noise levels were measured at 16 locations in the city to document representative noise levels at various locations. The ConnectMenlo EIR measurement locations closest to the Project Site are ST-3 and ST-4, located close to the Project Site (west of the Project Site, along Willow Road). The closest ConnectMenlo long-term measurement location to the Project Site is LT-1, which is located approximately 1.8 miles west of the Project Site. These ConnectMenlo measurement results are presented in Table 3.7-4 below.

Regulatory Setting

Federal Regulations

No federal laws, regulations, or policies for construction-related noise and vibration directly apply to the proposed project. However, the Federal Transit Administration (FTA) has developed general assessment criteria for analyzing construction noise. Although FTA standards are intended for federally funded mass-transit projects, the impact assessment procedures and criteria included in the FTA's *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) routinely are used to evaluate a variety of projects proposed by local jurisdictions (i.e., not exclusively used for transit projects).

The FTA construction guidelines state that each A-weighted sound level increase of 10 dB corresponds to an approximate doubling of subjective loudness. As a result, a 10-dB increase in the ambient noise level is often used as the threshold to determine if an increase in ambient noise levels because of construction would be considered substantial.

Table 3.7-2. Short-Term Noise Level Measurements in and around the Project Site

Site	Site Description	Measurement Start Time	L_{eq}	L_{max}	L_{min}	Dominant Noise Source
ST-1	1380 Willow Road	07/27/2021 1:32 p.m.	65.2	78.9	54.3	Roadway traffic noise primarily from Willow Road
ST-2	1350 Willow Road	07/28/2021 12:14 p.m.	67.3	79.1	47.5	Roadway traffic noise primarily from Willow Road
ST-3	1215 O'Brien Drive	07/27/2021 2:45 p.m.	55.8	74.3	48.2	Mechanical hum, likely nearby HVAC equipment
ST-4	1530 O'Brien Drive	07/27/2021 2:08 p.m.	55.9	71.5	49.4	Light traffic noise primarily from University Avenue and O'Brien Drive
ST-5	1221 Willow Road	07/28/2021 11:44 a.m.	59.5	72.0	45.4	Roadway traffic noise primarily from Willow Road

Note: See Appendix 3.7 for data.
ST = long-term (15-minute) ambient noise measurement.
All noise levels are reported in A-weighted decibels (dBA).

Table 3.7-3. Long-Term Noise Level Measurements in and around the Project Site

Site	Site Description	Time Period	L_{dn}	CNEL	Highest 1- hour L_{eq}[1] Time of Occurrence	Lowest 1-hour L_{eq}[2] Time of Occurrence	12-hour L_{eq}[3]
LT-1	1439 Kavanaugh Drive	07/27/2021 – 07/28/2021	67.4	67.9	66.8 dBA L_{eq} 07/28/2021, 5:00 p.m.	53.3 dBA L_{eq} 07/28/2021, 3:00 a.m.	64.8
LT-2	1360 Willow Road	07/27/2021 – 07/28/2021	77.1	77.5	75.6 dBA L_{eq} 07/27/2021, 2:00 p.m.	64.0 dBA L_{eq} 07/28/2021, 3:00 a.m.	74.5
LT-3	1125 Alberni Avenue	07/27/2021 – 07/28/2021	61.1	61.9	62.5 dBA L_{eq} 07/27/2021, 3:00 p.m.	44.3 dBA L_{eq} 07/28/2021, 3:00 a.m.	59.3
LT-4	1396 Carlton Avenue	07/27/2021 – 07/28/2021	59.6	60.4	59.8 dBA L_{eq} 07/27/2021, 6:00 p.m.	45.0 dBA L_{eq} 07/28/2021. 2:00 a.m.	57.7

Note: See Appendix 3.7 for data.

LT = long-term (24-hour) ambient noise measurement.

All noise levels are reported in A-weighted decibels (dBA).

[1] Highest L_{eq} is the highest calculated L_{eq} level during a 24-hour period.

[2] Lowest L_{eq} is the lowest calculated L_{eq} level during a 24-hour period.

[3] The 12-hour Leq is based on the hourly Leq noise levels from the hours of 7:00 a.m. to 7:00 p.m.

Table 3.7-4. 2012 ConnectMenlo Noise Measurement Results

Monitoring Site	L_{min}	L_{eq}	L_{max}	CNEL
ST-3	50.6	56.5	60.9	—
ST-4	50.9	59.5	72.3	—
LT-1	—	—	—	67.1

Source: City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update for the City of Menlo Park EIR.*

State Regulations

Title 24 of the California Code of Regulations, Noise Insulation Standards

California Code of Regulations Title 24, part 2, Sound Transmission, establishes minimum noise insulation standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than single-family residences. Under this regulation, interior noise levels attributable to exterior noise sources cannot exceed 45 dB in any habitable room. The noise metric is either the L_{dn} or the CNEL. Compliance with Title 24 interior noise standards occurs during the permit review process and generally protects a proposed project's users from existing ambient outdoor noise levels. If determined necessary, a detailed acoustical analysis of exterior wall and window assemblies may be required.

California Department of Transportation

Caltrans provides guidelines regarding vibration associated with construction and operation of transportation infrastructure. Table 3.7-5 provides Caltrans' vibration guidelines for potential damage to different types of structures.

Generally, people are more sensitive to vibration during nighttime hours, when sleeping, rather than daytime hours. Numerous studies have been conducted to characterize the human response to vibration. Table 3.7-6 provides Caltrans' guidelines regarding vibration annoyance potential (expressed here as PPV).

Local Regulations

Menlo Park General Plan

The City of Menlo Park (City) General Plan contains general goals, policies, and programs that require local planning and development decisions to consider noise impacts. The Noise and Safety Element sets goals, policies, and implementing programs that work to achieve acceptable noise levels. In addition, the Noise and Safety Element sets land use compatibility noise standards for new developments. The following City General Plan goals, policies, and programs adopted to avoid or minimize environmental impacts are applicable to the project:

Table 3.7-5. Caltrans Vibration Guidelines for Potential Damage to Structures

	Maximum Peak Particle Velocity (PPV, in/sec)	
Structure Type and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation, *Transportation and Construction Vibration Guidance Manual,* April 2020, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf, accessed July 30, 2021.

Note: Transient sources create a single, isolated vibration event (e.g., blasting or the use of drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 3.7-6. Caltrans Guidelines for Vibration Annoyance Potential Error! Bookmark not defined.

	Maximum PPV (in/sec)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation, *Transportation and Construction Vibration Guidance Manual,* April 2020, https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf, accessed July 30, 2021.

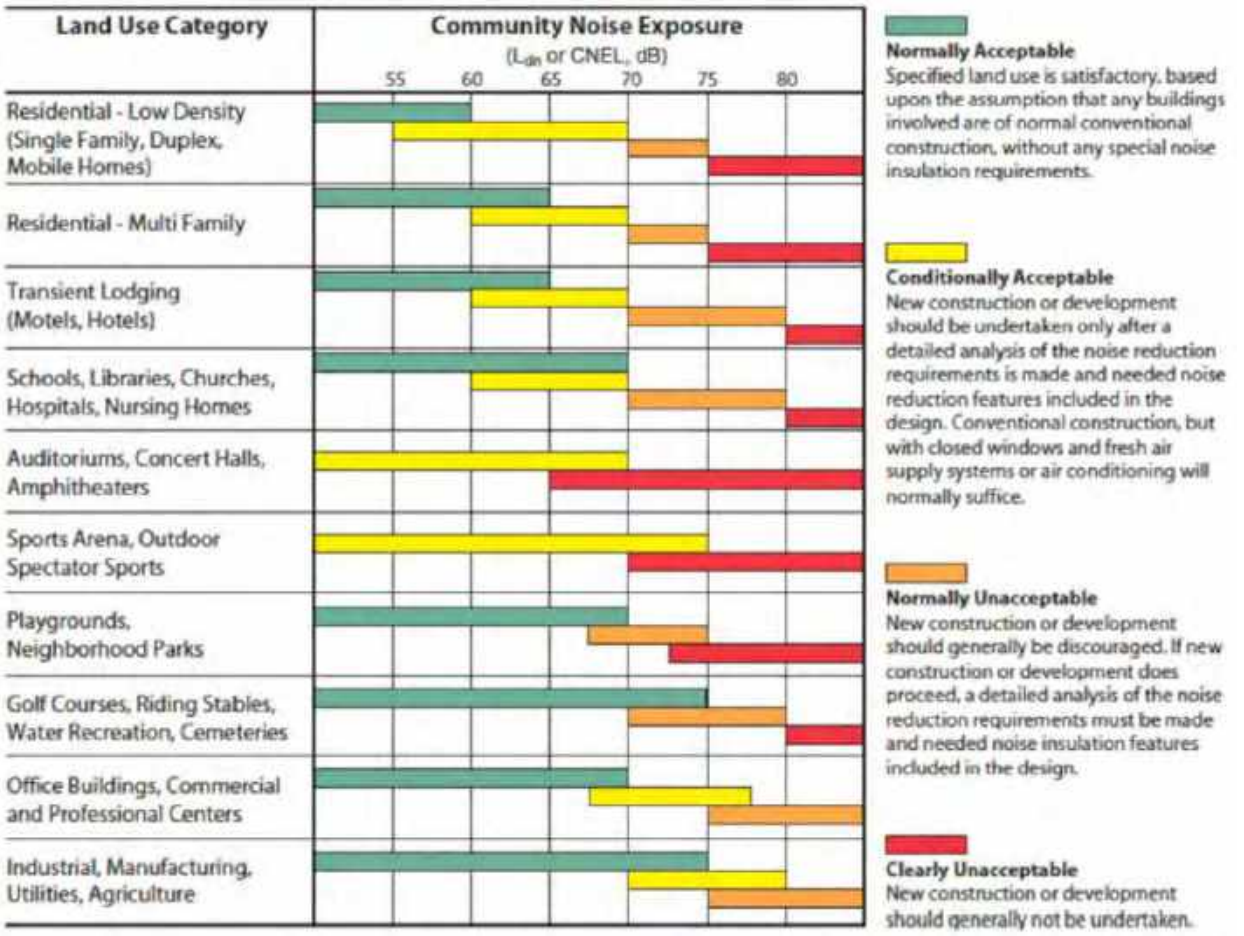
Note: Transient sources create a single, isolated vibration event (e.g., blasting or the use of drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Goal N1: Achieve Acceptable Noise Levels.

Policy N1.1: Compliance with Noise Standards. Consider the compatibility of proposed land uses with the noise environment when preparing or revising community and/or specific plans. Require new projects to comply with the noise standards of local, regional, and building code regulations, including, but not limited to, the City's Municipal Code, Title 24 of the California Code of Regulations, and subdivision and zoning codes.

Policy N1.2: Land Use Compatibility Noise Standards. Protect people in new development from excessive noise by applying the City's Land Use Compatibility Noise Standards for New Development to the siting and required mitigation for new uses in existing noise environments (refer to Table 3.7-7 below)

Table 3.7-7. Land Use Compatibility Noise Standards for New Development



Policy N1.3: Exterior and Interior Noise Standards for Residential Use Areas. Strive to Achieve acceptable interior noise levels and exterior noise levels for backyards and/or common usable outdoor areas in new residential development and reduce outdoor noise levels in existing residential areas where economically and aesthetically feasible.

Policy N1.4: Noise-Sensitive Uses. Protect existing residential neighborhoods and noise-sensitive uses from unacceptable noise levels and vibration impacts. Noise-sensitive uses include, but are not limited to, hospitals, schools, religious facilities, convalescent homes, and businesses with highly sensitive equipment. Discourage the siting of noise-sensitive uses in areas in excess of 65 dBA CNEL without appropriate mitigation, and locate noise-sensitive uses away from noise sources unless mitigation measures are included in development plans.

Policy N-1.5 Planning and Design of New Development to Reduce Noise Impacts. Design residential developments to minimize the transportation-related noise impacts to adjacent residential areas and encourage new development to be site planned and architecturally designed to minimize noise impacts on noise-sensitive spaces. Proper site planning can be effective in reducing noise impacts

Policy N1.6: Noise Reduction Measures. Encourage the use of construction methods, state-of-the-art noise-abating materials and technology, and creative site design, including, but not limited to, open space,

earthen berms, parking, accessory buildings, and landscaping, to buffer new and existing development from noise and reduce potential conflicts between ambient noise levels and noise-sensitive land uses. Use sound walls only when other methods are not practical or when recommended by an acoustical expert.

Policy N1.7: Noise and Vibration from New Non-Residential Development. Design non-residential development to minimize noise impacts on nearby uses. Where vibration impacts may occur, reduce impacts on residences and businesses through the use of setbacks and/or structural design features that reduce vibration to levels at or below the guidelines of the Federal Transit Administration near rail lines and industrial uses.

Policy N1.8: Potential Annoying or Harmful Noise. Preclude the generation of annoying or harmful noise from stationary noise sources, such as construction and property maintenance activity and mechanical equipment.

Policy N1.9: Transportation-Related Noise Attenuation. Strive to minimize traffic noise through land use policies, traffic-calming methods to reduce traffic speed, and law enforcement and street improvements, and encourage other agencies to reduce noise levels generated by roadways, railways, rapid transit, and other facilities.

Policy N1.10: Nuisance Noise. Minimize impacts from noise levels that exceed community sound levels through enforcement of the City's Noise Ordinance. Control unnecessary, excessive, and annoying noises within the city where not preempted by federal and state control through implementation and updating of the Noise Ordinance.

Policy N1.D: Minimize Construction Activity Noise. Minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and enforcement of the City's Noise Ordinance.

Land use compatibility noise standards are included in the City's Noise Element. According to the Noise Element, noise levels up to 60 dBA L_{dn} are considered normally acceptable for single-family residential land uses; noise levels are conditionally acceptable up to 70 dBA L_{dn} for these uses as long as noise insulation features are included in the design to reduce interior noise levels. For multi-family residential and hotel uses, noise levels of up to 65 dBA L_{dn} are considered normally acceptable, with noise levels of 70 dBA L_{dn} considered to be conditionally acceptable. For office buildings and commercial uses, noise levels of up to 70 dBA L_{dn} are considered to be normally acceptable, with noise levels of up to 77.5 dBA L_{dn} considered conditionally acceptable. For schools and churches, playgrounds, and neighborhood parks, noise levels up to 70 dBA L_{dn} are considered normally acceptable; there are no separate conditionally acceptable noise limits for these uses.

Menlo Park Municipal Code

Section 8.06 of the Menlo Park Municipal Code describes noise limitations and exclusions for land uses within Menlo Park. The code concerns noise limits that constitute a noise disturbance, as measured at noise-sensitive (primarily residential) land uses.

The City Municipal Code noise limit for daytime hours (7:00 a.m. to 10:00 p.m.) is 60 dBA as measured from any residential property. The noise limit during nighttime hours (10:00 p.m. to 7:00 a.m.) is 50 dBA. In addition, Section 16.08.095 of the municipal code states noise from roof-mounted equipment, such as HVAC equipment, must not exceed 50 dBA at a reference distance of 50 feet.

There are some exceptions to the noise thresholds contained in Municipal Code Section 8.06. Construction activities occurring between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday are considered exempt from any quantitative noise limit in the City. Additionally, powered equipment is exempted from

the previously cited limits during daytime hours in lieu of separate standards. Specifically, according to the Municipal Code, noise from the temporary, occasional or infrequent use of powered equipment between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday shall not exceed 85 dBA at a distance of 50 feet. In addition, note that according to Section 8.06.050 of the City Municipal Code, sound generated by motor vehicles, trucks, and buses operated on streets and highways is also exempted.

Environmental Impacts

This section describes the impact analysis related to noise for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. A summary of the ConnectMenlo EIR impacts and mitigation measures is then provided. As previously discussed in Chapter 1, *Introduction*, the analysis below makes reference to, and tiers from, the ConnectMenlo Final EIR, where appropriate. This section identifies potential impacts of the Proposed Project and, if necessary, any mitigation measures.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Project would have a significant effect if it would result in any of the conditions listed below.

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a local general plan or noise ordinance, or applicable standards of other agencies.
- Generation of excessive groundborne vibration or groundborne noise levels.
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

Methods for Analysis

Construction Noise

To determine if construction would result in noise impacts, a screening analysis was conducted to determine which subphases of construction would require the loudest equipment and result in the greatest noise levels, based on an equipment list provided by the Project Sponsor. Phase-specific construction noise modeling was conducted for the loudest subphase(s) of construction on the Project Site and within the Hamilton Avenue Parcels, assuming that the three loudest pieces of equipment expected to be used during a given phase of construction would be operating simultaneously and close to one another on the Project Site. Combining the noise level from the two or three loudest pieces of equipment and assuming they are all operating very close to one another and very near the closest offsite sensitive receptor results in a reasonably representative worst-case combined noise level. This analysis was completed for three periods throughout a construction day: typical daytime construction hours of 8:00 a.m. to 6:00 p.m. (during which time construction noise is considered exempt from the local quantitative noise standards of the City's Municipal Code), early morning and evening hours of 7:00 a.m. to 8:00 a.m. and 6:00 p.m. to 10:00 p.m. (prior to the start of or after the end of the daytime construction noise exemption time period), and nighttime hours (10:00 p.m. to 7:00 a.m.). In addition, this analysis was conducted both for offsite noise-sensitive land uses (e.g., existing residential and school uses) and onsite residential land uses that may be occupied during late-stage Project construction.

For off-site improvements that would occur with implementation of the Project, a similar approach of modeling construction noise was used; specifically, noise levels from the three-loudest pieces of equipment were combined to calculate an overall estimated noise level. The distances and noise levels to the nearest receptors are discussed below, and the potential for the combined noise level to substantially exceed the ambient noise levels have been evaluated to determine the significance of noise from the off-site improvements.

In addition to the general noise limits defined in the Municipal Code, and described above, noise from the temporary, occasional or infrequent use of powered equipment between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday is limited to 85 dBA at a distance of 50 feet. An analysis to determine if equipment proposed for project construction would comply with this threshold is also included.

Despite the City Municipal Code's exemption for daytime construction noise, construction activities could still result in a significant physical impact on the environment. Therefore, construction noise generated during daytime hours is compared to the existing ambient noise level to estimate temporary increases in noise over the existing ambient level. An evaluation is conducted to determine if a 10-dB increase over the existing ambient noise, perceived as a doubling of loudness, would be expected to occur at nearby noise-sensitive land uses. In addition, for construction proposed to occur outside of the daytime exempt hours in the city, an evaluation has been conducted to determine if construction noise would comply with the applicable municipal code noise level limits.

Construction Haul Truck Noise

Haul truck noise was analyzed as part of the construction noise analysis. Details pertaining to the number of haul and vendor trucks per worst-case construction subphase were provided by the Project applicant. Reasonable worst-case daily truck volumes were calculated, and potential noise impacts from the addition of these truck trips to the local roadway network were analyzed. The most daily construction truck trips would occur during the overlap of the demolition and grading/utilities subphases of construction Phase 1.

Haul trucks would either travel south on Willow Road to US 101, or north on Willow Road to Bayfront Expressway to access one of four landfill options. Haul materials from Project construction would be taken to Zanker Recycling, Ox Mountain Sanitary Landfill, Kirby Canyon Landfill, or Dumbarton Quarry (which would only be used for contaminated materials).

Although it is expected that a third of the total haul trucks would access each of the aforementioned landfills (with only contaminated materials accessing the Dumbarton Quarry), this analysis conservatively looks at each haul route and assumes that 100 percent of haul trucks would access that route. Modeling was conducted to estimate daily traffic noise levels with and without the addition of construction vendor and haul truck trips (e.g. a comparison of noise from "baseline" to "baseline plus Project construction truck" conditions) to determine if a 3-dB or "barely perceptible" increase in noise would occur along any analyzed segment as a result of construction truck activity.

Construction Vibration

The evaluation of potential vibration-related effects from construction of the Proposed Project was based on the construction equipment list provided by the Project Sponsor and the estimated construction equipment noise levels contained in both the Federal Transit Administration's Transit Noise and Vibration Impact Assessment (2006) and Caltrans' Transportation and Construction Vibration Guidance Manual (2020). Estimated vibration levels at sensitive uses from construction of the Proposed Project were then compared to the Caltrans damage and annoyance vibration criteria (contained in Tables 3.4-3 and 3.4-4,

presented previously) to determine if a vibration impact would be expected. After this analysis was conducted, estimated vibration levels were compared to the criteria outlined in ConnectMenlo Mitigation Measure NOISE-2a.

Operational Traffic Noise

To determine if the Proposed Project would result in a substantial permanent increase in traffic noise, a ratio analysis was conducted to estimate traffic noise increases based on vehicular traffic data provided by Hexagon Transportation Consultants (the City's Project traffic engineer). Traffic data provided by the City's Project traffic engineer included average daily traffic (ADT), posted speeds, and existing vehicle-mix assumptions (i.e., the proportion of automobiles, trucks, buses, and other vehicles). Traffic volumes for background conditions with and without the Project were then compared to determine if traffic increases associated with the Proposed Project would result in significant traffic noise impacts. Background No-Project conditions assume that all currently approved development projects are built.

For vehicular traffic noise impacts, in areas where the baseline and resulting (baseline plus Project) noise levels do not exceed the "normally acceptable" land use compatibility standard, an increase of more than 5 dB is considered a significant traffic noise increase. In areas where the baseline and resulting (baseline plus Project) noise levels do exceed the "normally acceptable" level based on the land use compatibility chart, a 3 dB or larger increase from baseline to baseline plus conditions is considered a significant traffic noise increase.

Based on the ratio analysis described above comparing background traffic volumes to background plus-Project traffic volumes, a screening assessment is conducted to identify potential traffic noise impacts along roadway segments with existing noise-sensitive land uses that would be exposed to a 3-dB increase in traffic noise attributable to the Project. As a point of reference, a 25 percent increase in traffic volume would result in an approximately 1-dB increase in traffic noise along a given segment, and a 100 percent increase in traffic volume would result in a 3-dB increase in traffic noise. If a 3-dB increase is identified along any segments, additional analysis is conducted to determine if existing and resulting noise levels are in above or below the "normally acceptable" land use compatibility standard. If existing and resulting noise levels are below the land use compatibility standard, a noise increase of up to 5 dB is allowed.

Other Operational Noise Sources

Other potential sources of Project-related operational noise, including mechanical HVAC equipment, emergency generators, loading dock activity, parking structure activity, and activity from the proposed park were also assessed based on information provided by the Project Sponsor. Descriptions of the analysis methodology for these topics are included below.

Mechanical Equipment Noise

Mechanical equipment would be installed throughout the Project Site. Proposed equipment would include rooftop HVAC and building-specific heating plant equipment, as well as equipment located at central energy plants in the North and South Garages. A list of proposed equipment types was provided by the Project applicant. This list included (but was not limited to) equipment such as chillers, various types of pumps, cooling towers, exhaust fans, heat exchangers, air handling units, and boilers.

To evaluate the noise levels resulting from the operation of Project mechanical equipment, acoustical data (i.e., source noise levels) for each equipment type were derived from various sources, including manufacturers' specifications sheets, equipment information provided by the Project applicant, and data from previous noise assessments prepared for similar projects. Modeling was conducted to estimate noise

from individual and combined equipment, as appropriate, based on predicted locations of Project equipment as provided by the Project applicant. Estimated noise levels were then compared to the allowable noise levels in the City of Menlo Park, which are 60 dBA during daytime hours (7:00 a.m. to 10:00 p.m.) and 50 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.), when measured from any residential property. In addition, noise levels from rooftop equipment were compared to the Zoning Ordinance limit of 50 dBA at 50 feet.

Emergency Generator Noise

A total of 13 emergency generators are proposed to be installed with Project implementation. Although operating noise from generators is typically exempt in the case of an emergency, periodic testing of generators is not considered to be exempt. During testing, generator noise must meet the allowable noise levels as established in the City Municipal Code. Final equipment makes and models for the Project have not yet been selected; as a result, this analysis is based on noise levels from representative generator models that are the same size as those proposed under the Project. Estimated generator locations were provided by the Project applicant.

Specific details about generator shielding and attenuation features for Project generators are not known at this time. Therefore, this analysis conservatively presents unattenuated noise levels from emergency generator testing.

Modeling was conducted to estimate noise from each generator based on its estimated location on the Project Site and its size as provided by the Project applicant. Estimated noise levels were then compared to the allowable noise levels in the City of Menlo Park, which are 60 dBA during daytime hours (7:00 a.m. to 10:00 p.m.) and 50 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.), when measured from any residential (or for the purposes of this analysis, noise-sensitive) property (noting that many noise-sensitive land uses are located on residentially zoned property).

Event Noise

The potential for amplified music or speech at events resulting from implementation of the Project to exceed applicable noise limits was analyzed based on information about expected future events provided by the Project applicant and based on source noise data from events expected to be similar to those proposed under the Project.

Dog Park Noise

The potential for the proposed dog park to expose off-site receptors to excessive noise was evaluated by comparing previously collected source noise levels from dog park activity to the local applicable noise thresholds. Noise limits for residential land uses in the City were applied to all noise-sensitive uses, including nearby schools.

Loading Dock Noise

Project loading dock noise was evaluated qualitatively, based on operational truck information and loading dock location information provided by the Project applicant, to determine the potential for a substantial temporary increase in noise to occur at nearby noise-sensitive land uses. A quantitative analysis of loading noise would typically only be necessary if the development was a loading-intensive use (such as a distribution center).

Tram and Shuttle Noise

Potential noise impacts related to Project inter-campus trams and commuter shuttles were evaluated by using the FTA Noise Impact Assessment Spreadsheet (2018) and data provided by the Project applicant, including tram and shuttle routes and estimated speeds and idle times.

Parking Garage Activity Noise

The new parking structures associated with the Project would introduce noises typically associated with parking garages to the Project area. Source noise data from FTA's *Transit Noise and Vibration Impact Assessment Manual* (Federal Transit Administration 2006) were used to analyze parking garage noise as a stationary source of noise. Modeled noise levels were compared to City of Menlo Park noise limits for stationary sources of noise.

Construction Noise and Vibration Effects to Onsite Uses

Although not required by CEQA, this section describes construction noise and vibration effects on the Project's users and residents during Project construction, as onsite residential land uses may be occupied during late-stage Project construction.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the impacts listed below that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update.[2]

- Construction and operational noise effects were analyzed in the ConnectMenlo EIR as Impact NOISE-1 (pages 4.10-19 to 4.10-24), Impact NOISE-3 (pages 4.10-29 to 4.10-36), and Impact NOISE-4 (pages 4.10-36 to 4.10-37). Impacts were determined to be less than significant with application of mitigation measures as well as compliance with City General Plan goals and policies. Projects that would result in the development of sensitive land uses must maintain an indoor L_{dn} of 45 dBA or less, as required by ConnectMenlo EIR Mitigation Measure NOISE-1a and existing regulations. Projects that could expose existing sensitive receptors to excessive noise must comply with ConnectMenlo EIR Mitigation Measures NOISE-1b, NOISE-1c, and NOISE-4 to minimize both operational and construction-related noise. ConnectMenlo EIR Mitigation Measure NOISE-1b requires stationary noise sources and landscaping and maintenance activities to comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code. ConnectMenlo EIR Mitigation Measures NOISE-1c and NOISE-4 requires development projects in the city to minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and/or enforcement of the City's Noise Ordinance.
- Potential traffic noise effects were discussed in the ConnectMenlo EIR as part of Impact NOISE-3 (pages 4.10-29 to 4.10-36). It was determined that implementation of ConnectMenlo would not result in a substantial permanent increase in ambient noise on any of the identified roadway segments. No mitigation measures were recommended.
- Construction vibration impacts were analyzed in the ConnectMenlo EIR as Impact NOISE-2 (pages 4.10-25 to 4.10-29). The impact was determined to be potentially significant. With implementation of Mitigation Measures NOISE-2a and NOISE-2b, this impact was determined to be reduced to a less-

[2] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. (June 1.) Prepared by Placeworks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 23, 2022.

than-significant level. The analysis concluded that, overall, vibration impacts related to construction would be short term, temporary, and generally restricted to areas in the immediate vicinity of construction activity. However, because project-specific information was not available, the analysis did not quantify construction-related vibration impacts on sensitive receptors. Implementation of Mitigation Measure NOISE-2a would reduce construction-related vibration impacts to a less-than-significant level through preparation of a vibration analysis to assess vibration levels and the use of alternate construction techniques to reduce vibration, if necessary. Specifically, according to Mitigation Measure NOISE-2a from the ConnectMenlo EIR, vibration levels must be limited to a PPV of 0.126 in/sec at the nearest workshop, 0.063 in/sec at the nearest office, and 0.032 in/sec at the nearest residence during daytime hours and 0.016 in/sec at the nearest residence during nighttime hours. Regarding long-term vibration impacts, ConnectMenlo requires projects to comply with Mitigation Measure NOISE-2b, which requires the City to implement best management practices as part of the project approval process.

- Aircraft noise from public use airports and private airstrips was discussed in the ConnectMenlo EIR as Impact NOISE-5 (page 4.10-38) and Impact NOISE-6 (page 4.10-38). It was determined that impacts regarding excessive aircraft noise levels would be less than significant and there would be no impact related to public airports or private airstrips.

Impacts and Mitigation Measures

Impact NOI-1a: Construction Noise. Construction of the Proposed Project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (SU)

Construction Noise

The Proposed Project would consist of two primary construction phases (i.e., Phase 1 and Phase 2) and multiple subphases, such as demolition, grading, utility work, and landscaping improvements, among others. Refer to Appendix 3.7 for the full list of Project construction phases and subphases. In total, the construction period is expected to last approximately 60 months.

Standard construction work hours would be 7:00 a.m. to 10:00 p.m. Monday through Saturday. In addition, construction work is proposed to take place on Sunday, with work hours occurring between 8:00 a.m. and 6:00 p.m. The City of Menlo Park has established typical work hours for construction of 8:00 a.m. and 6:00 p.m., Monday through Friday. During this time, construction activities are exempt from local noise regulations, per Title 8.06.040[a] of the City Noise Ordinance. However, despite the exemption for daytime construction noise, construction activities that are exempt from specified noise limitations in the City Municipal Code could still result in a significant physical impact on the environment. Therefore, construction noise generated during daytime hours is compared to the existing ambient noise level to estimate temporary increases in noise over the existing ambient level.

An analysis is also conducted to determine if individual equipment proposed for use during Project Construction would comply with the 85 dBA at 50 feet threshold for powered equipment used on a temporary, occasional or infrequent basis between the hours of 8:00 a.m. and 6:00 p.m. Monday through Friday. In addition, construction activities taking place outside the standard allowable construction hours of 8:00 a.m. to 6:00 p.m., Monday through Friday would be regulated by noise limits from the City Noise Ordinance of Menlo Park's Municipal Code. In the City, noise is limited to 60 dBA at the nearest residential

property line during daytime hours and 50 dBA at the nearest residential property line during nighttime hours.

Construction equipment proposed for use during Project construction by phase and subphase was provided by the Project applicant. Refer to Appendix 3.7 for the full list of construction equipment proposed for use. To determine if construction would result in noise impacts to nearby sensitive uses, a screening analysis was conducted to determine which subphases of construction would require the loudest equipment, based on the equipment list provided by the Project sponsor. This analysis was completed for three periods throughout a construction day: typical daytime construction hours of 8:00 a.m. to 6:00 p.m. (during which time construction noise is considered exempt from the local noise standards, but a significant increase in ambient noise could occur), early morning and evening hours of 7:00 a.m. to 8:00 a.m. and 6:00 p.m. to 10:00 p.m. (prior to the start of or after the end of the daytime construction noise exemption time period), and nighttime hours (10:00 p.m. to 7:00 a.m.).

Main Project Site Construction Noise Impacts to Offsite Uses

Compliance with Individual Equipment Threshold

As described previously, individual equipment proposed for use during Project construction would be required to comply with the 85 dBA at 50 feet threshold for powered equipment. The noise levels generated by individual pieces of construction equipment planned for use with Project construction activities are shown in Table 3.7-8.

As shown in Table 3.7-8, noise from most individual pieces of equipment proposed for Project construction would not be expected to exceed 85 dBA Leq at a distance of 50 feet, with the exception of the pile driver. An impact pile driver would be required for project construction and would be expected to exceed the City's individual equipment threshold. Although this is greater than the criteria specified in the noise ordinance, this type of equipment is typically used only for a limited time during construction projects. However, because pile drivers would not comply with the City threshold for individual equipment, noise impacts from the use of pile drivers for Project construction would be considered **significant.**

Table 3.7-8. Individual Construction Equipment L_{eq} Noise levels Based on Standard Utilization Rates

	Individual Equipment Noise Levels (dBA) at 50 Feet
Equipment	**dBA L_{eq} [a]**
Aerial Lifts	68
Air Compressor	74
Backhoe	74
Concrete Pump Truck	74
Concrete Mixer Truck	75
Crane	73
Dump Truck	72
Excavator	77
Front-end Loader	75
Generator	78
Gradall	79
Grader	81
Pile Driver (Impact)	94
Paver	74
Pickup Truck	71
Roller	73
Tractor	80

Source: Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/ rcnm/rcnm.pdf. Accessed: May 18, 2021.

[a] Based on standard estimated utilization rates from FHWA

Daytime Hours (8:00 a.m. to 6:00 p.m.)

The preliminary screening analysis described above indicated that construction subphases involving vertical construction (e.g., phases where building construction would take place, and involve the use of a pile driver etc.) would be the loudest phase proposed during daytime hours for the Project. This analysis assumes that the three loudest pieces of equipment proposed for this construction subphase would operate concurrently and in the same general location on the Project Site. Combined construction noise levels for the construction subphases involving vertical construction (e.g., Office Building 4 2023, North Garage 2022, South Garage 2023) were estimated using the calculation methodology and equipment source noise levels from the Federal Highway Administration's (FHWA's) Roadway Construction Noise Model. The three loudest pieces of equipment proposed for use during these phases with vertical construction include an impact pile driver, gradall, and a compactor. Use of this equipment on the main Project Site could occur as close as 150 feet from the nearest residence, located west of Willow Road. Construction of this subphase could result in a noise level of 85 dBA L_{eq} at this distance. Refer to Table 3.7-9, below for the construction modeling results for this subphase. See below for estimated distances between this construction subphase and the nearest schools.

Table 3.7-9. Estimated Worst-Case Construction Noise for Main Project Site – Subphases with Vertical Construction

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Phase 1 Office Building 4, 2023[a]			
Source 1: Impact Pile Driver – sound level (dBA) at 50 feet =	101	20%	94.0
Source 2: Gradall – sound level (dBA) at 50 feet =	83	40%	79.0
Source 2: Compactor (Ground) – sound level (dBA) at 50 feet =	83	20%	76.0
Calculated Data			
All Sources Combined – L_{max} sound level (dBA) at 50 feet =			101 L_{max}
All Sources Combined – L_{eq} sound level (dBA) at 50 feet =			94 L_{eq}

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	101	94
65	-2	99	92
85	-5	97	90
100	-6	95	88
150	**-10**	**92**	**85**
170	-11	91	84
190	**-12**	**90**	**83**
200	-12	89	82
300	-16	86	79
600	-22	80	73
1000	-26	75	68
1200	**-28**	**74**	**67**

Source: Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: July 18, 2021.

[a] Representative of other construction subphases with vertical construction activities, such as North Garage 2023, South Garage 2023, Office Building 2 2023, etc.

Notes:

- Geometric attenuation based on a 6 dB per doubling of distance.
- This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.
- Noise levels are based on source noise levels from the FHWA Roadway Construction Noise Model.

Measured short-term (15-minute) noise levels along Willow Road ranged from 59.5 to 67.3 dBA L_{eq}, during the field survey as shown in Table 3.7-2 (refer to ST-1, ST-2 and ST-5). Note that some of the variation in these measurements likely occurred based on the proximity of the measurement location to Willow Road, with some being located further back from the roadway. The estimated 12-hour average daytime L_{eq} (between 7:00 am and 7:00 p.m.) in this area was measured to be approximately 74.5 and the 24-hour average noise level was measured to be 77.1 dBA L_{dn} (refer to LT-2) as shown in Table 3.7-3. The lowest daytime 1-hour L_{eq} noise level recorded at the long-term measurement location LT-2 was 73.6 dBA Leq, recorded at approximately 12:00 p.m. noon. Based on these measurements, baseline noise levels at residences west of Willow Road are assumed to be in the range of 60 to 74 dBA Leq. Therefore, estimated combined noise levels of up to 85 dBA Leq at the nearest noise sensitive land uses would have the potential to exceed the existing ambient noise level by 11 to 25 dB, depending on the existing ambient noise level at a given receptor. Therefore, the combined noise level of 85 dBA Leq would result in a substantial increase above ambient noise levels at these nearby residences because an increase of more than 10 dB over the ambient noise level (per FTA guidance, and which is perceived as a doubling of loudness) may occur.

In addition to the nearby residential land uses, two schools (the Mid-Peninsula High School and the Open Mind School) are located near the Project Site; these uses would also be considered noise sensitive receptors. The Mid-Peninsula High School is adjacent to the southwest corner of the main Project Site, and the Open Mind school is located approximately 70 feet south of the southeast portion of the Project Site.

Mid-Peninsula High School is located approximately 10 feet from the nearest construction area, and it is located approximately 1,200 feet from areas where the nearest pile driving would take place. The use of an impact pile driver, generator, and trencher during the expected loudest construction subphases could result in estimated noise levels of up to 67 dBA L_{eq} at this school, based on the noise modeling results and based on noise attenuation from distance alone (refer to Table 3.7-9). This school is located close to the measurement locations ST-2 and LT-2. ST-2 had a measured noise level of 67.3 dBA L_{eq} during the 15-minute measurement period, and the lowest 1-hour daytime L_{eq} noise level recorded at LT-2 was 73.6. Therefore, existing ambient noise levels in this area are likely between 67 and 74 dBA L_{eq}. The estimated 67 dBA L_{eq} noise level from daytime pile driving located 1,200 feet from this school would not be expected to result in a 10-dB increase over the ambient level at this receptor.

Regarding the portion of the Project Site located 10 feet from the high school, the loudest expected construction subphase proposed for this area is the grading and utilities subphase. Refer to Table 3.7-10, below, for modeling results for this construction subphase. Modeling demonstrates that the grading and utilities phase (assuming concurrent use of a grader, scrapper, and gradall) could result in a combined noise level of 99 dBA L_{eq} at a distance of 10 feet. Note that construction at this worst-case closest distance to the school would be very short-term, and that most construction activities for the Project would take place much further from this receptor. However, because the ambient noise levels at the school are in the range of 67 to 74 dBA L_{eq}, a combined construction noise level of 99 dBA L_{eq} would result in an approximately 25 to 32 dB increase in noise over the ambient level. Because the temporary noise increase from these activities at close distances (i.e., 10 feet) to the Mid-Peninsula High School could result in a greater than 10-dB noise increase, daytime construction noise impacts at this school are considered significant, and mitigation would be required.

Table 3.7-10. Estimated Construction Noise for Main Site Grading and Utilities (L_{max} and L_{eq})

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Phase 1 Grading and Utilities			
Source 1: Grader – sound level (dBA) at 50 feet =	85	40%	81.0
Source 2: Scraper – sound level (dBA) at 50 feet =	84	40%	80.0
Source 2: Gradall – sound level (dBA) at 50 feet =	83	40%	79.0
Calculated Data			
All Sources Combined – L_{max} sound level (dBA) at 50 feet =			89 L_{max}
All Sources Combined – L_{eq} sound level (dBA) at 50 feet =			85 L_{eq}

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
10	**14**	**103**	**99**
25	6	95	91
35	**3**	**92**	**88**
50	0	89	85
60	**-2**	**87**	**83**
85	**-5**	**84**	**80**
100	-6	83	79
150	-10	79	75
200	-12	77	73
300	-16	73	69
600	-22	67	63

Source: Federal Highway Administration. 2006. FHWA Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: July 18, 2021.

Notes:

- Geometric attenuation based on a 6 dB per doubling of distance.
- This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.
- Noise levels are based on source noise levels from the FHWA Roadway Construction Noise Model.
- **Bold** denotes distances to specific noise-sensitive land uses/distances used in this analysis.
- Reference sound levels are at 50 feet. For receivers beyond 50 ft the sound level is attenuated (negative number) relative to the sound level at 50 ft. For receivers at less than 50 ft the sound level is increased relative to the sound level at 50 ft (positive number)

Regarding the Open Mind School, the nearest Project construction area to this school would be the proposed dog park area, which would be located approximately 60 feet north of the school. In addition, the Open Mind school is located 190 feet from areas where the most noise-intensive construction subphases (vertical construction activities involving pile driving) would take place. Noise levels from the use of an impact driver, generator, and trencher at 190 feet for subphases involving vertical construction are expected to reach 83 dBA L_{eq} (refer to Table 3.7-9). For the utilities and grading subphases, which could take place as close as 60 feet from this school, construction noise levels could also reach 83 dBA L_{eq} (refer to Table 3.7-10).

The ambient noise levels near the Open Mind School are represented by ST-3, which had a measured noise level of 55.8 dBA L_{eq} as shown in Table 3.7-2. A combined noise level of 83 dBA L_{eq} from vertical

construction 190 feet from the school, as well as grading and utilities work 60 feet from the school, could therefore result in an approximately 27 dB increase in noise over the ambient noise level, which is substantially more than the 10 dB noise increase threshold. As a result, daytime construction noise impacts from vertical construction at this school would be considered significant, and mitigation would be required.

In addition to construction proposed for the main Project Site, construction for the Hamilton Avenue Parcels could occur as close as 20 feet from residential structures along Willow Road and Carlton Avenue. North of the Hamilton Avenue Parcels are commercial land uses, which are not generally considered to be noise sensitive. The construction subphases for this area predicted to produce the loudest noise levels are subphases involving grading and utilities. The three most noise-intensive pieces of equipment used during these subphases would be an excavator, gradall, and compactor. As shown in Table 3.7-11, combined noise from this activity at a distance of 20 feet (i.e., at the nearest residential land uses) could be up to 90 dBA L_{eq}. Refer to Table 3.7-11 for the construction noise modeling results for this parcel.

Table 3.7-11. Estimated Construction Noise for Hamilton Avenue Parcels Grading and Utilities

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Hamilton Avenue – Grading and Utilities			
Source 1: Excavator – sound level (dBA) at 50 feet =	81	40%	77.0
Source 2: Gradall – sound level (dBA) at 50 feet =	83	40%	79.0
Source 2: Compactor (Ground) – sound level (dBA) at 50 feet =	83	20%	76.0
Calculated Data			
All Sources Combined – L_{max} sound level (dBA) at 50 feet =			87 L_{max}
All Sources Combined – L_{eq} sound level (dBA) at 50 feet =			82 L_{eq}

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
20	**8**	**95**	**90**
50	0	87	82
100	-6	81	76
150	-10	78	73
200	-12	75	70
300	-16	72	67
600	-22	66	61

Source: Federal Highway Administration. 2006. FHWA Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: July 18, 2021.

Notes:

- Geometric attenuation based on a 6 dB per doubling of distance.
- This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.
- Noise levels are based on source noise levels from the FHWA Roadway Construction Noise Model.
- **Bold** denotes distances to specific noise-sensitive land uses/distances used in this analysis.

The ambient noise levels at the residences in this area are represented by LT-4, which had a recorded 24-hour noise level of approximately 59-60 dBA L_{dn} as shown in Table 3.7-3, and a lowest 1-hour daytime Leq noise level of approximately 55 dBA Leq (as shown in Appendix 3.7) A combined noise level of 90 dBA

L_{eq} would therefore be 30 to 35 dB above the ambient noise level, and substantially more than the 10 dB allowable noise increase threshold for construction. Therefore, daytime construction noise impacts to these residences south of the Hamilton Avenue Parcels are also considered significant, and mitigation would be required.

This analysis demonstrates that during daytime hours, construction activities at the main Project Site and at the Hamilton Avenue Parcels would temporarily elevate ambient noise levels. Although construction activities associated with the Project would not conflict with the City Municipal Code because of the daytime construction noise exemption, temporary noise increases may exceed 10 dB depending on the construction activity taking place and the proximity to the nearest sensitive use. The increase in noise from construction activities would be substantially greater than ambient noise levels at the nearest noise-sensitive land use, as outlined above. The increases in noise could be more than 30 dB above ambient levels in some cases, which would exceed the 10 dBA noise increase threshold (perceived as a doubling of loudness). Therefore, daytime construction noise could result in a substantial physical effect on the environment despite being exempt from regulation by the City's Municipal Code. Daytime construction noise impacts would be considered **significant,** and mitigation would be required.

Early Morning and Evening Hours (7:00 a.m. to 8:00 a.m., 6:00 p.m. to 10:00 p.m.)

Construction activities that occur between the hours of 7:00 a.m. and 8:00 a.m. as well as 6:00 p.m. and 10:00 p.m. would need to comply with the applicable 60 dBA L_{eq} noise threshold in the City. Construction noise during these non-exempt hours is evaluated and compared to this applicable threshold. The noise increase threshold of 10-dB over the ambient level is also discussed for additional context.

According to the Project applicant, all construction activities that would occur during daytime hours (as described above) could also occur during early morning (7:00 a.m. to 8:00 p.m.) and evening (6:00 a.m. to 10:00 p.m.) hours. Noise during these non-exempt daytime hours is limited to 60 dBA per Title 8.06.040[a] of the City Noise Ordinance.

As shown in Table 3.7-9 presented previously, estimated worst-case noise from vertical construction subphases on the main Project Site could result in noise levels of 85 dBA L_{eq} at the nearest residential land use, located approximately 150 feet away. This noise level could occur during the exempt daytime hours for construction in the City, and during the non-exempt hours of 7:00 a.m. to 8:00 a.m. and 6:00 p.m. to 10:00 p.m. At Mid-Peninsula High School (located approximately 1,200 feet from proposed pile driving locations), noise levels from the expected worst-case construction subphases could be as high as 67 dBA L_{eq}. At the Open Mind School (located approximately 190 feet from areas where pile driving may occur), noise levels from subphases involving pile driving would be approximately 83 dBA L_{eq} based on the modeling results presented above. These noise levels are in excess of the City's 60 dBA threshold that applies during daytime hours when construction is not exempt. In addition, these construction noise levels also demonstrate that an increase of more than 10-dB over ambient noise levels (as described under the analysis of daytime construction noise) could occur. Therefore, noise levels at the nearby school and residential land uses would be expected to exceed the applicable City noise limits and the noise increase threshold of 10-dB over the ambient level. Construction noise impacts during non-exempt daytime hours to these nearby uses from construction on the main Project Site would be considered significant.

Regarding the Hamilton Avenue Parcels, construction activities could occur as close as 20 feet from the nearest residential structures. As discussed previously, combined noise levels from the grading and utilities phase on these parcels could be up to 90 dBA L_{eq} at the nearest residents based on the noise modeling results shown in Table 3.7-11. Therefore, daytime (7:00 a.m. to 10:00 p.m.) construction activities at the Hamilton Avenue Parcels that take place outside of the daytime exempt hours of 8:00

a.m. to 6:00 p.m. would result in noise levels in excess of the 60 dBA threshold at nearby residential land uses. As discussed previously, the noise would also exceed the noise increase threshold of 10-dBA. Construction noise impacts during non-exempt daytime hours to these nearby uses from construction on the Hamilton Avenue Parcels would be considered significant.

Because noise levels from construction on the main Project Site and the Hamilton Avenue Parcels would exceed the allowable daytime noise threshold of 60 dBA during early morning (7:00 a.m. to 8:00 a.m.) and evening (6:00 p.m. to 10:00 p.m.) hours and the FTA noise increase threshold of 10-dBA, construction noise impacts during non-exempt daytime hours would be considered **significant**, and mitigation would be required.

Nighttime Hours (10:00 p.m. to 7:00 a.m.)

Certain construction activities for the Project would occur on the project site during the nighttime hours of 10:00 p.m. to 7:00 a.m. Note that activities would also be proposed for off-site areas during these nighttime hours; noise from these off-site activities is discussed in detail below. Regarding on-site construction noise during nighttime hours, the primary activity expected to occur would be concrete pours.

Equipment that may be used during nighttime concrete pour activities would generally include concrete mixer trucks and concrete pump trucks. Construction noise modeling was conducted for nighttime concrete pour activities, based on the assumption that the three loudest pieces of equipment expected to be used during a given phase of construction would be operating simultaneously and close to one another in a given construction area. Nighttime construction noise levels were estimated using the Federal Highway Administration's Roadway Construction Noise Model calculation methods.

The nearest off-site sensitive land use to the Proposed Project site that would be occupied during nighttime hours are the residential land uses located west of Willow Road. Use of this equipment on the main Project Site could occur as close as 150 feet from the nearest residence, located west of Willow Road. Refer to Table 3.7-12, below for the modeling results from potential nighttime concrete pour activities that may occur on the Project site.

Table 3.7-12. Noise from Potential Nighttime Concrete Pours (L_{max} and L_{eq})

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Nighttime Concrete Pour			
Source 1: Concrete mixer truck – sound level (dBA) at 50 feet =	79	60%	76.8
Source 2: Concrete pump truck – sound level (dBA) at 50 feet =	81	60%	78.8
Source 2: Concrete pump truck – sound level (dBA) at 50 feet =	81	60%	78.8
Calculated Data:			
All Sources Combined – L_{max} sound level (dBA) at 50 feet =			85 L_{max}
All Sources Combined – L_{eq} sound level (dBA) at 50 feet =			83 L_{eq}

Distance Between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	85	83
100	-6	79	77
150	**-10**	**76**	**73**
200	-12	73	71
250	-14	71	69
300	-16	70	67
400	-18	67	65
500	-20	65	63

Notes:

- Geometric attenuation based on 6 dB per doubling of distance.
- 60% utilization assumed (greater than standard 20% to 40% rates) because nighttime concrete pours may involve a greater than 20 to 40% usage rate for equipment.
- This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.
- **Bold** denotes distance(s) used in this analysis

As shown in Table 3.7-12, nighttime concrete pour activities could result in noise levels of approximately 73 dBA L_{eq} at a distance of 150 feet. Therefore, based on the modeling results presented above, noise levels from nighttime construction activities would be expected to exceed the allowable nighttime noise threshold of 50 dBA at the nearest sensitive land use. In addition, based on the lowest 1-hour nighttime L_{eq} noise level recorded at LT-2, noise level in this area could be as low as 64.0 dBA L_{eq} (recorded at 3:00 a.m.). Construction noise of 73 dBA would add to this background noise level to create an overall noise level of approximately 74 dBA L_{eq}, which is 10-dB over this lowest measured nighttime ambient noise level of 64 dBA L_{eq}. Note that most concrete pour activities would occur further from the edge of the project site than this distance. As a result, it is likely that noise increases may be less than the 10-dB threshold. However, because the potential exists for a 10-dB increase over ambient to occur, and because construction noise would likely exceed the quantitative 50 dBA nighttime noise threshold, Project site construction noise impacts during the nighttime hours of 10:00 p.m. to 7:00 a.m. would be considered **significant**, and mitigation would be required.

Off-site Improvements Construction Noise Impacts

Willow Road Tunnel and Elevated Park Construction (Nighttime Hours of 10:00 p.m. to 7:00 a.m.)

The Willow Road Tunnel area is located within the Caltrans right of way. Similarly, a portion of the Elevated Park would be constructed over a Caltrans' right of way. Therefore, most construction for these project elements would take place during nighttime hours because it would require road closures and is therefore difficult (or potentially infeasible) to conduct during daytime hours. Specifically, activities related to the construction of the Willow Road Tunnel and Elevated Park within the SamTrans and Caltrans right of ways, northwest of the main Project Site, would likely be primarily conducted from 10:00 p.m. to 7:00 a.m.

For the Willow Road Tunnel construction activities in this area may include installation/removal of detours, traffic shifts, tunnel shoring, and restoration of Willow Road. It is anticipated that installation/removal of detours would take place over 16 nights, traffic shift activities would take place for

4 nights, tunnel shoring would take up to approximately 45 nights, and the restoration of Willow Road would take 14 nights.

Equipment that may be used during the nighttime construction activities for the Willow Road Tunnel include excavators, hoe rams, loaders, grinders, jackhammers, pavers, rollers, light plants, off-haul trucks, utility trucks, highway striping machines, arrow boards, compressors, auger rigs, generators, vibratory impact hammer, impact pile driver, and cement silos.

For the portion of the Elevated Park that spans Willow Road, construction activities in this area may include the installation/removal of detours, traffic shifts, temporary lane closures, shoring and public protection measures to support the erection of the overhead structure. This section of the Elevated Park is expected to take no longer than six months, with approximately two to three months of the construction expected to occur at night to avoid risks associated with working above active traffic. The work anticipated to occur at night includes the erection of the Elevated Park's structural steel, steel welding, and installation of architectural cladding. Equipment that may be used during the nighttime construction of this section of the Elevated Park includes crawler cranes, high-capacity forklifts, welders, a Nelson stud welder, air compressors, generators, semi-trucks, concrete pumps, concrete trucks, elevated lifts, and light towers.

Noise from these night-time construction activities would be regulated by the nighttime noise limits defined in the City Municipal Code of 50 dBA as measured from the nearest residential property line during the hours of 10:00 p.m. to 7:00 a.m. In addition, noise from this work is analyzed to determine if a 10-dB or greater increase over the ambient noise level would occur at the nearest sensitive uses. Construction noise modeling was conducted for these nighttime activities, based on the assumption that the three loudest pieces of equipment expected to be used during a given phase of construction would be operating simultaneously and close to one another in a given construction area. The loudest nighttime construction activity expected to occur is the Tunnel Shoring for the Willow Road Tunnel. Nighttime construction noise levels were estimated using the Federal Highway Administration's Roadway Construction Noise Model calculation methods.

The nearest sensitive land use to the proposed nighttime construction area near the SamTrans right of way are the multi-family residences located at 777 Hamilton Avenue. These residences are approximately 480 feet southwest of the closest potential nighttime construction areas within the SamTrans right of way. Additionally, there are multi-family residences approximately 550 feet south of this proposed construction area along Willow Road. The loudest construction subphase that would occur in the SamTrans and Caltrans Corridors is tunnel shoring, during which would include the use of a vibratory hammer and impact pile driver. Refer to Table 3.7-13, below for the modeling results from the tunnel shoring activity proposed for the SamTrans and Caltrans Corridors.

Table 3.7-13. Estimated Worst-Case Construction Noise for Nighttime Construction Activities (L_{max} and L_{eq})

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Tunnel Shoring			
Source 1: Vibratory Pile Driver [a] – Sound level (dBA) at 50 feet =	101	20%	94.0
Source 2: Pile Driver – Sound level (dBA) at 50 feet =	101	20%	94.0
Source 3: Auger Drill Rig – Sound level (dBA) at 50 feet =	84	20%	77.0
Calculated Data			
All Sources Combined – L_{max} sound level (dBA) at 50 feet =			106 L_{max}
All Sources Combined – L_{eq} sound level (dBA) at 50 feet =			99 L_{eq}

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	104	97
100	-6	98	91
150	-10	95	88
200	-12	92	85
250	-14	90	83
300	-16	88	82
480	**-20**	**84**	**77**
550	**-21**	**83**	**76**
610	-22	82	75
800	-24	80	73
1200	-28	76	69

Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: August 18, 2021.

Notes:

- Geometric attenuation based on a 6 dB per doubling of distance.
- This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.
- Noise levels are based on source noise levels from the FHWA Roadway Construction Noise Model.
- **Bold** denotes distances used in this analysis.

As shown in Table 3.7-13, tunnel shoring could result in noise levels of approximately 77 dBA L_{eq} at a distance of 480 feet. The nearest single-family residence is located 550 feet away from construction activities in the SamTrans Corridor. At this distance, noise levels from tunnel shoring could be as high as 76 dBA L_{eq}.

Based on the modeling results presented above, noise levels from nighttime construction activities within Willow Road would be expected to exceed the allowable nighttime noise threshold of 50 dBA. In addition, based on the lowest 1-hour nighttime L_{eq} noise level recorded at LT-4 (the closest measurement to the nearest residential land uses), nighttime noise level in this neighborhood could be as low as 45.0 dBA L_{eq} (recorded at 2:00 a.m.). Therefore, nighttime construction noise would also likely result in a noise increase of more than 10-dB over ambient noise nighttime levels. Construction noise impacts during the nighttime hours of 10:00 p.m. to 7:00 a.m. would be considered **significant**, and mitigation would be required.

Intersection Improvements

As noted in Chapter 2, *Project Description*, certain off-site transportation improvements would be constructed to serve the Proposed Project. Such improvements would include modifications to lane configurations, signalizing intersections, traffic signal coordination, lane striping, curb ramps, and median construction. Off-site transportation improvements could include the following intersections and roadways:

- Marsh Road and Bayfront Expressway (modify lane configuration)
- Chilco Street and Hamilton Avenue (signalize intersection)
- Willow Road Corridor (traffic signal coordination)
- Willow Road and Ivy Drive (median construction/lane striping)
- O'Brien Drive and Kavanaugh Drive (signalize intersection/curb ramps/lane striping)
- Adams Drive and O'Brien Drive (signalize intersection/curb ramps/lane striping)

Improvements at these roadways would require construction equipment and trucks, such as pick-up, dump, and utility trucks; trucks equipped with traffic control signage and paint-striping equipment; truck-mounted cranes and auger drills; and backhoes. These trucks and equipment would typically operate in the intersections during daytime hours for periods ranging from one week up to two months. For the Willow Road corridor improvements, no physical modifications would be made to the roadway infrastructure, and thus no noise would be generated from this specific roadway improvement.[3] At the other locations, noise could potentially affect nearby noise-sensitive receptors.

To evaluate the noise levels from the roadway improvements, construction noise modeling was conducted to estimate the combined noise level for the three loudest pieces of equipment expected to be used for a given construction activity. As noted above, this approach assumes that equipment would be operating simultaneously and in close proximity to the other equipment.

At each intersection, the nearest sensitive land uses are located at a different distance from the intersection, and from potential construction areas. The L_{eq} noise levels at various and increasing distances from construction activity are shown in Table 3.7-14, below. To indicate the distances where sensitive land uses are located from each intersection, the noise level values are bolded and underlined.

As shown in Table 3.7-14, some intersections have noise-sensitive land uses located in the immediate proximity (i.e. 15 feet), such as single-family residences and a school near the intersection of Chilco Street and Hamilton Avenue, while other intersections do not have noise-sensitive land uses nearby. For those intersections where noise-sensitive land uses are closer, the resulting noise levels from construction activities could result in an a substantial increase over ambient noise levels.

[3] The improvements along the Willow Road corridor would be limited to changes in the traffic controller software to modify timing of traffic signals.

Table 3.7-14. Reasonable Worst-Case Construction Noise for Off-Site Intersection Improvement Construction Activities (L_{max} and L_{eq})

Distance from Source to Receptor (feet)	Marsh Road & Bayfront Expressway (dBA Leq)	Chilco Street & Hamilton Avenue (dBA Leq)	Willow Road & Ivy Drive (dBA Leq)	O'Brien Drive & Kavanaugh Drive (dBA Leq)	Adams Drive & O'Brien Drive (dBA Leq)
15	86	**87**	88	88	88
40	77	**79**	79	80	80
75	72	73	**74**	74	74
100	69	71	71	72	72
125	67	69	69	**70**	70
150	66	67	68	68	68
170	65	66	**67**	67	67
230	62	64	64	**65**	65
290	60	62	62	63	**63**
300	60	61	62	62	62
400	57	59	59	60	60
550	55	**57**	57	58	58
600	54	55	56	56	56
750	52	**53**	54	54	54
830	**51**	52	53	53	53
900	50	52	52	53	53
1,000	49	51	51	52	52

Notes:

- Geometric attenuation based on a 6 dB per doubling of distance.
- This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.
- Noise levels are based on source noise levels from the FHWA Roadway Construction Noise Model.
- **Bold and underlined text** denotes the noise levels at the distances used in this analysis (as shown in the first column).
- Please refer to Appendix 3.7 for more information.

As shown in Table 3.7-2, ambient noise levels in the Project area during the short-term measurements ranged from approximately 56 to 67 dBA L_{eq}. In addition, the highest recorded 1-hour daytime Leq noise levels ranged from approximately 60 to 76 dBA Leq. LT-4, located in the neighborhood west of the Project Site and further removed from major thoroughfares (such as Willow Road), has a lowest daytime 1-hour Leq noise level of approximately 55 dBA L_{eq} (as shown in Appendix 3.7).

Near the intersection of Chilco Street and Hamilton Avenue, noise from construction activities could be up to 87 L_{eq} at the nearest residence and 79 L_{eq} at the nearby preschool. Based on the ambient noise levels in the overall project vicinity, and the lowest daytime LEQ noise level recorded at LT-4 (of approximately 55 dBA L_{eq}), these noise levels may intermittently or temporarily result in a 10-dB or greater increase in noise over the ambient level in the area. These elevated noise levels would occur temporarily and intermittently, depending on the precise construction activity taking place on a given day. In addition, note that the total construction interval for this intersection would be up to two months. In addition, although noise levels at this location could be more than 10 dB greater than the existing ambient noise level, construction noise in this area would only be generated during daytime hours when people are less sensitive to noise and when construction noise is exempt from the local Municipal Code noise standards.

Overall, temporary and intermittent construction at this intersection may result in an increase in noise of 10-dB or greater over the ambient, but because of the short-term nature of the work, this increase would not be considered substantial. Temporary construction noise impacts at the intersection of Chilco Street and Hamilton Avenue would be considered less than significant.

At the other intersections, the construction equipment and trucks would result in less noticeable noise at the nearest noise-sensitive land use. For example, at Willow Road and Ivy Drive, noise at Mid-Peninsula High School could be up to 74 L_{eq}; however, the measured noise level near this location was 67 L_{eq} (see measurement data for ST-1 in Table 3.7-3). As such, construction at Willow Road and Ivy Drive may result in noise that is greater than the ambient levels, but the increase would be unlikely to exceed 10-dB over the ambient level; as a result, the increase would not be considered substantial. Additionally, the construction-related noise at this intersection is expected to only occur for two weeks.

At O'Brien Drive and Kavanaugh Drive, construction noise at the nearest residence is estimated to be up to 70 L_{eq}. The measured noise near this location was 67 L_{dn}, with a lowest daytime 1-hour L_{eq} recorded during the long-term measurement interval of 63 dBA L_{eq} (see measurement data for LT-1 in Table 3.7-3 and additional details in Appendix 3.7). Consequently, the construction-related noise at this intersection is unlikely to result in noise that is 10-dB or more over the ambient noise level. Increases in noise at this location from intersection construction activity would not be considered substantial. Additionally, construction activity (and the associated noise) at this intersection is expected to only occur for three weeks.

At Marsh Road and Bayfront Expressway and at Adams Drive and O'Brien Drive, noise-sensitive land uses are not located near these intersections.[4] Based on the estimated construction noise levels at these locations and based on the estimated existing ambient noise levels, noise from construction would not result in substantially temporary increases in noise of 10-dB or greater as a result of the distances between proposed activities and noise-sensitive land uses.

Based on the analysis included above, construction noise impacts during intersection improvement construction would result in less than significant noise impacts based on the estimated noise levels from these temporary construction activities, and as a result of the short-term nature of the construction work required for these improvements; impacts related to a substantial temporary increase in noise from construction from intersection improvement construction would be considered **less than significant**.

Hamilton Avenue Recycled Water and Wastewater Line Upsize

Water and wastewater infrastructure would also be upgraded as part of the Project, which would include the installation of a recycled water and wastewater line. The path for these water/wastewater lines would be about 4,500 feet in length, primarily along Hamilton Avenue and Chilco Street. However, the line would also cross over the Caltrans-operated Willow Road. The route along Hamilton Avenue and Chilco Street would require construction equipment and trucks as close as 15 feet to the fence lines of existing residences.

Construction of this water and wastewater line would require construction crews to excavate the roadway, construct the infrastructure, and then re-cover and pave the surface. Because Willow Road is a roadway maintained by Caltrans, the segment of construction work within that portion of the roadway would likely need to occur at night to adhere to Caltrans requirements coordinated in conjunction with overall Willow Road improvements. It is anticipated that nighttime work along Willow Road would occur for a continuous six-week period. All other construction work would occur during daytime hours. Construction activities are expected to progress at a rate of 50 to 150 feet per day, depending on the conditions of the roadway. Therefore, construction would not occur on back-to-back days or nights at the

[4] As shown in Table 3.7-12, the nearest noise-sensitive land use is 830 feet from the intersection.

exact same location and would not be located adjacent to the same individual receptors throughout the duration of construction. Total construction for the water and wastewater line would occur for approximately six to eight months.

The equipment required for this work would involve typical construction equipment and trucks, and the three loudest pieces of equipment would be an excavator, a vibratory roller, and a finish roller. The concurrent operation of these three loudest pieces of equipment has been modeled, and the estimated combined noise levels, by distance, are shown in Table 3.7-15.

Table 3.7-15. Estimated Worst-Case Construction Noise for Recycled Water and Wastewater Line Construction

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Recycled Water and Wastewater Line			
Source 1: Tracked Excavator – sound level (dBA) at 50 feet =	81	40%	77.0
Source 2: Vibratory Roller – sound level (dBA) at 50 feet =	80	20%	73.0
Source 3: Finish Roller – sound level (dBA) at 50 feet =	80	20%	73.0
Calculated Data			
All Sources Combined – L_{max} sound level (dBA) at 50 feet =			85 L_{max}
All Sources Combined – L_{eq} sound level (dBA) at 50 feet =			80 L_{eq}

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
15	**10**	**96**	**90**
25	**6**	**91**	**86**
50	**-4**	**82**	**76**
100	**-6**	**79**	**74**
150	**-10**	**76**	**70**
200	-12	73	68
250	**-14**	**71**	**66**
300	**-16**	**70**	**64**
400	-18	67	61
500	-20	65	60
600	-22	64	58
700	-23	62	57
800	-24	61	55
900	-25	60	54
1,000	-26	59	54

Source: Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: July 18, 2021.

Notes:

- Geometric attenuation based on a 6 dB per doubling of distance.
- This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.
- Noise levels are based on source noise levels from the FHWA Roadway Construction Noise Model.
- **Bold** denotes distances used in this analysis.

As shown in Table 3.7-15, the resulting noise levels from construction activities could result in a 10-dB or greater increase over ambient noise levels, because noise could be up to 90 L_{eq} assuming a worst-case distance of 15 feet to the nearest noise-sensitive use. In actuality, the distance to the construction

equipment would be greater most of the time, but 15 feet is a reasonable worst-case distance. As noted above, construction activity for the feeder line would progress at a rate of approximately 50 to 150 feet per day, which would limit the amount of time that any single receptor would be exposed to worst-case construction noise, so no single receptor would be exposed to construction noise for the entire six- to eight-month construction period.

At noise measurement site LT-4, which is generally representative of the noise levels in the Hamilton Avenue corridor, measured noise was 59.6 L_{dn}, as shown in Table 3.7-3. In addition, the lowest 1-hour daytime Leq noise level was approximately 55 dBA L_{eq} (as shown in Appendix 3.7). Thus, a construction noise level of 90 L_{eq} at 15 feet during daytime hours would be 35 dB greater than the lowest daytime ambient Leq noise level recorded and may therefore result in a substantial increase in noise (of more than 10 dB). At distances of 50 to 150 feet from the construction equipment, which is the anticipated daily rate of construction, the noise level would be 80 to 70 L_{eq}. This range of noise would be 15 to 25 dB more than the lowest daytime ambient 1-hour Leq noise level recorded at LT-4. However, this substantial increase would only occur temporarily and intermittently, depending on the precise construction activity taking place on a given day and the proximity between individual receivers and construction work. Because work would progress 50 to 150 linear feet per day, very loud construction noise at an individual receptor is unlikely to occur for many days in a row, as equipment would be moving linearly away from individual receptors as overall construction progress is made.

Construction activities would also pass by the All Five Preschool at a distance as close as 25 feet and Bellehaven Elementary School at a greater distance of 250 feet. At these distances, noise would be 86 L_{eq} (at All Five Preschool) and 66 dBA L_{eq} (at Bellehaven Elementary School), respectively. As discussed above, although this noise level may represent a more than 10-dB increase in noise at All Five Preschool, this increase would not be considered substantial due to the temporary nature of the construction work (and because work would be moving linearly away from the school, and not take place for an extended period of time in very close proximity to the school). At Bellehaven Elementary School, estimated construction noise of 66 dBA L_{eq} might be noticeable, but would not be considered substantial due to the temporary nature of the work, and because a 10-dB increase over the ambient level would not be expected to occur.

For construction work within Willow Road, nighttime construction work would occur at greater distances from noise-sensitive land uses; note that, construction efforts would be coordinated with other Willow Road Improvements. The closest residence to the Willow Road and Hamilton Avenue intersection where nighttime work will occur is approximately 300 feet. At this distance, estimated combined construction noise based on the assumptions above would be 64 L_{eq}. The lowest 1-hour nighttime Leq noise level at LT-4 was 45.0 dBA Leq (as shown in Appendix 3.7). Therefore, nighttime construction noise in this area would likely be 10-dB or more than the existing ambient noise level, and greater than the allowable nighttime noise threshold of 50 dBA.

Short-term and temporary construction noise generated during daytime hours for the water line work may intermittently result in noise that is 10-dB or greater over the existing ambient level; however, most work would be limited to daytime hours when people are less sensitive to noise. In addition, work at any given location would be very temporary, since construction would progress linearly at a rate of 50 to 150 feet per day. However, because some of the construction work for this activity would take place during nighttime hours, nighttime construction for the waterline work could result in substantial temporary increases in noise over the existing ambient noise levels. Therefore, nighttime construction noise impacts from the water and wastewater line construction would be considered **significant** (noting that work during daytime hours would result in less-than-significant impacts)**,** and mitigation would be required.

PG&E Substation Improvements and Feeder Line Installation

To provide electrical service at the Project Site, upgrades to an existing substation and up to four new distribution feeders (conduits) are proposed. The path for the distribution feeders would be about 1.5 miles along the Bayfront Expressway and Willow Road or University Avenue to reach Willow Village. While the potential route along Bayfront Expressway and Willow Road is not in close proximity to noise-sensitive land uses, the potential route along University Avenue would require construction equipment and trucks as close as 15 feet to the fence lines of existing residences, and at least approximately 25 feet from existing residential structures.

Construction at the PG&E substation would occur north of Bayshore Expressway, near the Dumbarton Bridge, and would require typical construction equipment, such as backhoes, loaders, and crew, pick-up, and dump trucks. Construction activity at the substation would occur for approximately five months and would typically occur during the daytime hours, but nighttime work might occasionally be required. There are no noise-sensitive land uses in the vicinity of the substation location,[5] so construction activity at the substation would not be expected to result in noise levels substantially greater (i.e., more than 10-dB above) the ambient noise level at the nearest sensitive land uses.

This improvement would require construction crews to excavate the roadway, install the feeder line, and then re-cover and pave the surface. Because University Avenue is a roadway maintained by Caltrans, construction work would likely need to occur at night to adhere to Caltrans requirements. It is anticipated that construction activities would progress at a rate of 75 feet per day, and total construction for the feeder line would occur for approximately 11 months (moving linearly along the alignment). The equipment required for this work would involve typical construction equipment and trucks, and the three loudest pieces of equipment expected to be used simultaneously would be an excavator, a vibratory roller, and a finish roller. The concurrent operation of these three loudest pieces of equipment has been modeled, and the results, by distance, are shown in Table 3.7-16.

As shown in Table 3.7-16, the resulting noise levels from construction activities could result in a combined noise level of up to 86 L_{eq}, assuming a worst-case distance of 25 feet (the distance to the nearest residential structure). This construction would therefore result in a 10-dB or greater increase over the estimated daytime existing ambient noise level (based on the noise level measured at ST-4 of 55.9 dBA L_{eq}). However, as noted above, construction activity for the feeder line would progress at a rate of approximately 75 feet per day, which would limit the amount of time that any single receptor would be exposed to worst-case construction noise. As a result, no single receptor would be exposed to construction noise for the entire 11-month construction period. In addition, a large portion of the 11-month construction duration would take place within Bayfront Expressway and would not be located near residential or noise-sensitive land uses.

[5] The nearest residences to the substation location, in East Palo Alto, are more than 3,000 feet from where construction would occur.

Table 3.7-16. Estimated Worst-Case Construction Noise for PG&E Feeder Line Construction

Source Data:	Maximum Sound Level (dBA)	Utilization Factor	L_{eq} Sound Level (dBA)
Construction Condition: Feeder Line Construction			
Source 1: Tracked Excavator – sound level (dBA) at 50 feet =	81	40%	77.0
Source 2: Vibratory Roller – sound level (dBA) at 50 feet =	80	20%	73.0
Source 3: Finish Roller – sound level (dBA) at 50 feet =	80	20%	73.0
Calculated Data			
All Sources Combined – L_{max} sound level (dBA) at 50 feet =			85 L_{max}
All Sources Combined – L_{eq} sound level (dBA) at 50 feet =			80 L_{eq}

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
15	**10**	**96**	**90**
25	**6**	**91**	**86**
75	**-4**	**82**	**76**
100	-6	79	74
150	-10	76	70
200	-12	73	68
250	-14	71	66
300	-16	70	64
400	-18	67	61
500	-20	65	60
600	-22	64	58
700	-23	62	57
800	-24	61	55
900	-25	60	54
1,000	-26	59	54

Source: Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf. Accessed: July 18, 2021.

Notes:

- Geometric attenuation based on a 6 dB per doubling of distance.
- This calculation does not include the effects, if any, of local shielding or ground attenuation from walls, topography, or other barriers that may reduce sound levels further.
- Noise levels are based on source noise levels from the FHWA Roadway Construction Noise Model.
- **Bold** denotes distances used in this analysis.

At noise measurement site ST-4, which is generally representative of the noise levels along University Avenue, measured noise during the daytime measurement interval was 55.9 L_{eq}, as shown in Table 3.7-2. Thus, a construction noise level of 86 dBA L_{eq} at 35 feet would be more than 10-dB greater than the estimated daytime ambient noise level in this area. However, this increase would only occur temporarily and intermittently, depending on the precise construction activity taking place on a given day and the proximity between individual receivers and construction work. Because work would progress at a rate of approximately 75 feet per day, very loud construction noise at an individual receptor is unlikely to occur for many days in a row, as equipment would be moving linearly away from individual receptors as overall construction progress is made. At a distance of 75 feet from the construction equipment, the noise level would be reduced to 76 dBA L_{eq}. Although temporary noise increases during daytime hours may exceed

10-dB and may therefore be noticeable, daytime noise impacts from this work would not be considered substantial due to the temporary nature of the work in any given location.

Note that much of this work would be required to take place during nighttime hours due to University Avenue being a Caltrans-maintained roadway; the estimated noise levels from this construction would exceed the allowable nighttime noise threshold of 50 dBA, and would be expected to result in an at least 10-dB increase over the ambient level based on the daytime estimated ambient noise level cited above. Because construction would occur during the nighttime hours, the construction work for the feeder line could result in noise that could result in sleep disturbance. For these reasons, construction noise impacts during nighttime hours from the PG&E feeder line construction would be considered significant. Construction activities would also pass by Costano Elementary School, but, during the nighttime hours, school would not be in session, and construction would not affect students at the school.

Because construction noise of the PG&E feeder line would result in substantial temporary increases in noise during nighttime hours at the nearest noise-sensitive land uses (noting that work during daytime hours would result in less-than-significant impacts), impacts would be considered **significant**, and mitigation would be required.

Construction Noise Conclusion

ConnectMenlo Mitigation Measure NOISE-1c states that the property owner/developer shall be responsible for requiring contractors to implement specific measures to reduce construction-related noise. Project construction would be required to comply with these measures, as feasible. However, Project construction would not be limited to the daytime hours between 8:00 a.m. to 6:00 p.m. on Monday through Friday, as outlined in the first bullet of the original ConnectMenlo mitigation measure. Although implementation of this mitigation measure would reduce construction noise, it would not be expected to reduce construction noise impacts to offsite receptors to less than significant levels.

Implementation of Mitigation Measures NOI-1.1 and NOI-1.2 would reduce noise and would reduce the severity of construction noise impacts from the Project Site and the Hamilton Avenue Parcels during daytime, early morning, and evening hours. For example, locating equipment as far as possible from noise-sensitive uses and equipping equipment with mufflers and sound control devices would reduce noise. Shrouding or shielding individual equipment with noise levels in excess of 85 dBA at 50 feet would also help reduce noise. In addition, Project Mitigation Measure NOI-1.1 includes the installation of a temporary construction noise barrier along the perimeter of the main Project Site and potentially on the Hamilton Avenue Parcels in areas where construction would occur near residential or school land uses. These construction noise barriers would reduce construction noise effects to the nearby residences and schools. However, in order for temporary noise barriers to be effective, they must block the full line-of-sight between the noise source and the receiver, which may not be feasible in all locations for all construction activities due to the proximity between the source and the receiver, or due to the types of equipment being used (e.g., pile drivers). In addition, installing a temporary construction noise barrier may not reduce noise from all activities to below significance criteria at the nearest receptors, even if noise is somewhat reduced. Further, regarding pile drivers and the individual equipment noise threshold (85 dBA at 50 feet), it may be infeasible or result in safety concerns to utilize noise shielding around individual pile drivers during operation. For the aforementioned reasons, these measures may not reduce noise sufficiently in all instances and all locations to prevent a noise increase of 10 dB or more relative to ambient noise levels, or to reduce construction noise outside of the standard daytime hours such that compliance with applicable Municipal Code noise limits is achieved. In addition, individual pile driver equipment noise may also not be reduced to below the 85 dBA threshold at 50 feet. Therefore, construction noise impacts from

construction at the main Project Site and the Hamilton Avenue Parcels would be ***significant and unavoidable*** with mitigation during daytime, early morning, evening, and nighttime hours.

Implementation of ConnectMenlo Mitigation Measure NOISE-1c and Project Mitigation Measure NOI-1.1 would also reduce the amount of construction noise experienced by nearby noise-sensitive receptors from off-site intersection improvement activities from construction of the Willow Road Tunnel, and from the nighttime PG&E feeder line and waterline construction work. While this mitigation measure would reduce construction noise effects to offsite noise-sensitive uses during nighttime hours, it may not be possible in all times and at all locations to reduce noise levels to less-than-significant levels. For example, locating equipment as far as possible from noise-sensitive uses and equipping equipment with mufflers and sound control devices would reduce noise, but may not reduce the noise increase sufficiently due to the close proximity of residences to the off-site improvement work areas. Further, it is likely infeasible to construct temporary noise barriers around the off-site linear construction work areas for the water line or feeder line, or within the SamTrans/Caltrans right-of-way for the Willow Village Tunnel and other short-term intersection improvement work. Therefore, and although off-site improvement construction would be relatively short-term, construction noise impacts from these off-site improvements to noise-sensitive land uses during nighttime hours would be ***significant and unavoidable.***

In conclusion, even with the implementation of all feasible mitigation measures, construction noise impacts from Project Site construction, Hamilton Avenue Parcels construction, and off-site improvement construction would be ***significant and unavoidable*** with mitigation***.***

Modified ConnectMenlo Mitigation Measure NOISE-1c.[6]

> Project applicants for all development projects in the city shall minimize the exposure of nearby properties to excessive noise levels from construction-related activity through CEQA review, conditions of approval and/or enforcement of the City's Noise Ordinance. Prior to issuance of demolition, grading, and/or building permits for development projects, a note shall be provided on development plans indicating that during on-going grading, demolition, and construction, the property owner/developer shall be responsible for requiring contractors to implement the following measures to limit construction-related noise:
>
> - All internal combustion engines on construction equipment and trucks are fitted with properly maintained mufflers, air intake silencers, and/or engine shrouds that are no less effective than as originally equipped by the manufacturer.
> - Stationary equipment such as generators and air compressors shall be located as far as feasible from nearby noise-sensitive uses.
> - Stockpiling is located as far as feasible from nearby noise-sensitive receptors.
> - Limit unnecessary engine idling to the extent feasible.
> - Limit the use of public address systems.
> - Construction traffic shall be limited to the haul routes established by the City of Menlo Park.

[6] ConnectMenlo Mitigation Measure NOISE-1c has been modified to remove the limitation on construction activity to the daytime hours of 8:00 a.m. to 6:00 p.m. Monday through Friday because certain off-site improvement work (i.e., work in Caltrans and SamTrans right of way) would only be allowed to occur outside of the daytime hours. In addition, given the project scale and build out, work would need to occur outside of these standard daytime hours to reduce the total length (i.e., number of years) of the construction duration.

Project Mitigation Measure NOI-1.1: Construction Noise Control Plan to Reduce Construction Noise.

The Project applicant and/or the contractor(s) shall obtain a permit to complete work outside the exempt/standard construction hours outlined in the City of Menlo Park Municipal Code, which may be incorporated into the conditional development permit for the Proposed Project. In addition, the applicant and/or contractor(s) shall develop a construction noise control plan to reduce noise levels and comply with Municipal Code daytime (during non-exempt hours) and nighttime noise standards to the extent feasible and practical, subject to review and determination by the Community Development Department. The plan shall also include measures to reduce noise levels such that a 10-dB increase over the ambient noise level does not occur at nearby noise-sensitive land uses, such as schools and residences to the extent feasible and practical (as determined by the City). Finally, the plan shall include measures to reduce pile driving noise such that noise from this equipment does not exceed 85 dBA L_{eq} at a distance of 50 feet, as feasible.

The plan shall demonstrate that, to the extent feasible and practical, noise from construction activities that occur daily between 7:00 and 8:00 a.m. or between 6:00 p.m. and 10:00 p.m. will comply with the applicable City of Menlo Park noise limit of 60 dBA at the nearest existing residential or noise-sensitive land use, and construction activities that occur between 10:00 p.m. and 7:00 a.m. will comply with the applicable City noise limit of 50 dBA at the residential or noise-sensitive land use. The plan shall also demonstrate that, to the extent feasible and practical (as determined by the City), noise from construction activities during all hours will not result in a 10-dB increase over the ambient noise level at the nearest noise-sensitive land uses, and that pile driving noise would not exceed 85 dBA Leq at a distance of 50 feet. This Noise Control Plan shall be approved by the City prior to the issuance of building permits to confirm the precise noise minimization strategies that will be implemented and to document that strategies will be employed to the extent feasible and practical.

Measures to help reduce noise from construction activity to these levels shall be incorporated into this plan and may include, but are not limited to, the following:

- To the extent feasible and practical, plan for the noisiest construction activities to occur during daytime hours when the quantitative standards are less stringent, existing ambient noise levels are generally louder, and when people are less sensitive to noise.
- Require all construction equipment be equipped with mufflers and sound control devices (e.g., intake silencers and noise shrouds) that are in good condition (at least as effective as those originally provided by the manufacturer) and appropriate for the equipment.
- Maintain all construction equipment to minimize noise emissions.
- Locate construction equipment as far as feasible from adjacent or nearby noise-sensitive receptors.
- Require all stationary equipment be located to maintain the greatest possible distance to the nearby existing buildings, where feasible and practical.
- Require stationary noise sources associated with construction (e.g., generators and compressors) in proximity to noise-sensitive land uses to be muffled and/or enclosed within temporary enclosures and shielded by barriers, to the extent feasible and practical, which can reduce construction noise by as much as 5 dB.
- Install noise-reducing sound walls or fencing (e.g. temporary fencing with sound blankets) around noise-generating equipment, to the extent feasible and practical, where no perimeter wall is provided pursuant to Mitigation Measure NOI-1.2.

- Prohibit idling of inactive construction equipment for prolonged periods during nighttime/non-standard hours (i.e., more than 2 minutes).
- Provide advance notification in the form of mailings/deliveries of notices to surrounding land uses regarding the construction schedule, including the various types of activities that would be occurring throughout the duration of the construction period.
- Provide the name and telephone number of an on-site construction liaison through on-site signage and on the notices mailed/delivered to surrounding land uses. If construction noise is found to be intrusive to the community (i.e., if complaints are received), the construction liaison shall take reasonable efforts to investigate the source of the noise and require that reasonable measures be implemented to correct the problem.
- Use electric motors rather than gasoline- or diesel-powered engines to avoid noise associated with compressed air exhaust from pneumatically powered tools during nighttime hours, to the extent feasible and practical (as determined by the City). Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust could be used; this muffler can lower noise levels from the exhaust by about 10 dB. External jackets on the tools themselves could be used, which could achieve a reduction of 5 dB.

Project Mitigation Measure NOI-1.2: Construction of Temporary Noise Barrier along Project Perimeter.

Regarding the main Project site, the Project contractor(s) shall install an 8-foot-high temporary noise barrier along the complete length of the western and southern perimeter (e.g., areas near residential and school land uses), and along the southernmost 500 feet of the eastern perimeter of the main Project Site. As project buildout occurs, removal and/or adjustment in the location of the perimeter noise barrier may occur because either the construction of project buildings (completion of core and shell) in alignment with said perimeter barrier and therefore the perimeter barrier is not needed, or preparation of an acoustical analysis indicates the balance of the construction activities will not result in construction noise that exceeds the allowable limits.

Regarding the Hamilton Avenue Parcel South, a similar noise barrier shall be installed around the southern, western and northern perimeters as well as the southernmost 100 feet of the eastern perimeter of the Hamilton Avenue Parcel South, unless the Project Sponsor can demonstrate, through an acoustical analysis, that construction noise at this site would not exceed the allowable limits. The decision regarding the necessity of this barrier and location(s) shall be subject to review and approval of the City based on evidence and analyses providing by the applicant team.

Regarding the Hamilton Avenue Parcel North, a similar noise barrier shall also be constructed along the southern and western perimeters, and the easternmost 100 feet of the northern perimeter of the Hamilton Avenue Parcel North, unless the Project Sponsor can demonstrate, through an acoustical analysis, that construction noise at this site would not exceed the allowable limits. The decision regarding the necessity of this barrier and location(s) shall be subject to review and approval of the City based on evidence and analyses providing by the applicant team.

The barriers shall be constructed of material that has an acoustical rating of at least 26 STC (Sound Transmission Class). This can include a temporary barrier constructed with plywood supported on a wood frame, sound curtains supported on a frame, or other comparable material.

Construction Noise Impacts to Onsite Land Uses Daytime Hours (8:00 a.m. to 6:00 p.m.)

Although not required by CEQA, this section describes construction noise effects on the Project's users and residents during Project construction, as onsite residential land uses may be occupied during late-

stage Project construction. As a part of the construction schedule, construction on portions of the Project Site would be completed by late in the year 2025 while other portions would still be under construction. During this time, some of the Project's onsite residential uses (including the proposed on-site hotel) might be occupied. Therefore, there may be a period where there are onsite noise-sensitive land uses during Project construction. It is anticipated that residential occupancy might occur as early as the end of August 2025. Parcels 2, 3, 4, 5, 6, and 7 would contain residential buildings. It is anticipated that onsite residential (including the hotel) buildings could be located as close as 35 feet from late-stage onsite construction.

Construction activities that might occur while onsite sensitive uses are occupied include tenant improvements (of Parcels 3, 4, 5, 6, and 7), landscaping (of Parcels 2, 3, 4, 5, 6, and 7), and core and shell (for Parcels 4 and 5) subphases of construction. Refer to Appendix 3.7 for a list of the equipment proposed for use during these construction subphases.

Modeling was conducted based on the methodologies described previously to estimate reasonable worst-case noise levels from these construction subphases. Based on the modeling results, combined construction noise at a reference distance of 50 feet for the tenant improvement, landscaping, and core and shell construction activities could be in the range between 80 to 82 dBA L_{eq}. Table 3.7-17 identifies the combined noise level, in terms of L_{eq}, from operation of the three loudest pieces of construction equipment for specified phases at various distances between operational onsite sensitive land uses and continued onsite construction activities.

Table 3.7-17. Construction Noise Levels during Onsite Occupancy by Subphase

Distance from Source (feet)	Tenant Improvements dBA L_{eq}	Landscaping dBA L_{eq}	Core and Shell dBA L_{eq}
25	88.0	86.3	88.1
35	**85.1**	**83.4**	85.2
50	82.0	80.3	82.1
85	77.4	75.7	**77.5**
90	76.9	75.2	77.0
100	76.0	74.3	76.1
150	72.5	70.8	72.6
200	70.0	68.3	70.1

Notes:
- Geometric attenuation based on 6 dB per doubling of distance.
- This calculation does not include the effects, if any, of local shielding.
- L_{eq} noise is presented in dBA units, which approximate the frequency response of the human ear.
- The three loudest pieces of equipment for each phase are as follows:
  - Tenant Improvements: dump truck, generator, and Gradall.
  - Landscaping: excavator, backhoe, and front-end loader.
  - Core and Shell: generator, Gradall, and crane

Tenant improvements and landscaping could occur within 35 feet of an onsite sensitive land use (residential). At this distance, noise levels from tenant improvements could be as high as 85 dBA L_{eq} and noise levels from landscaping activities could be as high as 83 dBA L_{eq}, based on the construction noise modeling results. Core and shell activities could occur within 85 feet of the nearest onsite sensitive land use, resulting in noise levels are high as 76 dBA L_{eq} at the nearest onsite sensitive land use.

The analysis above demonstrates that during daytime hours, construction activities at the main Project Site have the potential to result in a temporary increase in ambient noise levels at nearby onsite residential land uses. During daytime hours, construction activities associated with the Project would not conflict with the City Municipal Code because of the daytime construction noise exemption. Specifically, between the hours of 8:00 a.m. and 6:00 p.m., construction noise is not restricted by the quantitative noise limits in the City. In addition, as future residences do not currently exist, and a comparison to the existing ambient would not be appropriate. Therefore, because construction activities on the Project Site occurring concurrent with Project operation would be temporary in nature, and would not conflict with the City code, construction noise impacts to onsite uses during daytime hours would be ***less than significant.***

Early Morning and Evening Hours (7:00 a.m. to 8:00 a.m., 6:00 p.m. to 10:00 p.m.)

All construction activities that would occur during daytime hours (as described above) could also occur during early morning (7:00 a.m. to 8:00 p.m.) and evening (6:00 p.m. to 10:00 p.m.) hours. Noise during these hours is limited to 60 dBA per Title 8.06.040[a] of the City Noise Ordinance.

As shown in Table 3.7-17, above, noise from the loudest Project construction subphase proposed to occur during onsite occupancy (tenant improvements) could result in noise levels of up to 85 dBA L_{eq} at the nearest onsite residential or hotel land use (approximately 35 feet away). Should these activities take place outside of the daytime exempt hours for construction noise in the City of 8:00 am. to 6:00 p.m., noise levels from the Project Site construction would exceed the allowable daytime noise threshold of 60 dBA during early morning (7:00 a.m. to 8:00 a.m.) and evening hours (6:00 p.m. to 10:00 p.m.). Construction noise impacts during early morning and evening hours to onsite land uses would be considered **significant**, and mitigation would be required.

ConnectMenlo Mitigation Measure NOISE-1c states that the property owner/developer shall be responsible for requiring contractors to implement specific measures to reduce construction-related noise. Project construction would be required to comply with these measures, as feasible. However, Project construction would not be limited to the daytime hours between 8:00 a.m. to 6:00 p.m. on Monday through Friday, as outlined in the first bullet of this mitigation measure. In addition, although this implementation of this mitigation measure would reduce construction noise, it would not be expected to reduce construction noise impacts to onsite receptors to less than significant levels.

Mitigation Measure NOI-1.1, described previously, includes measures to reduce noise from construction activity during non-exempt hours for construction noise. While this mitigation measure would reduce construction noise effects to offsite as well as onsite noise-sensitive uses, it may not be possible to reduce noise levels during all non-daytime construction activities to less-than-significant levels. For example, locating equipment as far as possible from noise-sensitive uses and equipping equipment with mufflers and sound control devices would reduce noise, but might not reduce noise to below significance criteria. Therefore, construction noise impacts to onsite land uses during early morning (7:00 a.m. to 8:00 a.m.) and evening hours (6:00 p.m. to 10:00 p.m.) would be ***significant and unavoidable.***

Nighttime Hours (10:00 p.m. to 7:00 a.m.)

Of the construction phases that are anticipated for nighttime hours, none are expected to occur while onsite residential buildings and the hotel are occupied. For this reason, nighttime construction noise impacts to onsite sensitive land uses would not occur.

Construction Haul and Vendor Truck Noise

Project construction would involve the use of haul trucks to move excavated materials, and vendor trucks to deliver materials to the Project Site. Based on the data provided by the Project applicant, up to 386 one-way vendor and haul truck trips could occur on a worst-case day (when the demolition and grading/utilities subphases of construction Phase 1 overlap). Note that during most of the Project construction window, there would be substantially fewer truck trips. However, construction truck noise from a reasonable worst-case day is analyzed to provide a conservative assessment.

There are two main routes that lead to the four landfill/quarries that have been identified by the Project applicant. The main routes involve the trucks either traveling south on Willow Road to US 101, or traveling north on Willow Road and then traveling east on Bayfront Expressway (CA 84). This analysis does not evaluate haul truck noise on highways because traffic noise from highways such as US 101 or CA 237 are generally already high; the introduction of Project haul trucks, even during reasonable worst-case days, would not likely influence the existing noise level. The construction truck noise analysis focuses on potential noise impacts along nearby surface streets.

The temporary addition of up to 386 haul trucks trips per day on these roadway segments was analyzed to determine if construction truck activity would result in substantial increases to the ambient noise levels at nearby noise sensitive land uses. The City of Menlo Park does not specify noise thresholds pertaining to construction haul truck noise. Therefore, per the approach for the assessment of traffic noise impacts, in areas where the baseline noise levels do not exceed the "normally acceptable" land use compatibility standard, an increase of more than 5 dB is considered a significant construction truck noise increase. In areas where the baseline noise levels do exceed the "normally acceptable" level based on the land use compatibility chart, a 3 dB or larger increase is considered a significant construction truck noise increase.

Note that a 3-dB increase over existing traffic noise levels is generally considered to be "barely perceptible." Modeling was conducted to estimate daily traffic noise levels with and without the addition of construction haul truck trips. (e.g., a comparison of noise from "baseline" to "baseline plus Project Construction truck" conditions). Table 3.7-18 shows estimated traffic noise levels along the roadway segments under "baseline" and "baseline plus Project construction truck" conditions based on the assumptions described above.

As shown in Table 3.7-18, noise increases due to haul and vendor truck activity would not be expected to result in a greater than 3 dB increase, or a "barely perceptible" increase, in traffic noise along any of the analyzed segments, and the aforementioned 3- and 5-dB increase thresholds would not be exceeded. The greatest increase in noise is expected to be 0.8 dB. Therefore, noise impacts related to construction haul truck activity would be ***less than significant.***

Table 3.7-18. Baseline and Baseline plus Project Haul Truck Noise Levels

Roadway	Segment	Baseline Traffic Noise Levels (dBA L_{dn})	Baseline plus Construction Truck Noise Levels (dBA L_{dn})	Delta dB
Bayfront Expressway	Between Willow Road and University Avenue	74.0	74.4	0.3
Bayfront Expressway	East of University Avenue	75.4	75.7	0.3
Willow Road	Between Bayfront Expressway and Hamilton Avenue	69.8	70.5	0.7
Willow Road	Between Hamilton Avenue and Ivy Drive	69.9	70.6	0.7
Willow Road	Between Ivy Drive and O'Brien Drive	69.7	70.5	0.8
Willow Road	Between O'Brien Drive and Newbridge Street	70.6	71.0	0.4
Willow Road	Between Newbridge Street and the US 101 NB Ramps	71.5	72.0	0.4

Note:
Reasonable worst-case haul truck volume assumed 386 one-way truck trips per day.
The modeling distance used for noise levels was set to 50 feet.

Impact NOI-1b: Operational Noise. Operation of the Proposed Project would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (LTS/M)

Operational Noise

Operational Traffic Noise

The Proposed Project could result in increased traffic noise in the project vicinity. To determine if the Proposed Project would result in a substantial permanent increase in traffic noise levels, a ratio analysis was conducted based on average daily trip (ADT) traffic data provided by Hexagon Transportation Consultants. Traffic volumes for baseline and baseline plus-Project conditions were compared to determine if traffic increases associated with the Proposed Project would result in significant traffic noise impacts.

Traffic noise increases can be estimated based on a ratio analysis that compares baseline traffic volumes to baseline plus-Project traffic volumes, because potential increases in traffic noise directly coincide with increases in ADT on a given segment. For example, a doubling of traffic (e.g., from 100 to 200 vehicles on a given segment) would result in a 3 dB change in the noise level. In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level as it increases or decreases, respectively. Per the standard approach for the assessment of traffic noise impacts, in areas where the baseline and resulting (baseline plus project) noise levels do not exceed the "normally acceptable" land use compatibility standard, an increase of more than 5 dB is considered a significant traffic noise increase. In areas where the baseline and resulting (baseline plus project) noise levels do exceed the "normally acceptable" level based on the land use compatibility

chart, a 3 dB or larger increase from baseline to baseline plus conditions is considered a significant traffic noise increase.

Most segments analyzed in the traffic noise analysis would be exposed to a 0 to 9 percent Project-related increase in traffic volumes, with many experiencing no increase at all as a result of the Project. However, some segments would experience a greater increase in traffic volumes as a result of Project implementation. Refer to Table 3.7-19 for a summary of the traffic noise ratio analysis. This table only shows modeling results for segments with Project-related increases in traffic of 10 percent or more, which correlates to an increase in noise of less than 0.4 dB. An increase of less than 25 percent attributable to the Project correlates to an increase in noise of less than 1 dB, noting that a 3 dB increase is necessary before a traffic noise increase is considered to be "barely perceptible." Refer to Appendix 3.7 for the full results of the traffic noise analysis.

Based on the ratio analysis, three roadway segments may experience an increase of 3 dB or more as a result of the Project. The three segments are:

- O'Brien Drive East of Adams Drive
- O'Brien Drive West of Adams Drive
- O'Brien Drive West of University Avenue

Note that, although Project-related traffic noise increases along these segments were modeled to exceed 3 dB, there are no noise-sensitive land uses located along these segments. Specifically, commercial and light industrial land uses are located along O'Brien Drive both west and east of Adams Drive (and west of University Avenue), which are considered compatible with noise levels of up to 70 dBA L_{dn} (for office and commercial) and 75 dBA L_{dn} (for industrial) and are not considered to be "noise-sensitive." In addition, existing daytime noise levels in this area (based on the noise measurement conducted at ST-3) are in the range of 56 dBA L_{eq}. Therefore, a 5-dB increase would be allowed along these roadway segments before a significant impact would be identified, and no increase of greater than 3.8-dB was modeled to occur. The Open Mind School is located further to the west along O'Brien Drive. However, the Project-related traffic noise increase along this segment (O'Brien Drive north of Kavanaugh Drive) was determined to be below 3 dB. Therefore, because Project-related traffic increases would not result in traffic noise increases in excess of thresholds along segments with noise-sensitive land uses, Project traffic noise impacts would be ***less than significant.***

Table 3.7-19. Baseline Traffic Volume Increases Associated with Project Trips

Roadway	Segment	Average Daily Traffic Volumes			Approximate dB Increase from Project Implementation
		Baseline ADT	Baseline plus Project ADT	Percentage Increase	
Bayfront Expressway	East of Marsh Road	41,750	46,491	11%	0.5
Marsh Road	North of US 101 Ramps	30,560	34,094	12%	0.5
Bayfront Expressway	East of Chrysler Drive	36,835	41,729	13%	0.5
Bayfront Expressway	West of Chrysler Drive	43,420	48,161	11%	0.4
Bayfront Expressway	East of Chilco Street	36,060	40,704	13%	0.5
Bayfront Expressway	West of Chilco Street	36,820	41,714	13%	0.5
Bayfront Expressway	East of MPK 21	34,447	37,737	10%	0.4
Facebook Way	South of Bayfront Expressway	6,670	8,024	20%	0.8
Bayfront Expressway	West of Facebook Way	35,865	40,509	13%	0.5
Chilco Street	South of Constitution Drive	7,630	8,711	14%	0.6
Chilco Street	North of Hamilton Avenue	5,225	6,313	21%	0.8
Chilco Street	South of Hamilton Avenue	3,815	4,724	24%	0.9
Hamilton Avenue	West of Chilco Street	2,050	2,251	10%	0.4
Willow Road	South of Bayfront Expressway	21,665	23,757	10%	0.4
Willow Road	North of Hamilton Avenue	21,735	23,827	10%	0.4
Willow Road	South of Hamilton Avenue	20,845	26,966	29%	1.1
Willow Road	North of Ivy Drive	22,195	25,800	16%	0.7
O'Brien Drive	East of Willow Road	8,026	9,455	18%	0.7
Willow Road	South of O'Brien Drive	28,260	33,165	17%	0.7
Willow Road	North of Newbridge Street	27,795	32,705	18%	0.7
Willow Road	South of Newbridge Street	34,387	39,625	15%	0.6
Willow Road	North of US 101 NB Ramps	35,427	40,665	15%	0.6
US 101 NB Ramps	West of Willow Road	4,857	6,335	30%	1.1
US 101 SB Ramps	West of Willow Road	15,967	17,681	11%	0.4
Bay Road	West of Willow Road	8,551	9,409	10%	0.4
O'Brien Drive	North of Kavanaugh Drive	6,116	10,753	76%	2.4
Kavanaugh Drive	East of O'Brien Drive	2,872	4,710	64%	2.1
O'Brien Drive	South of Kavanaugh Drive	8,391	10,157	21%	0.8

Roadway	Segment	Average Daily Traffic Volumes			Approximate dB Increase from Project Implementation
		Baseline ADT	Baseline plus Project ADT	Percentage Increase	
O'Brien Drive	**East of Adams Drive**	**4,174**	**9,921**	**138%**	**3.7**
O'Brien Drive	**West of Adams Drive**	**5,856**	**11,605**	**98%**	**3.0**
O'Brien Drive	**West of University Avenue[a]**	**3,954**	**9,579**	**142%**	**3.8**
Notre Dame Avenue	East of University Avenue	1,195	1,461	22%	0.8
Runnymede Street	West of University Avenue	3,534	4,038	14%	0.6
Cooley Avenue	North of Donohoe Street	7,311	8,056	10%	0.4

Source: Hexagon Transportation Consultants —refer to Appendix 3.7.
Note: **Bolded** text indicates data mentioned in report.

Mechanical Equipment Noise

South Garage Central Energy Plant

A central energy plant is proposed for the Project's South Garage. Mechanical equipment used to run this facility would include an estimated five chillers, four condenser water pumps, four chilled water pumps, and four cooling towers. The makes and models of all equipment, as well as the ultimate quantities of proposed equipment, have not yet been finalized. This analysis is based on the best estimates available at the time of EIR preparation. The proposed chillers and water pumps would be located indoors and surrounded by solid walls. Cooling towers would be located within a walled enclosure on top of the garage. The enclosure height would match the height of the towers, with an opening on top to release water vapor. Noise generated by equipment located in a mechanical room would be attenuated somewhat by the walls of the room. A conservative assumption of 5 dB of reduction was applied to all equipment located inside this room, though noise may be further reduced by the walls. Noise from equipment located behind a screened enclosure may be reduced slightly by the screen but is typically not substantially reduced unless the screen is solid. Since details of the screen are not known at this time, a reduction is not applied to noise sources located on the roof behind the screened enclosure.

Chillers, such as the approximately five proposed for the central energy plant, can produce noise levels of up to approximately 69 dBA at 50 feet[7]. Pumps, such as the proposed condensing water pumps and chilled water pumps, can produce noise levels of approximately 78 dBA at a distance of 50 feet[8]. The proposed cooling tower can produce noise levels of approximately 57 dBA at 50 feet[9]. Based on these source noise levels, combined noise from five chillers, four condenser water pumps, four chilled water pumps, and four cooling towers at a distance of 50 feet could be up to approximately 82 dBA, conservatively assuming all equipment was operational simultaneously and relatively close to one another. Note that it is possible that equipment would not all be operating simultaneously, and actual noise levels would be reduced. However, these combined noise levels are presented to ensure a conservative analysis.

The nearest off-site sensitive land use to the South Garage is Open Mind School. The proposed rooftop mechanical equipment on the South Garage could be located as close as 225 feet from this building (though as a result of the height of the South Garage, it would likely be located further away). Based on the source noise levels cited above, combined noise from this equipment at a distance of 225 feet would be approximately 69 dBA. The nearest residences to equipment in the South Garage are located approximately 400 feet away. At this distance, mechanical equipment noise could be as high as approximately 64 dBA. As described previously, stationary noise sources are regulated by Chapter 8.06 of the Menlo Park Municipal Code which states daytime noise levels are limited to 60 dBA and nighttime noise levels are limited to 50 dBA. In addition, noise levels from rooftop equipment in the City are limited to 50 dBA at 50 feet. For these reasons, and based on the currently proposed equipment, mechanical equipment noise from the South Garage central energy plant may exceed the daytime and nighttime thresholds outlined in the City Municipal Code, as well as the rooftop equipment noise threshold. Impacts from mechanical equipment noise at the South Garage would be considered **significant**, and mitigation would be required.

[7] Trane. 2019. Sound Pressure Levels and attenuation for CVHF 1070 Centrifugal Water-Cooled Chillers: 60 Hz and 50 Hz.

[8] Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf.

[9] Baltimore Aircoil Company. 2020. Cooling Tower Selection Report for S3E-142412S Series 3000.

North Garage Central Energy Plant

The North Garage of the Project Site would also contain a central energy plant with Project implementation. At this time, it is expected that this central energy plant would include two to four water-cooled chillers, four to six ice storage tanks, two glycol chilled water pumps, two to four heat pumps, two to three heating water pumps, four to six cooling towers, two condenser water pumps, two to four heat exchangers, one fuel oil tank, two fuel oil pumps, one battery storage unit, and three medium voltage substations. All equipment would be located internally within the North Garage, except for the cooling towers, which would be enclosed on the top level of the garage with an open top to release water vapor. A conservative assumption of 5-dB of reduction was applied to all equipment located inside this room, though noise may be further reduced by the walls. Noise from equipment located behind a screened enclosure may be reduced slightly by the screen but is typically not substantially reduced unless the screen is solid. Since details of the screen are not known at this time, a reduction is not applied to noise sources located on the roof behind the screened enclosure.

Chillers, such as the four proposed for the central energy plant, can produce noise levels of up to 69 dBA at 50 feet [10]. An ice storage tank (which often requires pumps) is assumed to have similar noise levels to that of a chiller, in the range of 69 dBA at 50 feet[11]. Pumps, such as the proposed Glycol chilled water pumps, chilled water pumps, heat pump, heating water pumps, condensing water pumps, and fuel oil pumps can each produce noise levels of approximately 78 dBA at a distance of 50 feet [12]. The proposed cooling tower can produce noise levels of approximately 57 to 59 dBA at 50 feet. The proposed heat exchanger can produce noise levels of 34 dBA at 50 feet[13]. The battery storage equipment can produce approximately 57 dBA at 50 feet[14] An MV Substation could produce an approximate noise level of approximately 59 dBA L_{eq} at 50 feet[15]. Based on these source noise levels, combined noise from four chillers, six ice storage tanks, two glycol chilled water pumps, three chilled water pumps, four heat pumps, three heating water pumps, six cooling towers, two condensing water pumps, four heat exchanges, two fuel oil pumps, one battery storage, and three MV substations at a distance of 50 feet could be up to 101 dBA, assuming all equipment was operational simultaneously and relatively close to one another.

The nearest off-site sensitive land use to the North Garage central energy plant is Open Mind School. The Project building would be located approximately 1,080 feet from the school. As a conservative worst-case, this analysis assumes the proposed rooftop mechanical equipment could be located 1,080 feet from this building (though as a result of the height of the North Garage, it would likely be located further away). Note that there would also be many intervening buildings, and noise would likely be attenuated (from the noise levels presented below) as a result of shielding from these buildings. This attenuation is conservatively not accounted for in this analysis.

[10] Trane. 2019. Sound Pressure Levels and attenuation for (CVHF 1070) Centrifugal Water-Cooled Chillers: 60 Hz and 50 Hz.

[11] Trane. 2019. Sound Pressure Levels and attenuation for (CVHF 1070) Centrifugal Water-Cooled Chillers: 60 Hz and 50 Hz.

[12] Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf.

[13] PAE Engineers. 2021. *Willow Village Mixed-Use Development – Equipment Summary (Preliminary)* (for REYQ432TYDN). September 9.

[14] Tesla. 2020. *MEGAPACK Specification.*

[15] ICF. 2019. *Streamview Substation Rebuild and Expansion Project – Environmental Noise Report*.

Based on the source noise levels cited above, noise from this equipment at a distance of 1,080 feet would be approximately 74 dBA. The nearest residences to the North Garage central energy plant would be located approximately 1,250 feet away. At this distance, mechanical equipment noise could be as high as approximately 73 dBA, without accounting for shielding/attenuation from intervening buildings. As described previously, stationary noise sources are regulated by Chapter 8.06 of the Menlo Park Municipal Code which states daytime noise levels are limited to 60 dBA and nighttime noise levels are limited to 50 dBA. In addition, noise levels from rooftop equipment in the City are limited to 50 dBA at 50 feet. Even if shielding from intervening buildings would reduce noise from the North Garage central energy plant (e.g., by 10 or more dB), noise levels could still exceed the daytime and nighttime criteria described above, as well as the rooftop equipment noise threshold. Further, since final equipment has not been selected, it is possible that there would be more equipment than evaluated here, or that individual equipment noise levels would be louder than cited above. For these reasons, mechanical equipment noise from the North Garage central energy plant may exceed the daytime and nighttime thresholds outlined in the City Municipal Code, as well as the rooftop equipment noise threshold. Impacts from mechanical equipment noise at the North Garage would be considered **significant**, and mitigation would be required.

Other Project Buildings

The Project would include residential and mixed residential-retail buildings (referred to as mixed-use buildings) and office buildings, which would require various heating, cooling, and ventilation equipment. The proposed hotel, located in Town Square District, would include similar equipment. The mixed-use buildings would be closer to noise-sensitive offsite land uses than the office buildings or proposed hotel. In addition, the mixed-use buildings would require more mechanical equipment per building than the office buildings and hotel. Therefore, mechanical equipment from the mixed-use buildings located closest to offsite receptors is the focus of this analysis.

Parcel 2 is the nearest of these mixed-use parcels to existing residential land uses, with an estimated minimum of 150 feet between the residences located west of Willow Road and rooftop mechanical equipment for Parcel 2. Parcel 5 is the closest of these parcels to the Open Mind School, where equipment could be as close as 200 feet away. Parcel 6 is the closest to Mid-Peninsula High School; mechanical equipment could be as close as 290 feet from the school.

The proposed mixed-use buildings that would require the most mechanical equipment are located on Parcel 2. This parcel would require 24 Variable-refrigerant Flow (VRF) air cooled condensing units, 48 scavenger fans, five garage exhaust fans, four direct outside air system (DOAS) units, one grease exhaust fan, one vapor exhaust fan, eight hot water heating pumps, two air cooled heat pump boilers, and six air source heat pump water heaters. Although this rooftop equipment may be screened or enclosed, specific details of a mechanical room or equipment screen are not known at this time. Unattenuated noise levels are presented in this analysis.

VRF air cooled condensing units, such as the 24 proposed for the parcel two, can produce noise levels of up to approximately 33 dBA at 50 feet.[16] Scavenger fans could produce noise levels as high as 51 dBA at 50 feet.[17] The proposed garage exhaust systems could produce noise levels of approximately 56 dBA at 50 feet.[18] DOAS units, like the ones specified by the Project applicant, could produce noise levels of

[16] PAE Engineers. 2021. *Willow Village Mixed-Use Development – Equipment Summary (Preliminary)* (for REYQ432TYDN). September 9.

[17] PAE Engineers. 2021. *Willow Village Mixed-Use Development – Equipment Summary (Preliminary)* (for USF-18). September 9.

[18] PAE Engineers. 2021. *Willow Village Mixed-Use Development – Equipment Summary (Preliminary)* (for Custom Fan Array). September 9

approximately 62 dBA at 50 feet.[19] The specified grease exhaust fans would be expected to produce noise levels of 53 dBA at 50 feet.[20] Vapor exhaust fans would produce noise levels of approximately 48 dBA at 50 feet.[21] It is estimated that hot water heating pumps could produce noise levels as high as 78 dBA at 50 feet.[22] An air-cooled heating pump boiler, such as the one proposed for the project, could produce noise levels of approximately 54 dBA at 50 feet.[23] Finally, an air source heat pump water heater is expected to produce noise levels of approximately 65 dBA at 50 feet.[24] Parcel 2 has two buildings and based on these source noise levels, combined noise from one of these buildings was modeled to be approximately 84 dBA at 50 feet.

Parcel 2 is the closest mixed-use parcel to existing residential land uses. It is also the most equipment intensive of all mixed-use parcels. This building could be as close as 150 feet from the nearest residential land uses (west of Willow Road). With mechanical equipment located on the roof, it would likely be slightly farther than this distance from the nearest residences. However, a 150-foot distance is conservatively used in this analysis. Based on distance attenuation alone, combined mechanical equipment noise from a single Parcel 2 building (at a distance of 150 feet) could be as high as approximately 73 dBA.

Parcel 5 is the nearest mixed-use Parcel the to Open Mind School. This parcel is proposed to have 22 VRF Air cooled condensing units, two scavenger fans, two garage exhaust fans, four DOAS units, one grease exhaust fan, one vapor exhaust fan, eight hot water heating pumps, two air cooled heat pump boilers, and five air source heat pump water heaters. Like Parcel 2, parcel 5 will have two buildings which will utilize this equipment. The equipment could be as close as 200 feet from Open Mind School. Mechanical equipment at this distance could produce noise levels as high as approximately 72 dBA.

The closest Parcel to the Mid-Peninsula High School is Parcel 6, the equipment for which could be as close as 300 feet from this school. Parcel 6 is proposed to have 22 VRF Air cooled condensing units, two scavenger fans, two garage exhaust fans, four DOAS units, one grease exhaust fan, one vapor exhaust fan, eight hot water heating pumps, two air cooled heat pump boilers, and five air source heat pump water heaters. At a distance of 300 feet, noise levels from the specified mechanical equipment could be approximately 69 dBA.

As described previously, stationary noise sources are regulated by Chapter 8.06 of the Menlo Park Municipal Code which states daytime noise levels are limited to 60 dBA and nighttime noise levels are limited to 50 dBA. In addition, noise levels from rooftop equipment in the City are limited to 50 dBA at 50 feet. Therefore, based on the currently proposed equipment, mechanical equipment noise from the Project's mixed-use parcels could exceed the daytime and nighttime thresholds outlined in the City Municipal Code, as well as the rooftop equipment noise threshold. Impacts from mechanical equipment noise at individual Project buildings would be considered significant, and mitigation would be required.

Modeling indicates that noise from Project mechanical equipment could result in noise levels in excess of applicable thresholds. Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation measure NOI-1.3 would ensure noise from Project mechanical equipment would

[19] DPSA031

[20] PAE Engineers. 2021. *Willow Village Mixed-Use Development – Equipment Summary (Preliminary)* (for USF-24). September 9

[21] PAE Engineers. 2021. *Willow Village Mixed-Use Development – Equipment Summary (Preliminary)* (for USF-13). September 9

[22] Federal Highway Administration. 2006. *FHWA Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. January. Available: https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/rcnm/rcnm.pdf.

[23] Aermec Air Conditioning. UNKNOWN YEAR. Reversible heat pumps high efficiency – Technical Manual (for NRK700).

[24] PAE Engineers. 2021. *Willow Village Mixed-Use Development – Equipment Summary (Preliminary)* (for CxA-25). September 9

comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, impacts from Project mechanical equipment noise would be ***less than significant with mitigation***.

ConnectMenlo Mitigation Measure NOISE-1b.

> Stationary noise sources and landscaping and maintenance activities shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code.

Project Mitigation Measure NOI-1.3: Mechanical Equipment Noise Reduction Plan.

> To reduce potential noise impacts resulting from Project mechanical equipment, including heating, cooling, and ventilation equipment, the Project applicant shall conduct a noise analysis to estimate noise levels of Project-specific mechanical equipment based on the final selected equipment models and design features. In addition to the analysis, a Mechanical Equipment Noise Reduction Plan shall be created to ensure noise levels of equipment, once installed, are below the applicable criteria described below. The Noise Reduction Plan shall include any necessary noise reduction measures required to reduce Project-specific mechanical equipment noise to less-than-significant levels. The plan shall also demonstrate that with the inclusion of selected measures, noise from equipment would be below the significance thresholds. Feasible noise reduction measures to reduce noise below the significance thresholds include, but are not limited to, selecting quieter equipment, utilizing silencers and acoustical equipment at vent openings, siting equipment farther from the roofline, and/or enclosing all equipment in a mechanical equipment room designed to reduce noise. This analysis shall be conducted and the results and final Noise Reduction Plan shall be provided to the City prior to the issuance of building permits for each building.
>
> The noise analysis and Noise Reduction Plan shall be prepared by persons qualified in acoustical analysis and/or engineering. The Noise Reduction Plan shall demonstrate with reasonable certainty that noise from mechanical equipment selected for the Project, including the attenuation features incorporated into the Project design, will not exceed the City of Menlo Park's property plane threshold of 60 dBA during daytime hours or 50 dBA during nighttime hours at nearby noise-sensitive land uses, as well as the 50 dBA at 50 feet threshold that applies to rooftop equipment in the City.
>
> The Project applicant shall incorporate all feasible methods to reduce noise identified above and other feasible recommendations from the acoustical analysis and Noise Reduction Plan into the building design and operations as necessary to ensure that noise sources meet applicable requirements of the respective noise ordinances at receiving properties.

Emergency Generator Noise

Emergency generators installed as part of the proposed Project would result in the generation of audible noise during testing. The Project would include 13 emergency generators located throughout the main Project Site. Noise from the operation of emergency generators during an emergency is typically considered to be exempt from local noise limits. However, even though the testing of emergency generators is a short-term (e.g., less than 1 hour) and intermittent process (usually once or twice per month), noise resulting from generator testing must comply with local noise limits for operational equipment noise. Generator testing is typically conducted on a monthly or biweekly basis for periods of 15 to 30 minutes. A similar testing schedule is expected for the Proposed Project.

In the City of Menlo Park, noise must comply with section 8.06.030 of the City Municipal Code, which includes maximum allowable noise levels as measured at the receiving residential property. Noise during daytime hours (7:00 a.m. to 10:00 p.m.) in the City is generally limited to 60 dBA, and noise during nighttime hours (10:00 p.m. to 7:00 a.m.) is generally limited to 50 dBA. Note that Section 8.06.040(b) of the Municipal Code also states that noise from powered equipment used on a temporary, occasional, or infrequent basis during the hours of eight 8:00 a.m. to 6:00 p.m. Monday through Friday shall be limited to 85 dBA at a distance of 50 feet from the source during the hours of 8:00 a.m. and 6:00 p.m. Testing of the Project emergency generators would take place during the weekday daytime hours listed above. Therefore, this analysis assesses the potential for generator testing noise to exceed the 85 dBA threshold at a distance of 50 feet, and the daytime residential property line (or sensitive use property line) threshold of 60 dBA.

Final equipment makes and models for the Project have not yet been selected, so this analysis is based on noise levels from generators of the same size as proposed for the Project and based on estimated generator locations (noting that these may change slightly prior to Project implementation). Specific details about generator shielding and attenuation features for Project generators are not known at this time. Since the type and sound rating of future generator attenuation features is unknown, this analysis conservatively presents unattenuated noise levels from emergency generator testing.

Hotel Generator

A 600-kW generator would be installed at the hotel with Project implementation. Although the exact make and model of the proposed hotel generator is not known at this time, noise levels from an example 600 kW generator (a Cummins 600DQCA 600 kW generator) are used in this analysis. This generator would be located on the basement level of the hotel and approximately 30 feet east of Willow Road. a Cummins 600 kW generator produces an estimated noise level of 99.7 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures. Note that the overall noise level is dominated by noise from the exhaust; although the generator would be located internal to the hotel building, the exhaust would need to exit the building and noise would be audible external to the building.

The nearest sensitive receptors to the proposed hotel generator location are the residential land uses along the west side of Willow Road. The nearest residence is located approximately 465 feet from the proposed generator location. At a distance of 465 feet, noise from generator testing would reduce to approximately 80 dBA, based on distance alone. Noise would be further reduced by intervening structures and buildings; however, it is difficult to quantify this reduction, so it is conservatively assumed noise at these residences could be up to the 80 dBA level described above. As described previously, noise from temporary and intermittent generator testing in the city is limited to 85 dBA at 50 feet or 60 dBA at the nearest sensitive receptor during daytime hours. Noise levels at 50 feet (99.7 dBA) and at the nearest receptor (80 dBA) would exceed these allowable limits. Therefore, noise from the testing of this generator may exceed the applicable City criteria, and noise impacts would be considered **significant**.

North Garage Generators

Two 750 kW generators are proposed in the North Garage. Although the exact make and model of the proposed North Garage generators are not known at this time, noise levels from an example 750 kW generator (a Cummins 750DQCB 750 kW generator) are used in this analysis. These generators would be located inside the North Garage, approximately 220 feet northwest of Adams Court. These generators individually produce an estimated noise level of 100.7 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures. Although it is unlikely that generators would be tested at the same time, combined noise levels from the simultaneous testing of these generators would be approximately 3 dB louder.

The nearest sensitive receptor to the North Garage is the Open Mind School, along the west side of O'Brien Drive and is located approximately 1,100 feet from the proposed generator location. At a distance of 1,100 feet, noise from the testing of one of the 750 kW generators would be approximately 74 dBA. Note that there would be multiple intervening buildings (e.g., two office buildings and the South Garage) located between the north garage and the Open Mind School once the Project Site has been developed. With the presence of the intervening buildings located between these generators and the nearby Open Mind School, it is unlikely that generator testing from the north garage generators would be audible at the school. However, as described previously, because the precise reduction in noise cannot be quantified at this time, unattenuated noise levels are compared to the applicable local thresholds.

Because noise from generator testing would exceed the City's criterion of 60 dBA at the nearest sensitive receptor during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from the testing of the North Garage generators would be considered **significant**.

South Garage Generators

According to the Project applicant, the South Garage will include two 1,750 kW generators. Although the exact make and model of the proposed South Garage generators are not known at this time, noise levels from example 1,750 kW generators (Cummins 750DQCB 750 kW generators) are used in this analysis. These generators individually produce an estimated noise level of 96.9 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures. Although it is unlikely that generators would be tested at the same time, combined noise levels from the simultaneous testing of these generators would be approximately 3 dB louder.

The nearest sensitive receptor to the South Garage is the Open Mind School, located along the west side of O'Brien Drive. This receptor is located approximately 210 feet from the proposed generator location. At a distance of 210 feet, noise from testing one of the generators would be reduced to approximately 84 dBA.

Because noise from generator testing would exceed the City's criterion of 60 dBA at the nearest sensitive receptor during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from the testing of the South Garage generators would be considered **significant**.

Residential/Mixed Use Generators

With Project implementation, each of the six residential/mixed-use buildings would have an emergency backup generator. Parcel 2 would have a 1,000-kW generator. It is assumed the 1,000-kW generator would be similar to a Cummins DQFAH 1,000 kW generator. Parcels 4 and 5 would all have a 500-kW generator. Although the make and model have not yet been selected, it is assumed that this generator

would to be similar to a Cummins 500DFEK 500 kW generator for the purposes of this analysis. In addition, with Project implementation, Parcel 3 would have a 750-kW generator, Parcel 6 would have a 250-kW generator, and Parcel 7 would have a 150-kW generator. Although the make and models of these generators have also not been selected, it is assumed the 750-kW generator would be similar to a Cummins 750DQCB 750 kW generator, the 250-kW generator would be similar to a Cummins 250DQDAA 250 kW generator, and the 150-kW generator would be similar to a Cummins C150D6D 150 kW generator.

Regarding the 1,000-kW generator, the Parcel 2 generator would be located approximately 330 feet from the nearest noise-sensitive land uses, which are the residential uses located along the west side of Willow Road, west of the Project Site. This generator produces an estimated noise level of 100.2 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures. At a distance of 330 feet (the distance to the nearest residence from the Parcel 2 generator), noise from the testing of this generator would reduce to approximately 85 dBA.

Regarding the 500-kW generators, the Parcel 4 500-kW generator would be located approximately 490 feet from these same uses. In addition, the Parcel 5 500-kW generator would be located approximately 345 feet from the Open Mind School. This generator produces an estimated noise level of 101.5 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures. At a distance of 490 feet (the distance to the nearest residence from the Parcel 4 generator), noise the testing of this generator would reduce to approximately 82 dBA. At a distance of 345 feet (the distance to the Open Mind School from the Parcel 5 generator), noise from generator testing would reduce to approximately 85 dBA Because noise from the testing of the Parcel 2, 4 and 5 500-kW generators would exceed the City's criterion of 60 dBA at the nearest sensitive receptors during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from the testing of this generator would be considered **significant**.

With Project implementation, Parcel 3 would have a 750-kW generator located approximately 510 feet east of Willow Road. Although the make and model have not been selected, it is assumed this generator would be similar to a Cummins 750DQCB 750 kW generator. According to the specification details for this generator, it would produce an estimated noise level of approximately 101 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures. The nearest sensitive receptor is a residential land use, along the west side of Willow Road and is located approximately 660 feet from the proposed generator location. At a distance of 660 feet, noise from generator testing would reduce to approximately 78 dBA. Because noise from the testing of this 750-kW generator would exceed the City's criterion of 60 dBA at the nearest sensitive receptor during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from the testing of this generator would be considered **significant**.

In addition, Project Parcel 6 would include a 250-kW generator which would likely be similar to a Cummins 250DQDAA 250-kW generator. This generator produces an estimated noise level of 88.8 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures. The nearest sensitive receptor is Mid-Peninsula High School, along the East side of Willow Road and is located approximately 520 feet from the proposed generator location. In addition, the Open Mind School is located approximately 620 feet from this proposed generator location. At a distance of 520 feet, noise from generator testing would reduce to approximately 69 dBA; at a distance of 620 feet, noise would generator testing would be approximately 67 dBA. Because noise from the testing of this 250-kW generator would exceed the City's criterion of 60 dBA at the nearest sensitive receptor during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85

dBA threshold for powered equipment, noise impacts from the testing of this generator would be considered **significant**.

Project Parcel 7 would include a 150-kW generator. For the purposes of this analysis, it is assumed that this generator would be similar to a Cummins C150D6D 150-kW generator. This generator produces an estimated noise level of 69.9 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures. The nearest sensitive receptor to the proposed Parcel 7 generator location is the Open Mind School, located approximately 525 feet from the proposed generator location. At a distance of 525 feet, noise from generator testing would reduce to approximately 50 dBA. As described previously, noise from generator testing in the city is restricted to 60 dBA at the nearest sensitive receptor during daytime hours; noise from generator testing is also compared to the 85 dBA threshold at 50 feet for powered equipment. Therefore, noise from the testing of the Parcel 7 150-kW generator would not exceed the applicable City noise criteria; noise impacts for this generator would be considered less than **significant**.

Southwestern Public Park Generator (for West Bay District Sanitary Pump Station)

With Project implementation, a 500-kW generator would be installed near the southwest corner of the Project site to serve the West Bay District Sanitary Pump Station. Although the make and model have not yet been selected, it is assumed that this generator would to be similar to a Cummins 500DFEK 500 kW generator for the purposes of this analysis. This generator produces an estimated noise level of 101.5 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures.

The 500-kW generator would be located approximately 25 to 50 feet from the nearby Mid-Peninsula High School, and approximately 200 feet from the nearest residential land uses located west of Willow Road. At a distance of 25 feet, unattenuated generator noise could be up to approximately 108 dBA Leq. At 200 feet, unattenuated generator noise could be up to approximately 90 dBA Leq. Because noise from the testing of this generator would exceed the City's criterion of 60 dBA at the nearest sensitive receptors during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from the testing of this generator would be considered **significant**.

Hamilton Avenue Parcel North Generator

With Project implementation, a 150-kW generator would be installed near the northwest corner of the Hamilton Avenue Parcel North. Although the make and model have not yet been selected, it is assumed that this generator would be similar to a Cummins C150D6D 150 kW generator. This generator produces an estimated noise level of 69.9 dBA at 50 feet (combined exhaust and engine noise) without accounting for attenuation associated with mufflers or weather/sound enclosures.

The nearest sensitive receptor to the proposed Hamilton Avenue Parcel North generator location are residential land uses located over 400 feet to the south. At a distance of 400 feet, noise from generator testing would reduce to approximately 52 dBA. As described previously, noise from generator testing in the city is restricted to 60 dBA at the nearest sensitive receptor during daytime hours; noise from the testing of this generator would not be expected to exceed this limit at nearby sensitive uses. However, noise from generator testing is also compared to the 85 dBA threshold at 50 feet for powered equipment. This generator would also not exceed this applicable City noise criteria. Therefore, noise impacts for this generator would be considered **less than significant**.

Generator Noise Conclusion

Based on the generator noise analyses conducted above, generator noise from multiple Project generators would have the potential to exceed the allowable limits in the City. In addition, because the final generator makes and models, as well as generator noise attenuation features and actual locations (and therefore, distances from sensitive receptors), have not been finalized, actual noise levels could be louder, or quieter, than the estimated levels presented above at the nearest sensitive land uses. Because generator noise during testing would likely be in excess of the applicable City noise limits, noise impacts from emergency generator testing would be considered significant, and mitigation would be required.

Project Mitigation Measure NOI-1.4 requires the preparation of a Noise Reduction Plan that includes effective attenuation features. To result in meaningful attenuation from shielding, all walls, enclosures or screens surrounding generators must be solid with no holes or gaps. Attenuation also varies based on the type of material used for the walls or screens. In addition, exhaust noise from generators is not always mitigated by enclosures, because the exhaust may need to be piped to the exterior of the building or enclosure. To reduce exhaust noise, mufflers or critical grade silencers might be needed. Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation Measure NOI-1.4 would ensure noise from emergency generators during testing would comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, noise impacts from Project emergency generator testing would be ***less than significant with mitigation***.

ConnectMenlo Mitigation Measure NOISE-1b.

> Stationary noise sources and landscaping and maintenance activities shall comply with Chapter 8.06, Noise, of the Menlo Park Municipal Code.

Project Mitigation Measure NOI-1.4: Emergency Generator Noise Reduction Plan (All Parcels).

> Prior to approval of a building permit for each building, the Project applicant shall conduct a noise analysis to estimate noise levels from the testing of Project-specific emergency generators, based on the actual generator makes and models proposed and the actual selected attenuation features. Based on the results of the analysis, a Noise Reduction Plan shall be created to ensure noise levels of generator testing are below the applicable Code requirements. The results, methods, and final Noise Reduction Plan shall be provided to the City prior to the issuance of building permits. The analysis shall account for proposed noise attenuation features, such as specific acoustical enclosures and mufflers or silences, and the final Noise Reduction Plan shall demonstrate with reasonable certainty that proposed generator(s) will not exceed the City of Menlo Park noise thresholds of 60 dBA at the nearest noise-sensitive use during daytime hours, and/or 85 dBA at 50 feet for powered equipment, whichever is lower. Acoustical treatments may include, but are not limited to:
>
> - Enclosing generator(s);
> - Installing relatively quiet model generator(s);
> - Orienting or shielding generator(s) to protect noise-sensitive receptors to the greatest extent feasible;
> - Installing exhaust mufflers or silencers;
> - Increasing the distance between generator(s) and noise-sensitive receptors; and/or
> - Placing barriers around generator(s) to facilitate the attenuation of noise.

In addition, all Project generator(s) shall be tested only between the hours of 7:00 a.m. and 10:00 p.m. Because no nighttime testing of generators will be allowed, compliance with the 50-dB nighttime noise threshold in the City need not be demonstrated.

The Project applicant shall incorporate sufficient recommendations from the acoustical analysis into the building design and operations to ensure that noise sources meet applicable requirements of the noise ordinance.

Amplified Music and Sound from Events

Many Campus District events would take place internal to buildings in event buildings within the meeting and collaboration spaces, and in private gardens under the atrium, though some events may take place in the outdoor meeting and collaboration spaces, as well as at the visitor's center north of the elevated park. Smaller events may take place at the publicly accessible park in the southwest portion of the main Project Site and in the Town Square (and amplified background music may be present at these events). Most Campus District events would be small, with up to 15 medium-sized (1,000 to 2,500 attendees) and 10 large (2,500 to 5,000 attendees) events per year. Some of these events would take place internal to buildings, but this analysis conservatively assumes that up to 25 medium- to large-sized events could take place outdoors in the outdoor open space in the northern portion of the Project Site per year. The nearest of these open space areas is located approximately 700 feet from the nearest noise-sensitive land uses, which are the multi-family residential land uses located along Willow Road, west of the main Project Site. Note that events taking place internal to buildings would not be expected to elevate ambient noise levels in the Project vicinity. Regarding outdoor events, these events could involve amplified music or speech. However, these events would be limited to the daytime hours of 7:00 a.m. to 10:00 p.m.

Noise levels from smaller events where amplified speech would occur would be generally lower than noise levels from amplified live or recorded music. For example, noise from human speech being amplified by a single loud speaker has been measured in the range of approximately 56 to 58 dBA L_{eq} at 100 feet,[25] whereas noise from a small live band, which included a guitar and vocalists, with a single amplifier has been measured to be approximately 65 dBA L_{eq} at 100 feet.[26] Larger concert-type events could generate higher noise levels.

Noise measurements were obtained from a previous study involving an outdoor live music venue.[27] A blues band with full amplification performed at the venue; it is anticipated that this would be representative of the louder events that might occur at the main Project Site. Noise levels were measured at 200 feet from the front of the center of the stage during the live performance and found to be approximately 79.1 dBA L_{eq}. This equates to approximately 85 dBA at 100 feet.

Based on these estimated noise levels, noise from these events at a distance of 700 feet (the distance to the nearest noise-sensitive land use) would be approximately 41 dBA for amplified human speech, 48 dBA for amplified noise from a small band, and 68 dBA for noise from a larger concert. Therefore, it is possible that noise levels from events may exceed the City of Menlo Park's daytime (7:00 a.m. to 10:00 p.m.) noise limit of 60 dBA. Note that smaller events are unlikely to result in noise levels greater than this limit.

[25] Wedding Noise: Noise measured at approximately 140 feet from an individual officiating over a wedding (single speaker) was measured to be between approximately 55 and 56 dBA L_{eq}, equating to a noise level of 58 to 59 dBA L_{eq} at 100 feet.

[26] Acoustic Band Noise: Noise measured at approximately 73 feet from a small live band with a single amplifier that included a guitar and vocals was measured to be 67.5 dBA L_{eq}, equating to 64.8 dBA L_{eq} at 100 feet.

[27] Measurements were obtained at the Irvine Regional Park Amphitheater which has a permanent band shell for live music or entertainment.

In the City of Menlo Park, a special event application must be filed if a proposed event would meet one or more of the following criteria:

- Any city street or lane closures
- Any event impacting traffic or intersections
- Any noise exceeding Municipal Code 8.06.030 (noise ordinance): Sound measured from subject site to any residential property:
    - 10 p.m. to 7 a.m. - 50 dBA
    - 7 a.m. to 10 p.m. - 60 dBA
- Attendance is expected to exceed 150 people and you will be using outdoor public space
- Community events (i.e., block parties - not for private or exclusive residential use)
- Events needing Police regulation, monitoring or control
- Events occurring for more than one day
- Generate a crowd of spectators sufficient in size to obstruct, delay or interfere with the normal flow of pedestrian, vehicular traffic, or city facilities
- Parking needs that will exceed the capacity of the venue
- Use of any city street, sidewalk, or other right of way

Although most of these criteria would not be met (for example, events would be private and would not use an outdoor public space, parking needs would be sufficiently met by Project parking structures, etc.), it is possible that some of these criteria would be met for some events. Specifically, it is possible that the larger events could result in noise levels in excess of the City Municipal Code noise standards. It is anticipated that the Campus District events would be regulated through the conditions in the conditional development permit, and it is not anticipated that individual special events permits would be required for each event.

For all events proposed at the Project Site that would not meet the aforementioned criteria (e.g., should noise levels be below the allowable levels, should events be small and not result in traffic delays or interferences, etc.) an event permit would not be necessary; impacts related to amplified music or speech for smaller and quieter events would be less than significant. In addition, all events that might meet one or more of the criteria described above (including a potential exceedance of the quantitative noise criteria in the City) would be required to obtain an event permit and must comply with the stipulations of the permit (which may be incorporated into the conditional development permit), which would include compliance with the applicable Municipal Code Noise standards or measures to reduce noise effects from the event. Because any larger-sized events with amplified music or speech would comply with the requirements of the applicable permit, noise from such events would comply with local regulations. Impacts from amplified music or speech at events would be ***less than significant***.

Dog Park Noise

The proposed dog park would generate new sources of noise associated with dog and human activity. Dogs at dog parks generally bark only occasionally while playing. The type of persistent barking that is often associated with dogs left at home rarely occurs in supervised dog parks. Dog park noise also varies depending on the number of dogs and people present. In general, the exact number of dogs and their

barking patterns would vary during the day of the week and hour of the day. Note that the proposed dog park would be open from sunrise to sunset, so it would not be operational during nighttime hours.

Based on previously conducted publicly available CEQA noise analyses, dog park noise has been measured to be up to appropriately 58 dBA at a distance of 25 feet or 52 dBA L_{eq} at 50 feet when there were approximately 5 to 11 dogs present in a given dog park.[28] In addition, it was also measured to be as quiet as approximately 35.5 dBA L_{eq} at La Paws Dog Park in the City of Mission Viejo for a separate CEQA noise analysis.[29] Note that this reference noise level measurement at the dog park included people talking, dogs running, playing fetch, chasing each other, growling, barking and dog owners talking on cell phones.

The dog park would be located at least 100 feet from the nearby Open Mind School and over 450 feet from the nearest offsite residence. Assuming that dog park noise levels could be between 35.5 dBA L_{eq} and 52 dBA L_{eq} at a distance of 50 feet, noise at a distance of 100 feet would be reduce to between approximately 30 dBA Leq and 46 dBA Leq. At a distance of 450 feet, noise would be approximately 20 decibels lower than the estimated noise levels reported at 50 feet.

In the City of Menlo Park, noise is limited to 60 dBA as measured from any residential property during the daytime hours of 7:00 a.m. to 10:00 p.m. Although the Open Mind School is not a residential property, noise levels at the nearby school and the residence from dog park activity would be well below this maximum allowable level in the City. Noise from the proposed dog park would be ***less than significant***.

Loading Dock Activity

The Campus District would include five primary loading docks at office buildings with major food service facilities (Buildings O1, O5, and O6 in the Conceptual District Plan). As depicted in the Conceptual District Plan, it is currently anticipated that Buildings O2, O3, and O4 would be serviced from on-street loading zones or connected to the primary Type A loading docks in adjacent buildings. It is currently anticipated that the Campus District would generate an average of 60 deliveries per day total, including trucks of various sizes, including mostly small delivery vans, with some full-size delivery trucks. These deliveries would occur for the grocery store (15 to 20 per day) and restaurant uses (daily for baked goods in van-type vehicles, twice per week for major supplies), as well as other on-site uses. The deliveries would be spread out between the primary loading docks and loading zones described above. Truck loading and unloading activity noise is assessed qualitatively to determine the potential for a substantial temporary increase in noise at nearby residential land uses; a quantitative analysis of loading noise would only be necessary if the development was a loading-intensive use (such as a distribution center).

With regard to loading dock noise, most Project loading docks would be located internal to the Campus District, and would not involve active loading and unloading activities close to offsite receptors. A number of intervening structures would exist between most of the loading docks and the nearest noise-sensitive uses. The temporary loading and unloading activities at the Project office buildings would typically be short term and intermittent throughout the day, occurring only during daytime hours (when people are less sensitive to noise). In addition, the Project Site is currently developed with commercial and light industrial/warehousing uses which involve daily deliveries. Therefore, Project implementation would not result in a large-scale increase in this activity at the site. Sixty deliveries are expected to occur on a given day, with many of those being van deliveries as opposed to heavy duty truck deliveries. Spread out over the primary loading docks and zones, and spread out over a given day, temporary and short-term

[28] GEPermit. *Noise Technical Report for the Beyer Community Park*, San Diego, California. April 2019.

[29] Urban Crossroads. *MorningStar Senior Living Noise Impact Analysis*, City of Mission Viejo. November 2, 2019.

increases in noise from Project loading activity would not be considered substantial Impacts from loading dock noise at the Project Site would be ***less than significant.***

Parking Garage Noise

The Project Site would include worker parking within parking structures in the northeastern and southeastern corners of the main Project Site (North Garage and South Garage), as well as below grade of Building O7. The parking structures are proposed to provide between 3,200 parking spaces and 3,700 parking spaces, including approximately 486 stalls for electric vehicles. Note that underground parking would not be expected to result in noise that could affect off-site receptors. However, parking garages can result in the generation of noise that can affect off-site receptors. Noise sources in parking areas include moving vehicles, along with doors closing, cars starting, tires squealing, and other automotive noises occurring.

The nearest noise-sensitive uses to the North and South Garages are the Open Mind School and the single-family residences located along Kavanaugh Drive. The North Garage is located over 1,100 feet from the Open Mind School and over 1,200 feet from the nearest residence. The South Garage is located closer to these uses, at distance of approximately 210 feet to the Open Mind School and 380 feet to the nearest residence.

Intervening buildings block the line of sight between the North Garage and the nearby receptors. In addition, due to the distance between the North Garage and these sensitive uses, noise from this garage would not be expected to be audible at the nearby school homes. The analysis of parking garage noise focuses on the potential for activity at the South Garage to result in excessive noise at the nearby school or residences.

This analysis assumes that approximately half of the Campus District's up to 3,700 parking spaces would be located in the South Garage (or up to 1,850 spaces), and that the same number of vehicles (up to 1,850) could enter or exit the South Garage during a peak hour. According to the FTA's *Transit Noise and Vibration Impact Assessment Manual* (Federal Transit Administration 2006), 1,000 cars in a peak activity hour would generate a Sound Equivalent Level (SEL) of 92 dBA at 50 feet. This value was converted to an hourly L_{eq} (average) noise level, resulting in an estimated noise level of 56.5 dBA L_{eq} at a distance of 50 feet. This value was then used to calculate the L_{eq} noise level of an estimated 1,850 vehicles per daytime hour utilizing the garage. At a distance of 210 feet (the distances to the Open Mind School), the noise level from this many vehicles operating within a parking garage could be up to 44 dBA L_{eq}, based on the information discussed above. At a distance of 380 feet, the distance to the nearest residence, this noise level would be reduced to approximately 39 dBA L_{eq}. In the City of Menlo Park, noise is limited to 60 dBA as measured from any residential property during the daytime hours of 7:00 a.m. to 10:00 p.m. Although the Open Mind School is not a residential property, noise levels at the nearby school and residence from parking garage activity would be well below this maximum allowable level in the City. Noise from parking garage activity would be ***less than significant***.

Shuttle and Tram Noise

An existing inter-campus tram system connects the main Project Site to Meta's East Campus and West Campus as well as the Menlo Gateway Campus, Jefferson Place Campus, and Commonwealth Corporate Center. Meta operates a total of five tram lines between the campuses. Three of the existing routes serve the Willow Campus. The tram service currently includes 45 vehicles; thirty of the vehicles are electric vehicles and fifteen are Ford Transits. Meta plans to have 100 percent electric vehicles within 5 years. With Project implementation, the inter-campus tram would continue to operate on the Project Site to

provide inter-campus and intra-campus connections for workers. In addition, the existing commuter shuttles (bringing workers from throughout the bay area to the Meta campuses) would also continue to operate on the Project Site. While on the Project Site, trams and shuttles would maintain a maximum speed of 25 miles per hour.

The main Project Site would include approximately six stops within the Campus District for the inter-campus tram. Trams already operate on local roadways to provide the inter-campus shuttle service, and the increase in trams on the local roadways would be relatively minor. In addition, fewer trams would operate on Willow Road after Project implementation because tram access to the Project Site would be provided from the West Campus via a tunnel under Willow Road. The tram is anticipated to access the main Project Site via the Willow Road Tunnel, with a proposed stop in the vicinity of the intersection at North Loop Road, and travel east on North Loop Road, with a stop near the Elevated Park to access the Meeting and Collaboration Space. The tram would continue east on North Loop Road and transition into the transit hub within the Northern Garage, providing office campus access for workers. It would also travel south on East Loop Road to the South Garage, with a stop at the transit hub. The tram would then travel north on Main Street to access two anticipated stops on Main Street. The tram would turn right on West Street and return to the Willow Road Tunnel access lanes.

Although a fixed tram schedule at the Project tram stops has not been determined at this time, trams and shuttles can unload and load commuters in less than 3 minutes. Therefore, as an expected maximum, up to 20 trams or shuttles vehicles per hour would be expected to drop off and pick up workers at each on-campus tram stop during peak periods.

Shuttles or trams on the roadways would not be expected to result in substantial noise increases over existing conditions, due to the fact that the roads upon which the shuttles operate are already busy, and because of the relatively low volume of trams/shuttles that would operate during a given hour. In addition, note that Section 8.06.050 of the City Municipal Code includes an exemption for sound generated by motor vehicles, trucks, and buses operated on streets and highways. However, idling at the tram and shuttle stations would generate noise. Although there would likely only be one shuttle or tram idling at a given stop at a given time, this analysis conservatively assumes that up to two shuttles or trams would idle at a given time. To provide a conservative analysis, source data from the idling of busses was used in this model (even though most of the existing trams are electric, and more would be electric in the future).

Two buses idling concurrently at the loading zone could result in noise levels of approximately 48 dBA L_{eq} at a distance of 100 feet, without accounting for any attenuation that may be achieved through shielding from buildings (FTA Noise Impact Assessment Spreadsheet, 2018). The off-site sensitive uses would be well over 100 feet from proposed on-site tram stops. For example, the South Garage transit stop would be over 350 feet from the Open Mind School and over 550 feet from the nearest residence. At a distance of 350 feet, two idling buses could result in a noise level of approximately 34 dBA; at a distance of 550 feet, two idling buses could result in a noise level of approximately 29 dBA Leq (without accounting for shielding from intervening structures). In the City of Menlo Park, noise as measured from any residential property during the daytime hours of 7:00 a.m. to 10:00 p.m. is limited to 60 dBA; during the nighttime hours of 10:00 p.m. to 7:00 a.m., is limited to 50 dBA (noting that most shuttle and tram activity would take place during daytime hours). Although the Open Mind School is not a residential property, noise levels at the nearby school (e.g., 34 dBA Leq) and at the nearest residence (e.g., 29 dBA, without accounting for attenuation from shielding) from shuttle and tram idling activity would be well below these maximum allowable levels in the City. Noise from on-campus tram and shuttle activity would be ***less than significant***.

Impact NOI-2: Generation of excessive groundborne vibration or groundborne noise levels (Significant and Unavoidable with Mitigation)

Construction of the proposed Project would involve the use of construction equipment that could generate ground-borne vibration. Typical vibration levels associated with heavy-duty construction equipment at a reference distance of 25 feet and other distances are shown in Table 3.7-20 below. The most vibration-intensive construction equipment expected to be used for the Project are a pile driver, and an excavator (which produce vibration levels similar to a large bulldozer). Project-specific analyses were conducted to approximate vibration levels at nearby off-site and on-site sensitive uses during Project construction. These analyses are included below.

Construction Vibration Impacts to Offsite Land Uses

Damage to Structures

Project construction for the main Project Site (east of Willow Road), could occur as close as 150 feet from the nearest off-site residential structures located west of Willow Road. All structures in this neighborhood would likely be categorized either as "new residential structures" or as "older residential structures" under the Caltrans Vibration Guidelines for Potential Damage to Structures (refer to Table 3.7-5, presented previously). For the purposes of this analysis, it is conservatively assumed that all residential structures in this area would all fall under the "older residential structure" category. The damage criterion for structures in this category is a PPV of 0.3 in/sec. As shown in Table 3.7-20,, the most vibration-intensive equipment proposed for Project construction (including a pile driver and an excavator) could result in vibration levels in the range of 0.006 PPV in/sec (for a large bulldozer or excavator) to 0.103 PPV in/sec (for a pile driver) at the nearest residential use across Willow Road, located at 150 feet. Using the damage threshold for older residential structures, these estimated vibration levels are below the Caltrans maximum allowable PPV vibration level for continuous/frequent intermittent sources of vibration.

In addition to residential structures, Mid-Peninsula High School, located near the southwest corner of the main Project Site, and Open Mind School, located near the southeast corner of the Project Site, could be affected by vibration from Project construction. These structures would likely fall under the "modern commercial/industrial" category based on their age and style. The applicable Caltrans damage criterion for this type of structure is 0.5 PPV in/sec. Finally, numerous commercial buildings are located approximately 100 feet to the east of the main Project Site. These structures would also fall under the category of "modern commercial/industrial" structures, with an applicable damage criterion of 0.5 PPV in/sec.

Construction activities near the Mid-Peninsula High School located near the southwest corner of the Project Site would include both building construction of structures within Parcel 6, and the construction of the park along Willow Road, immediately north of this high school. Project construction associated with the use of pile drivers would occur over 1,200 feet away from the school. The estimated PPV vibration level at this distance is 0.005 in/sec, which is well below the Caltrans damage criterion modern industrial/commercial buildings of 0.5 in/sec. With regard to the public park located north of the high school, the most vibration-intensive equipment proposed for use in this area would be an excavator. For this analysis, a large bulldozer is considered to produce similar vibration levels to those of an excavator. At a distance of 10 feet, the estimated closest distance between the school and the construction activities for the park, a large bulldozer would produce a PPV vibration level of 0.352 in/sec. This is also below the damage threshold of 0.5 PPV in/sec for this building type.

Table 3.7-20. Vibration Source Levels for Construction Equipment

Equipment	PPV at 10 Feet	PPV at 15 feet	PPV at 20 Feet	PPV at 25 Feet	PPV at 100 Feet	PPV at 150 Feet	PPV at 190 Feet
Pile Driver (Impact)	6.000	3.266	2.121	1.518	0.190	0.103	0.072
Pile Driver (Vibratory)	2.901	1.579	1.026	0.734	0.092	0.050	0.035
Large bulldozer [a]	0.352	0.191	0.124	0.089	0.011	0.006	0.004
Loaded trucks [b]	0.300	0.164	0.106	0.076	0.010	0.005	0.004
Small bulldozer [c]	0.012	0.006	0.004	0.003	0.000	0.000	0.000

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, FTA Report No. 0123, 2018, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf, accessed October 10, 2021.

[a] Representative of an excavator, gradall

[b] Representative of semi-trucks, and dump trucks.

[c] Representative of a backhoe and front-end loader

Open Mind School is located near the southeast corner of the main Project Site. Project construction could occur as close as 190 feet of this school. Pile driving would be the most vibration-intensive equipment proposed for use in this area. Using the data shown in Table 3.7-20, resulting estimated PPV vibration levels from the use of a pile driver at a distance of 190 feet would be 0.072 PPV in/sec. This vibration level is below the Caltrans vibration threshold for damage of 0.5 PPV in/sec for modern commercial/industrial structures, such as the school.

In addition to the nearby buildings described above, a UPS customer center is located approximately 100 feet to the east of the proposed North Garage. This building would also be categorized as a modern industrial/commercial. The most vibration-intensive equipment proposed for use in this area is also a pile driver. At a distance of 100 feet, vibration form a pile driver would be in the range of 0.190 PPV in/sec, which is below the applicable 0.5 PPV in/sec damage criterion for modern commercial/industrial structures.

Based on the analysis presented above, construction activities on the main Project Site would result in vibration levels below the applicable damage criteria at all nearby off-site structures. Vibration-related damage impacts from the main Project Site to off-site structures would be less than significant.

In addition to construction at the main Project Site, Project construction would also occur at the Hamilton Avenue Parcels. Construction activities in this area could take place as close as 25 feet from residential structures along Willow Road and Carlton Avenue. All structures in this neighborhood would likely be categorized as "older residential structures" by Caltrans vibration guidelines for the purpose of this assessment. The damage criterion for structures in this category is a PPV of 0.3 in/sec. The most vibration-intensive equipment proposed for use at this site include loaded trucks, excavators, backhoes, and front-end loaders., An excavator generally produces a similar vibration level as a large bulldozer. Similarly, a backhoe and bobcat would generally produce vibration levels similar to a small bulldozer. Vibration levels for this equipment are used for the modeling of vibration for the purposes of this analysis. At a distance of 25 feet, loaded trucks and small bulldozers would produce PPV vibration levels of 0.076 in/sec and 0.003 in/sec, respectively. An excavator would produce a PPV vibration level of approximately 0.89 in/sec. These estimated vibration levels are well below the damage threshold for older residential structures of 0.3 PPV in/sec. Vibration-related damage impacts to off-site residences from the Hamilton Avenue Parcels would be less than significant.

Based on the assessment presented above, vibration-related damage impacts from Project construction to nearby residential, school, and commercial/industrial buildings would be ***less than significant.***

Vibration-Related Annoyance - Daytime Construction

Regarding annoyance-related vibration impacts, humans are typically considered more sensitive to vibration that occurs during nighttime hours, when people generally sleep. However, schools and places of work may also be considered sensitive to daytime vibration since it may affect a person's ability to complete work or focus on certain tasks. For this analysis, a significant vibration impact would be considered to occur when construction activities generate vibration levels that are strongly perceptible (i.e., 0.1 PPV in/sec) at nearby residential, school or commercial land uses during daytime or nighttime hours, or when vibration levels exceed the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.126 in/sec at the nearest workshop, 0.063 in/sec at the nearest office, 0.032 in/sec at the nearest residence during daytime hours, and 0.016 in/sec at the nearest residence during nighttime hours.

The nearest residential land uses would be approximately 150 feet west of the main Project Site, and 25 feet south of the Hamilton Avenue Parcels. The most vibration-intensive equipment proposed for use at the main Project Site would be an impact pile driver. At a distance of 150 feet (the distance to the nearest residential use), pile driving could result in a vibration level of 0.103 PPV in/sec. This level is above the "strongly perceptible" level of 0.1 PPV in/sec (refer to Table 3.7-6 above for the Caltrans Vibration-related annoyance criteria), and exceeds the 0.032 PPV in/sec criteria for residences during daytime hours from ConnectMenlo EIR Mitigation Measure NOISE-2a.

Regarding the Hamilton Avenue Parcels, the most vibration-intensive equipment proposed for use in this area would be an excavator (e.g., a large bulldozer). At a distance of 25 feet (the distance to the nearest residential use), the use of this equipment could result in a vibration level of 0.089 PPV in/sec. This level is also below the "strongly perceptible" level of 0.1 PPV in/sec. However, it exceeds the 0.032 PPV in/sec criteria for residences during daytime hours from ConnectMenlo EIR Mitigation Measure NOISE-2a.

Regarding the Mid-Peninsula High School, located near the southwest corner of the main Project Site, construction activities may occur at very close distances to the school (e.g., grading for the park), but the more vibration intensive work (e.g., involving a pile driver) would occur further away. Project construction that would involve the use of pile drivers would occur approximately 1,200 feet away from the school. The estimated PPV vibration level at this distance is 0.005 in/sec, which is well below the "strongly perceptible" level of 0.1 in/sec, and below the 0.063 in/sec threshold for offices (which is applied to school land uses for this analysis).

Regarding grading activities at the park proposed near Mid-Peninsula High School, the use of an excavator to develop the publicly accessible park would generate similar vibration levels to a small or large bulldozer. At a distance of 10 feet, a small bulldozer can generate a vibration level of 0.012 PPV in/sec and a large bulldozer can generate a vibration level of 0.352 PPV in/sec. Note that activities for the park would only occur at this very close distance to the school for a short period of time, with most construction work occurring much further away. The estimated vibration level for a small bulldozer is below the Caltrans "strongly perceptible" level of 0.1 PPV in/sec and the ConnectMenlo EIR Mitigation Measure NOISE-2a criterion for office uses of 0.063 PPV in/sec. However, the vibration level from a large bulldozer at this distance (0.325 PPV in/sec) exceeds both the Caltrans and Connect Menlo Mitigation Measure NOISE-2a applicable thresholds for annoyance. Therefore, annoyance-related vibration impacts to the Mid-Peninsula High School might be significant.

Regarding the Open Mind School (located near the southeast corner of the main Project Site), Project construction could occur as close as 190 feet from this school. The PPV vibration level from the use of pile drivers on the main Project Site, which is the most vibration-intensive construction equipment proposed for use in this area, would be approximately 0.072 in/sec. This level is below the "strongly perceptible" level of 0.1 PPV in/sec, but exceeds the ConnectMenlo EIR Mitigation Measure NOISE-2a criterion for office uses (applied to schools in this analysis) of 0.063 in/sec. Therefore, annoyance-related vibration impacts to the Open Mind School might be significant.

Although commercial and office uses are not always considered sensitive to vibration, an evaluation of vibration-related annoyance impacts to the nearby UPS customer center was also conducted. This building is located approximately 100 feet from the proposed North Garage. The most vibration-intensive equipment proposed for use in this area is a pile driver. At a distance of 100 feet, a pile driver produces a PPV vibration level of 0.190 in/sec. This level is above the "strongly perceptible" level of 0.1 PPV in/sec and the 0.126 in/sec criterion for a workshop from the ConnectMenlo EIR Mitigation Measure NOISE-2a. Therefore, annoyance-related vibration impacts to the nearby UPS customer center might also be significant.

Note that most construction activities would take place further from these off-site uses than these worst-case closest distances. In addition, construction that takes place along the permitter of the site would be short-term compared to the overall construction duration, considering the size of the main Project Site. However, because vibration levels might exceed applicable vibration-related annoyance thresholds at nearby uses, annoyance related vibration impacts would be considered ***significant,*** and mitigation would be required***.***

Implementation of Project Mitigation Measure NOI-2.1 would reduce vibration-related annoyance effects from pile driving to nearby sensitive uses. However, because pile installation can be vibration-intensive, it is not known if at all times and in all locations, vibration levels would be reduced to below the applicable annoyance criteria. In addition, Project Mitigation Measure NOI-2.2 would reduce vibration levels from non-pile driving activity. However, it might not be possible to ensure that vibration levels at all times and in all locations would be reduced to below the applicable annoyance thresholds. Therefore, even with the implementation of Project Mitigation Measures NOI-2.1 and NOI-2.2, daytime annoyance-related vibration impacts would remain significant. Vibration-related annoyance impacts during daytime hours would be ***significant and unavoidable.***

Vibration-Related Annoyance - Nighttime Construction

Regarding annoyance-related vibration impacts during nighttime hours, humans are typically considered more sensitive to vibration that occurs during nighttime hours because this is when people generally sleep. For this analysis, a significant vibration impact would be considered to occur when construction activities generate vibration levels that are strongly perceptible (i.e., 0.1 PPV in/sec) at nearby residential land uses during nighttime hours, or when vibration levels exceed the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a for residential land uses during nighttime hours. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.016 in/sec at the nearest residence during nighttime hours, which is more stringent than the aforementioned Caltrans criterion, and is the main focus of this analysis.

As discussed in the analysis of nighttime construction noise, certain construction activities on the Project Site would occur during the nighttime hours of 10:00 p.m. to 7:00 a.m. Note that activities would also be proposed for off-site areas during these nighttime hours; noise from these off-site activities is discussed in detail below. Regarding on-site construction during nighttime hours, the primary activity expected to occur would be concrete pours.

The nearest residential land uses would be approximately 150 feet west of the main Project site, west of Willow Road. The only construction activities proposed for nighttime hours on the Project site are potential (and occasional) concrete pours. During nighttime concrete pour activities, equipment would be at least 150 feet (and usually much farther) from the nearest off-site sensitive receptors where people sleep during nighttime hours. Concrete mixers and concrete pumps would generate less vibration than a small bulldozer, which is the piece of equipment in the Federal Transit Administration list of vibration source levels with the lowest level of vibration. A small bulldozer would result in a very low vibration level with a PPV of approximately 0.0002 inch per second at a distance of 150 feet. This level is well below the strongly perceptible threshold (i.e., PPV of 0.1 inch per second) (refer to Table 4.11-5) as well as the 0.016 PPV in/sec limit from ConnectMenlo EIR Mitigation measure Noise-2a at the nearest residence during nighttime hours. When nighttime construction occurs farther north or at greater distances from these homes, nighttime vibration levels would be even lower. Therefore, vibration impacts from Project site nighttime construction related to annoyance and sleep disturbance would be considered ***less than significant***.

ConnectMenlo Mitigation Measure NOISE-2a.[30,31]

To prevent architectural damage citywide as a result of construction-generated vibration:

- Prior to the issuance of a building permit for any development project requiring pile driving or blasting, the project applicant/developer shall prepare a noise and vibration analysis to assess and mitigate potential noise and vibration impacts related to these activities. The maximum levels shall not exceed 0.2 in/sec, which is the level that can cause architectural damage for typical residential construction. If maximum levels would exceed the thresholds, alternative methods, such static rollers, non-explosive blasting, and pile drilling, as opposed to pile driving, shall be used to the extent feasible and practical, subject to review and determination by the Community Development Department.

To prevent vibration-induced annoyance as a result of construction-generated vibration:

- Individual projects that involve vibration-intensive construction activities, such as blasting or the use of pile drivers, jack hammers, or vibratory rollers, within 200 feet of sensitive receptors shall be evaluated for potential vibration impacts. A vibration study shall be conducted for individual projects where vibration-intensive impacts may occur. The study shall be prepared by an acoustical or vibration engineer holding a degree in engineering, physics, or an allied discipline who is able to demonstrate a minimum of 2 years of experience in preparing technical assessments regarding acoustics and/or ground-borne vibration. The study is subject to review and approval of the Community Development Department.

Vibration impacts on nearby receptors shall not exceed the vibration annoyance levels (in inches per second), as follows:

- Workshop = 0.126
- Office = 0.063
- Residence, daytime (7:00 a.m.–10:00 p.m.) = 0.032
- Residence, nighttime (10:00 p.m. to 7:00 a.m.) = 0.016

If construction-related vibration is determined to be perceptible at vibration-sensitive uses, additional requirements, such as less vibration-intensive equipment or construction techniques, shall be implemented during construction (e.g., non-explosive blasting, pile drilling, as opposed to pile driving, preclusion for vibratory roller use, use of small or medium-sized bulldozers) to the extent feasible and practical. Vibration reduction measures shall be incorporated into the site development plan as a component of the Project and applicable building plans, subject to the review and approval of the Community Development Department.

Project Mitigation Measure NOI-2.1: Vibration Control Measures for Annoyance from Daytime Pile Driving Activity.

During daytime hours, pile driving activity shall take place no closer than 335 feet from residential land uses, 210 feet from office or school land uses, and 130 feet from workshops or

[30] This noise and vibration study for the Proposed Project has been prepared in accordance with ConnectMenlo Mitigation Measure NOISE-2a.

[31] ConnectMenlo Mitigation Measure NOISE-2a has been modified to allow for compliance "to the extent feasible and practical," which would be subject to review and determination by the Community Development Department.

retail land uses, to the extent feasible and practical. When pile driving work must take place closer than these distances from the aforementioned land uses, reduction measures shall be incorporated to the extent feasible and practical, such as the use of alternative pile installation methods that do not require impact or vibratory pile driving. Examples of alternative pile installation methods include auger cast pressure grouted displacement (APGD) piles, stone columns, cast-in-drilled-hole (CIDH) piles, or press-in piles. These measures will be subject to review and approval of the Community Development Department.

In addition, the construction contractor shall appoint a Project vibration coordinator who will serve as the point of contact for vibration-related complaints during project construction. Contact information for the Project vibration coordinator will be posted at the Project Site and on a publicly available Project website. Should complaints be received, the Project vibration coordinator shall work with the construction team to adjust activities (e.g., drilling instead of driving piles in closer proximity to certain land uses) to the extent feasible and practical to reduce vibration or to reschedule activities for a less sensitive time. The Project vibration coordinator shall notify the Community Development Department of all vibration-related complaints and actions taken to address the complaints.

Project Mitigation Measure NOI-2.2: Vibration Control Measures for Annoyance from Daytime Construction Activities Excluding Pile Driving.

During daytime hours, construction activity involving a vibratory roller shall take place no closer than 90 feet from residential land uses, 60 feet from office or school land uses, and 35 feet from workshops or retail land uses, to the extent feasible and practical, subject to review and approval by the Community Development Department. In addition, equipment that generates vibration levels similar to a large bulldozer shall take place no closer than 50 feet from residential land uses, 35 feet from office or school land uses, and 20 feet from workshops or retail land uses, to the extent feasible and practical, subject to review and approval by the Community Development Department. Maintaining these distances between equipment and the nearest residential, school/office, or workshop land uses would ensure vibration levels would be below 0.032 PPV in/sec at the nearest residences, 0.063 PPV in/sec at the nearest school or office, and 0.126 PPV in/sec at the nearest workshop, per the requirements in ConnectMenlo Mitigation measure NOISE-2a.

When construction would require the use of these equipment types at distances closer than these to nearby sensitive uses, reduction measures shall be incorporated to the extent feasible and practical, such as the use of smaller or less vibration-intensive equipment. For example, the vibration level from a large bulldozer at 10 feet would be approximately 0.352 PPV in/sec, whereas the vibration level from a large bulldozer at the same distance would be approximately 0.012 PPV in/sec. The vibration level from a small bulldozer at 10 feet would be below all daytime vibration thresholds from ConnectMenlo Mitigation Measure Noise-2a. The feasibility of reduction measures shall be subject to review and determination by the Community Development Department. In addition, the construction contractor shall appoint a Project vibration coordinator who will serve as the point of contact for vibration-related complaints during Project construction. Contact information for the Project vibration coordinator will be posted at the Project Site and on a publicly available Project website. Should complaints be received, the Project vibration coordinator shall work with the construction team to adjust activities (e.g., drilling instead of driving piles in closer proximity to certain land uses) to the extent feasible and practical to reduce vibration or to reschedule activities for a less sensitive

time. The Project vibration coordinator shall notify the Community Development Department of all vibration-related complaints and actions taken to address the complaints.

Construction Vibration Impacts from Construction of Off-Site Improvements

Damage to Structures

For the construction activity for the off-site improvements, none of the equipment that would be required would be considered impact equipment other than the Willow Road Tunnel. Impact equipment is equipment that makes forceful contact with the ground, often repeatedly, such as a pile driver. The equipment required for most off-site improvements (other than the Willow Road Tunnel) would thus have a lesser potential to create groundborne vibration and to damage structures, relative to impact equipment. The residential structures in the neighborhoods surrounding the off-site improvements are likely best categorized as either as "new residential structures" or as "older residential structures" under the Caltrans Vibration Guidelines for Potential Damage to Structures (refer to Table 3.7-5, presented previously). It is conservatively assumed that all residential structures near the off-site improvement construction areas are "older residential structures". The damage criterion for structures in this category is a PPV of 0.3 in/sec.

Vibration-generating construction activity for off-site construction improvements besides the Willow Road Tunnel could take place as close as 15 feet from existing structures. As shown in Table 3.7-20 above, the most vibration-intensive equipment proposed for off-site improvements other than the Willow Road Tunnel (i.e., a large bulldozer or loaded truck) could result in vibration levels of 0.164 to 0.191 PPV in/sec at a distance of 15 feet. With respect to the damage threshold for older residential structures, these estimated vibration levels are below the Caltrans maximum allowable PPV vibration level for continuous/frequent intermittent sources of vibration. In addition to residential structures, the off-site improvements would also result in construction activity occurring near other types of structures, such as schools, markets, offices, and churches. These structures are likely most similar to the "modern commercial/industrial" category, and the applicable Caltrans damage criterion for these types of structures is 0.5 PPV in/sec. Because the off-site construction improvement activities would largely occur within roadways, a worst-case distance of 15 feet is also applicable for non-residential structures. Consequently, vibration levels from off-site improvement construction would exceed the applicable damage threshold to adjacent non-residential structures (i.e., commercial or industrial structures) because the damage threshold for these types of buildings is higher (i.e. less conservative) than the damage threshold for residential structures, as evaluated above.

Regarding the Willow Road Tunnel, the most vibration-intensive construction equipment proposed for use is pile drivers. Pile drivers would be used at least 100 feet from the nearest existing structure. At a distance of 100 feet, a pile driver produces a PPV vibration level of 0.190 in/sec, which is below the 0.5 PPV in/sec damage criterion for modern commercial/industrial structures, and the 0.3 and 0.5 PPV in/sec damage criteria for older and new residential structures, respectively. Therefore, construction from the Willow Road Tunnel would not be expected to result in damage at nearby structures.

Based on this assessment, vibration-related damage impacts from off-site improvements to nearby residential, school, and commercial/industrial buildings would be less than significant.

Vibration-Related Annoyance - Daytime Construction

Regarding annoyance-related vibration impacts, and as discussed previously, humans are typically considered more sensitive to vibration that occurs during nighttime hours (when people generally

sleep), but schools and places of work may also be considered sensitive to vibration during the daytime hours since vibration could affect a person's ability to complete work or focus on certain tasks.

A significant vibration impact is considered to occur under this assessment should construction activities generate vibration levels that are strongly perceptible (i.e., 0.1 PPV in/sec in Table 3.7-6) at nearby residential, school or commercial land uses during daytime or nighttime hours, or when vibration levels exceed the criteria outlines in ConnectMenlo EIR Mitigation Measure NOISE-2a. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.126 in/sec at the nearest workshop, 0.063 in/sec at the nearest office, 0.032 in/sec at the nearest residence during daytime hours, and 0.016 in/sec at the nearest residence during nighttime hours.

For the off-site improvements other than the Willow Road Tunnel (for which construction would primarily take place during nighttime hours), the nearest sensitive land uses could be approximately 15 feet from the construction equipment and trucks, as a worst-case scenario. The most vibration-intensive equipment, as noted above, could be a loaded truck or large bulldozer. A distance of 15 feet, this equipment could result in a vibration level of 0.164 to 0.191 PPV in/sec. This range of vibration is above the "strongly perceptible" level of 0.1 PPV in/sec (refer to Table 3.7-6 above for the Caltrans Vibration-related annoyance criteria), and exceeds the 0.032 PPV in/sec criteria for residences during daytime hours from ConnectMenlo EIR Mitigation Measure NOISE-2a. Additionally, some activity would occur during the nighttime hours for work in Caltrans-maintained roadways, and thus the nighttime threshold of 0.016 in/sec would be applicable and exceeded by the nighttime construction work.

It should be noted that most construction activities would take place further from the surrounding land uses than the worst-case distance of 15 feet. However, because vibration levels may exceed applicable vibration-related annoyance thresholds at nearby sensitive uses, annoyance related vibration impacts would be considered ***significant,*** and mitigation would be required***.***

Mitigation Measure NOI-2.2 would apply and would reduce vibration levels from non-pile driving activity through the use of a coordinator who will ensure that vibration-related complaints are properly addressed. Note that the recommended closest distances to sensitive receptors included in this measure may not be achievable for the off-site improvements due to the proximity of intersections and water or feeder line work to nearby sensitive uses. The coordinator described in Mitigation Measure NOI-2.2 would work with the construction team to modify the activities to reduce vibration or reschedule activities for a less sensitive time, to the extent feasible. However, it may not be possible to ensure that vibration levels would be reduced to below the applicable daytime and nighttime annoyance thresholds at all times and in all locations. Therefore, even with the implementation of Mitigation Measure NOI-2.2, daytime and nighttime annoyance-related vibration impacts would remain significant. Vibration-related annoyance impacts for the off-site improvements would be ***significant and unavoidable.***

Vibration-Related Annoyance - Nighttime Construction

As discussed in the assessment of on-site nighttime construction, humans are typically considered more sensitive to vibration that occurs during nighttime hours because this is when people generally sleep. For this analysis, a significant vibration impact would be considered to occur when construction activities generate vibration levels that are strongly perceptible (i.e., 0.1 PPV in/sec) at nearby residential land uses during nighttime hours, or when vibration levels exceed the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a for residential land uses during nighttime hours. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.016 in/sec at the nearest residence during nighttime hours, which is more stringent than the aforementioned Caltrans criterion, and is the main focus of this analysis.

Construction components that require road closures and are therefore difficult to conduct during daytime hours and generally required to be conducted at night by Caltrans. Therefore, the construction of the Willow Road Tunnel within the SamTrans and Caltrans right of way, northwest of the main Project Site, is expected to primarily be constructed during nighttime hours. It is anticipated that installation/removal of detours would take place over 16 nights, traffic shift activities would take place for 4 nights, tunnel shoring would take up to approximately 45 nights, and the restoration of Willow Road would take 14 nights.

Equipment that might be used during nighttime construction activities include excavators, hoe rams, loaders, grinders, jackhammers, pavers, rollers, light plants, off-haul trucks, utility trucks, highway striping machines, arrow boards, compressors, auger rigs, generators, vibratory impact hammer, impact pile driver, and cement silos. The most vibration-intensive of these activities would be tunnel shoring, which would require the installation of piles. At this time, it is unknown if an impact pile driver, a vibratory pile driver, or alternative installation method (e.g., drilling of piles) would be used. However, this analysis assumes that an impact pile driver may be used to provide a conservative assessment.

The nearest sensitive land use to the proposed nighttime construction area near the SamTrans and Caltrans right of way are the multi-family residences located at 777 Hamilton Avenue. These residences are approximately 480 feet southwest of the proposed nighttime construction areas within the SamTrans and Caltrans right of way. Additionally, there are multi-family residences approximately 550 feet south of this proposed construction area along Willow Road.

A pile driver, which is the most vibration-intensive equipment that may be used during nighttime hours, can result in a vibration level of 0.018 PPV in/sec at a distance of 480 feet (the distance to the nearest multi-family residences). This vibration level is slightly greater than the maximum allowable vibration level from ConnectMenlo EIR Mitigation Measure NOISE-2a of 0.016 PPV in/sec. At a distance of 550 feet, the distance to the nearest single-family residences, vibration from a pile driver would be approximately 0.15 PPV in/sec. This vibration level is below the maximum allowable nighttime vibration level for residences from ConnectMenlo EIR Mitigation Measure NOISE-2a.

Because nighttime construction in the SamTrans and Caltrans right of way may result in vibration levels in excess of the applicable thresholds from the ConnectMenlo EIR, nighttime annoyance-related vibration impacts to nearby residences from off-site construction would be considered ***significant***, and mitigation would be required.

Project Mitigation Measure NOI-2.3 would ensure that nighttime pile driving would take place at least 540 feet from the nearest residential land uses, as feasible. If pile installation must take place closer than this distance from occupied residences, alternative pile installation methods would be used to reduce vibration levels to below the applicable significance thresholds. However, it may not be possible to ensure that vibration levels at all times and in all locations would be reduced to below the applicable annoyance thresholds if pile driving work must occur closer than 540 feet from residences. Therefore, even with the implementation of Mitigation Measure NOI-2.3, annoyance-related vibration impacts during nighttime hours would remain significant. Vibration-related annoyance impacts during nighttime hours would be ***significant and unavoidable.***

Project Mitigation Measure NOI-2.3: Vibration Control Measures for Annoyance from Nighttime Pile Installation Activity.

> During the nighttime hours of 10:00 p.m. to 7:00 a.m., pile driving activity shall take place no closer than 540 feet from residential land uses to the extent feasible and practical. When pile

installation work must take place closer than this distance to residences, alternative pile installation methods that do not require impact or vibratory pile driving shall be employed to the extent feasible and practical. Examples of alternative pile installation methods include auger cast pressure grouted displacement (APGD) piles, stone columns, cast-in-drilled-hole (CIDH) piles, or press-in piles. The feasibility of these alternative measures shall be subject to review and determination of the Community Development Department.

In addition, the construction contractor shall appoint a Project vibration coordinator who will serve as the point of contact for vibration-related complaints during Project construction. Contact information for the Project vibration coordinator will be posted at the Project Site and on a publicly available Project website. Should complaints be received, the Project vibration coordinator shall work with the construction team to adjust activities (e.g., drilling instead of driving piles in closer proximity to certain land uses) to the extent feasible and practical to reduce vibration or to reschedule activities for a less sensitive time. The Project vibration coordinator shall notify the Community Development Department of all vibration-related complaints and actions taken to address the complaints.

Construction Vibration Impacts to Onsite Land Uses

Damage to Structures

Although not required by CEQA, this section describes vibration effects on the Project's users and residents during Project construction, as onsite residential land uses may be occupied during late-stage Project construction. It is anticipated that residential occupancy may occur as early as the end of August 2025. Later phases of construction that may be ongoing while some onsite buildings are occupied include tenant improvements (of parcels 3, 4, 5, 6, and 7), landscaping (of parcels 2, 3, 4, 5, 6, and 7), core and shell (for parcels 4 and 5), and the final phases of meeting and collaboration space and parks. Potential vibration-related damage impacts from onsite construction while onsite uses are occupied is assessed. During this time with overlapping occupancy and onsite construction, construction activities could occur as close as 20 feet to an existing structure (e.g., the distance between the North Garage and the Meeting and Collaboration Space). For the purposes of this analysis, it is assumed that all on-site structures would fall under the "modern industrial/commercial buildings" or "new residential structures" categories, both of which have a damage criterion of 0.5 PPV in/sec according to the Caltrans vibration guidelines shown in Table 3.7-5. The most vibration-intensive equipment proposed for use during the year 2026 include a small excavator or gradall, which can generate vibration levels similar to a small bulldozer. As shown in Table 3.7-20 above, equipment proposed for use during 2026 could result in vibration levels in the range of 0.004 PPV in/sec (e.g., for a small bulldozer) at the nearest on-site structure (North Garage), located at 20 feet. This vibration level is below the 0.5 PPV in/sec criterion for both "modern industrial/commercial buildings" and "new residential structures." At further distances, vibration levels would be even lower. Therefore, vibration-related damage impacts to onsite uses during late-stage construction (when onsite structures are complete and occupied, but construction is still ongoing) would be considered ***less than significant.***

Vibration-Related Annoyance

In addition to the assessment of vibration impacts to off-site uses, the potential for vibration-related-annoyance impacts to occur to on-site uses is assessed because some structures would be occupied while later stages of Project construction are ongoing. It is expected that construction equipment would be operating at least 25 feet from the nearest on-site occupied structures during this year. Although the South

Garage may be located as close as 20 feet from on-site construction during the second half of 2025 and 2026, this structure would not be occupied with vibration-sensitive uses. Humans are typically considered more sensitive to vibration that occurs during nighttime hours, when people generally sleep. However, places of work and onsite residences may also be considered sensitive to vibration since it may affect a person's ability to complete work or focus on certain tasks. For this analysis, a significant vibration impact would be considered to occur when construction activities generate vibration levels that are strongly perceptible (i.e., PPV of 0.1 inch per second) at on-site residential during daytime or nighttime hours, or when vibration levels exceed the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.063 in/sec at the nearest office, 0.032 in/sec at the nearest residence during daytime hours, and 0.016 in/sec at the nearest residence during nighttime hours. Nighttime construction would not take place during the later stages of Project development (when on-site uses are occupied) so estimated daytime vibration levels are compared to the applicable office and daytime residential thresholds from ConnectMenlo EIR Mitigation Measure NOISE-2a.

Construction during year 2026 would include tenant improvements, landscaping, core and shell, and the final phases for meeting, collaboration, and park. Activities, including landscaping, could occur within 25 feet on onsite buildings. At this distance, the PPV vibration level from proposed equipment (e.g., equipment similar to a small bulldozer) could be up to 0.003 PPV in/sec. Therefore, vibration from on-site construction would not exceed the 0.1 PPV in/sec "strongly perceptible" criterion, the 0.063 PPV in/sec office criterion from the ConnectMenlo EIR, or the 0.032 in/sec daytime residential criterion from the ConnectMenlo EIR. Therefore, vibration-related annoyance vibration impacts to onsite uses during late-stage construction would be considered ***less than significant.***

Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose of people residing or working in the project area to excessive noise levels (No Impact)

The three closest airports in relation to the Project Site include Moffett Federal Airfield, San Carlos Airport, and Palo Alto Airport. Moffett Federal Airfield is approximately 6 miles southeast of the Project Site, and the San Carlos is approximately 5.5 miles west of the Project Site. The Palo Alto Airport, located approximately 1.8 miles to the southeast, is the closest airport to the Project Site. According to the noise contours presented in the Comprehensive Land Use Plan for the Palo Alto Airport[32], there is approximately 2,000 feet between the Project Site and the 55 dBA CNEL noise contour line of the Palo Alto Airport. Therefore, the Project is located well outside of the 55 dBA CNEL Noise Contour for this airport, and even farther from the noise contours of the other aforementioned airports. According to Table 4-1 of the Comprehensive Land Use Plan for the Palo Alto Airport, all land use categories (including residential land uses) are considered compatible with noise levels below 55 CNEL. Therefore, the proposed Project would not expose people working or residing in the Project to excessive noise levels from either a public or public use airport or private airstrip. There would be ***no impact*** related to excessive aircraft noise levels.

[32] Santa Clara County, *Comprehensive Land Use Plan for the Palo Alto Airport*, November 2020. Available: https://stgenpln.blob.core.windows.net/document/ALUC_PAO_CLUP.pdf. Accessed March 23, 2022.

Cumulative Impacts

Impact C-NOI-1: Cumulative Noise Impacts. The Proposed Project would be a cumulatively considerable contributor to a significant cumulative impact on noise. (SU)

The geographic context used for the cumulative assessment of noise and vibration impacts typically encompasses cumulative projects within 1,000 feet of the project site, but the cumulative context for this analysis is the entire City. The cumulative noise analysis included in the ConnectMenlo EIR correctly stated that, noise levels decrease relatively rapidly with distance, and vibration impacts decrease even more rapidly, resulting in cumulative noise or vibration impacts across city boundaries to occur infrequently. Therefore, the cumulative context for noise and vibration impacts is essentially the same as discussed in the ConnectMenlo EIR. The closely related past, present, and probable future projects considered in this Draft EIR are listed in Tables 3.0-1 (Menlo Park) and 3.0-2 (East Palo Alto) and depicted in Figure 3.0-1. The cumulative impacts analysis contained in the ConnectMenlo EIR is incorporated into this Draft EIR. The cumulative land use assumptions reflect development projects that are under construction, approved, or pending in Menlo Park and East Palo Alto. More information on the approach to the Cumulative Impacts analysis is provided in Chapter 3, Environmental Impact Analysis, of this EIR.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the potential for cumulative noise and vibration impacts that could result from ConnectMenlo implementation in combination with other past, present, and probable future projects (pages 4.10-38 to 4.10-39). The geographic context used for the cumulative assessment of noise and vibration impacts was the City and adjacent areas. The ConnectMenlo cumulative analysis states that the direct project analyses components encompass and address cumulative noise impacts from the growth within Menlo Park and pursuant to ConnectMenlo because ambient noise level metrics which form the basis of the noise analysis necessarily incorporate noise from all other nearby perceptible sources and traffic-related noise levels are based upon both existing and projected future traffic volumes that incorporate cumulative regional effects and trends. In summary, the ConnectMenlo analysis of noise and vibration impacts was intrinsically a cumulative assessment. The ConnectMenlo EIR determined that, even with implementation of applicable regulations, the ConnectMenlo project, in combination with past, present, and reasonably foreseeable projects elsewhere in the City, would result in a significant cumulative impact with respect to noise and vibration. However, according to the ConnectMenlo EIR, implementation of ConnectMenlo Mitigation Measures Noise 1-a through Noise-1c, Noise 2-a, Noise 2-b and Noise-4 would reduce impacts to less-than-significant levels. Therefore, cumulative noise impacts under ConnectMenlo were determined to be ***less than significant with mitigation***.

Cumulative Impacts with the Proposed Project

As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at the 123 Independence Drive project and East Palo Alto projects. The 123 Independence Drive project and East Palo Alto projects, as well as other projects in the area, would be required to comply with existing local noise criteria outlined in the City Municipal Code; however, some projects nonetheless could exceed allowable noise limits, especially if construction would occur outside of the regular daytime hours for construction in the city, or depending on the specific operational sources of noise included in a project. Because of this, and because the ConnectMenlo EIR determined the cumulative noise impacts would be significant, these additional projects would not alter the cumulative

impact determination for noise and vibration stated in the ConnectMenlo EIR. To ensure a comprehensive assessment of cumulative noise and vibration impacts associated with the Project, cumulative impacts for specific noise and vibration subtopics are discussed in more detail below.

Construction Noise

Regarding construction noise, the Proposed Project land uses would not result in a substantial change in the ConnectMenlo project; however, new or different noise impacts are identified for the Proposed Project (as compared to the ConnectMenlo project) as a result of certain Project-specific features. For example, the ConnectMenlo EIR included ConnectMenlo Mitigation Measure NOISE-1c, which restricts construction to the standard daytime hours of 8:00 a.m. to 6:00 p.m. weekdays. Due to requirements related to the Project construction schedule and as a result of work being required within the Caltrans and SamTrans rights of way (only allowed at nighttime), these Proposed Project construction would not be limited to these hours. Therefore, new impacts for construction noise outside of these daytime weekday hours are identified, and new Project-specific mitigation is proposed. Because of the stringent thresholds that govern during these non-daytime hours for construction, and because Project construction may result in a 10-dB or greater increase in noise at nearby sensitive uses during daytime hours, the Project would result in a new significant and unavoidable noise impact for construction than included in the ConnectMenlo EIR. However, note that construction noise is a localized impact that reduces as distance from the noise source increases. In addition, intervening features (e.g., buildings) between construction areas and nearby noise-sensitive land uses result in additional noise attenuation by providing barriers that break the line of sight between noise-generating equipment and sensitive receptors. These barriers can block sound wave propagation and somewhat reduce noise at a given receiver. Therefore, for Project construction noise to combine with noise from other nearby construction projects to expose individual receptors to greater noise levels, the projects would need to be located in close proximity to one another.

Because there might be future or approved projects located in close proximity to the Project Site such that could undergo construction at the same time, cumulative construction noise impacts would be ***significant***. Although mitigation is applied to the Proposed Project to reduce construction noise impacts (see ConnectMenlo Mitigation Measure Noise-1c, and Project Mitigation Measures NOI-1.1 and NOI-1.2), including implementation of best practices and construction of temporary construction noise barriers, construction noise impacts for the Proposed Project were determined to be significant and unavoidable. Therefore, consistent with the conclusion in the ConnectMenlo EIR, the Proposed Project in combination with other past, present, and reasonably foreseeable future projects would result in a ***significant cumulative impact*** with respect to construction noise. Unlike the conclusion from the ConnectMenlo EIR pertaining to cumulative construction noise impacts, however, the Proposed Project's contribution to the cumulative impact would be cumulatively considerable and cumulative noise impacts would be ***significant and unavoidable with mitigation.***

Operational Traffic Noise

To determine potential cumulative noise impacts in the area as a result of the Proposed Project, vehicular traffic volumes from the baseline (no Project) scenario are compared to the cumulative (with-Project) scenario. For vehicular traffic noise impacts in areas where the baseline and resulting noise levels (under cumulative conditions) do not exceed the "normally acceptable" land use compatibility standard, an increase of more than 5 dB is considered a significant cumulative traffic noise increase. In areas where the existing or resulting noise levels (under cumulative conditions) do exceed the "normally acceptable" level, based on the land use compatibility chart, a 3 dB or larger increase from existing to cumulative plus-Project conditions is considered a significant cumulative traffic noise increase. Estimates of traffic

volumes for baseline (no-Project) and cumulative plus-Project conditions were based on the ratio analysis methodology described previously. For example, a doubling of traffic (e.g., from 100 to 200 vehicles on a given segment) would result in a 3 dB change in the noise level.

Table 3.7-21 shows the ratio analysis results for roadway segments that would experience at least an approximate doubling of traffic volumes from baseline to cumulative plus-Project conditions. Cumulative increases from baseline to cumulative plus-Project conditions would be between 101 and 1,883 percent for the segments included below in Table 3.7-21, resulting in a traffic noise increase from baseline to cumulative plus-Project conditions of between 3 and 12.9 dB. Therefore, because an increase of more than 3 dB would occur along some roadway segments from baseline to cumulative plus project conditions, cumulative traffic noise impacts would be considered significant.

Although traffic from cumulative development with the Project could increase noise by up to approximately 13 dB, much of that would come from the other development; the Project itself would contribute only a portion of this total dB change. The Project contribution to all of the aforementioned increases can be determined by conducting a ratio analysis of cumulative no-Project and cumulative plus-Project conditions. As shown in Table 3.7-21, the largest Project-related traffic increase from cumulative no-Project to cumulative plus-Project conditions (i.e., the Project contribution to a cumulative impact) would be 88 percent, which would correlate to an increase in noise of approximately 2.8 dB (noting that a change in noise of 3 dB is considered to be "barely perceptible"). Most evaluated segments would have much smaller project-related traffic increases, with many segments experiencing a less than 1 dB increase in noise from project-added traffic. Because Project-related increases in the cumulative condition would be less than 3 dB (and sometimes much less than 3 dB) for all analyzed segments, and although significant cumulative traffic noise impacts were identified, the Project contribution to significant cumulative traffic noise impacts would ***less than cumulatively considerable*** on all roadway segments.

Mechanical Equipment Noise

Although complete details about heating and cooling equipment for the Proposed Project and nearby development projects are not known at this time, because multiple projects may be located close to one another, it is possible that noise from heating and cooling for the Project could combine with heating and cooling noise from nearby projects to cause a cumulative noise impact at nearby noise- sensitive land uses. This cumulative impact is considered potentially significant. Therefore, consistent with the conclusion in the ConnectMenlo EIR, the Proposed Project in combination with other past, present, and reasonably foreseeable future projects would result in a ***significant*** cumulative impact with respect to operational equipment noise. With implementation of Project Mitigation Measure NOI-1.3: Mechanical Equipment Noise Reduction Plan, Project-related impacts would be reduced to less-than-significant levels; similar mitigation would be required for other projects in the project vicinity in order to ensure equipment noise complies with the applicable local noise standards. As a result, the contribution of the Proposed Project to the significant cumulative operational equipment noise impact would be ***less than cumulatively considerable with mitigation.***

Emergency Generator Noise

Emergency generators included in the development of future buildings under the cumulative conditions would result in the generation of audible noise during testing. However, note that emergency generators are tested intermittently, and noise from generators is exempted during actual emergencies. In addition, although specific details regarding the emergency generators proposed for nearby future projects are not known at this time, it is very unlikely that the testing of an emergency generator for the Proposed Project

would occur concurrently with the testing of a generator at a nearby project. Even if testing were to occur simultaneously, which is unlikely, it is not likely that the generators would be close enough to one another for the noise to combine at a given individual receptor. Therefore, cumulative noise impacts related to emergency generator testing would be ***less than significant***.

Vibration Damage and Annoyance

Vibration impacts are based on instantaneous PPV levels. Because PPV is a measure of the peak instantaneous vibration level rather than an average, other sources of vibration that may operate simultaneously (e.g. for other project sites, or even on the same project site) would not be expected to combine to raise the overall peak vibration level experienced at a nearby sensitive use. Worst-case ground-borne vibration levels are generally determined by whichever equipment generates the highest vibration level at the affected location, so vibration would be dominated by the closest and most vibration-intensive equipment being used at a given time.

In general, vibration from multiple construction sites, even if they are close to one another, would not combine to raise the maximum PPV level at sensitive uses near the Project Site. For this reason, the cumulative impact of construction vibration from multiple construction projects near one another (or even adjacent to one another) would generally not combine to increase PPV vibration levels. Cumulative vibration impacts would be ***less than significant.***

Table 3.7-21. Traffic Volume Increases Associated with Project Trips

Roadway Segment	Average Daily Traffic Volumes			Traffic Increase (%) from Baseline to Cumulative plus Project	Cumulative Noise Increase (Baseline vs. Cumulative plus Project)	Percentage Traffic Increase from Cumulative to Cumulative plus Project	Noise Increase (dB) from Project Contribution (Cumulative vs. Cumulative plus Project)
	Baseline (2019) ADT	Cumulative (no Project) ADT	Cumulative Plus Project ADT				
Constitution Drive West of Chrysler Drive	4,417	5,577	5,701	1833%	12.9	2%	0.1
Purdue Avenue East of University Avenue	4,271	8,303	9,099	337%	6.4	10%	0.4
O'Brien Drive East of Adams Drive	4,174	8,362	15,759	302%	6.0	88%	2.8
O'Brien Drive West of University Avenue	3,954	8,534	15,567	300%	6.0	82%	2.6
Ivy Drive West of Willow Road	1,915	6,602	6,602	245%	5.4	0%	0.0
O'Brien Drive West of Adams Drive	5,856	9,727	17,178	216%	5.0	77%	2.5
Saratoga Avenue North of Newbridge Street	495	1,538	1,538	211%	4.9	0%	0.0
Constitution Drive East of Chrysler Drive	3,995	8,829	8,957	210%	4.9	1%	0.1
Kavanaugh Drive East of O'Brien Drive	2,872	5,369	7,444	209%	4.9	39%	1.4
Adams Court West of Adams Drive	1,711	4,373	4,373	156%	4.1	0%	0.0
O'Brien Drive North of Kavanaugh Drive	6,116	9,987	13,993	146%	3.9	40%	1.5
Bay Road East of University Avenue	14,802	25,046	25,046	141%	3.8	0%	0.0

Roadway Segment	Average Daily Traffic Volumes			Traffic Increase (%) from Baseline to Cumulative plus Project	Cumulative Noise Increase (Baseline vs. Cumulative plus Project)	Percentage Traffic Increase from Cumulative to Cumulative plus Project	Noise Increase (dB) from Project Contribution (Cumulative vs. Cumulative plus Project)
	Baseline (2019) ADT	**Cumulative (no Project) ADT**	**Cumulative Plus Project ADT**				
Bell Street West of University Avenue	3,696	6,919	7,224	141%	3.8	4%	0.2
Bay Road West of Marsh Road	2,860	4,403	4,561	128%	3.6	4%	0.2
Euclid Avenue North of East Bayshore Road	4,302	7,023	7,218	118%	3.4	3%	0.1
O'Brien Drive East of Willow Road	8,026	14,290	14,290	105%	3.1	0%	0.0
Haven Avenue West of Marsh Road	11,673	20,403	21,044	104%	3.1	3%	0.1
Adams Drive South of Adams Court	2,636	5,300	5,300	101%	3.0	0%	0.0

Source: Hexagon Transportation Consultants —refer to Appendix 3.7.
Note: **Bolded** text indicates data mentioned in report.

3.8 Cultural and Tribal Cultural Resources

This section describes the affected environment and regulatory setting for cultural and tribal cultural resources. The term "cultural resources" refers to built-environment resources (e.g., buildings, structures, objects, districts), archaeological resources, and human remains. Tribal cultural resources can include cultural resources and sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe.

Included in this section are brief descriptions of the environmental, pre-European contact, ethnographic, and historic setting of the Project Site. Applicable state and local regulations are identified, followed by impact analyses and mitigation measures to reduce the impacts to less-than-significant levels.

This section relies on information from a records search at the Northwest Information Center (NWIC) of the California Historical Resources Information System, and studies provided by the Project Sponsor, as peer reviewed by ICF. The studies include the following:

- *Menlo Science and Technology Park, Department of Parks and Recreation Forms 523A, 523B, 523L*, by JRP Historical Consulting, LLC (2019, revised 2021);
- *Expanded Study Area for the Willow Village Project*, by JRP Historical Consulting, LLC (2020);
- *Historic Evaluation of Two Additional Built Resources Adjacent to the Expanded Study Area for the Willow Village Project, Menlo Park, California*, by JRP Historical Consulting, LLC (2021);
- *Request for Determination of Eligibility*, by P.S. Preservation Services (1996);
- *Southern Pacific Railroad, Dumbarton Cutoff Linear Historic District*, by JRP Historical Consulting, LLC (2008);
- *Dumbarton Cutoff, Department of Parks and Recreation Form 523L*, by JRP Historical Consulting, LLC (2017); and
- *Cultural Resources Assessment Report for Meta Willow Campus Project, City of Menlo Park, San Mateo County*, by Basin Research Associates (Basin) (2019, revised 2022).[1]

Issues identified in response to the Notice of Preparation (Appendix 1) were considered during preparation of this analysis. The applicable issues pertain to documentation of an archaeological records search and Native American consultation pursuant to Assembly Bill (AB) 52 and Senate Bill (SB) 18.

Existing Conditions

The setting for the Proposed Project considers existing as well as relevant historical conditions within the Study Area. The Study Area for cultural resources comprises the main Project Site, Hamilton Avenue Parcels North and South, and Willow Road Tunnel site as well as all adjoining parcels. The Study Area was

[1] This report contains confidential information regarding the location of archaeological resources. Such resources are nonrenewable, and their scientific, cultural, and aesthetic values can be significantly impaired by disturbance. To deter vandalism, artifact hunting, and other activities that can damage such resources, this study is not included in Appendix 3.8. The legal authority to restrict cultural resources information is in Section 304 of the National Historic Preservation Act of 1966, as amended. Furthermore, California Government Section Code 6254.10 exempts archaeological sites from the California Public Records Act, which requires that public records be open to public inspection.

delineated to consider potential impacts on built-environment, archaeological, tribal, and other cultural resources caused by Project activities, including ground disturbance, alteration, relocation, and building and/or structure demolition, which could result in a substantial adverse change in the significance of such resources. The inclusion of adjacent parcels in the Study Area acknowledges the potential for Project activities to diminish setting characteristics that may contribute to the historical integrity of nearby significant built-environment resources.

This section provides 1) a brief overview of the environmental, pre-European contact, and historical setting of the Project Site and surrounding area; 2) describes the methods used to establish baseline conditions for cultural and tribal cultural resources at the Project Site; and 3) describes the cultural resources identified on the Project Site and in the vicinity as well as their significance under the California Environmental Quality Act (CEQA).

Information pertaining to archeological resources is based on the *Cultural Resources Assessment Report for Meta Willow Campus Project, City of Menlo Park, San Mateo County,* herein referred to as the Cultural Resources Assessment Report, prepared by Basin on behalf of Pacific Innovation Partners, LLC (Project Sponsor) in 2019 (revised in 2022).

Environmental Setting

The Project Site is located along the southwest edge of San Francisco Bay. Natural habitats on the San Francisco Peninsula prior to historic development included grasslands and pockets of oak woodland that were populated by a variety of mammals, shorebirds and marine invertebrates, including the native California oyster (*Ostrea lurida*), bay mussel (*Mytilus edulis*), and bent-nosed clam (*Macoma nasuta*), among others.[2] The Project Site and vicinity would have included small freshwater marshes, tidal sloughs, and salt marshes along the bay margin.

The local climate is characterized as Mediterranean, with mild, rainy winters and dry, warm summers. The cold water of the bay creates fog, and relative humidity is high year-round.[3]

The past or current presence of moist grasslands and riparian forest/willow groves, coupled with tidal marshes in association with existing and former stream channels, appears to be a key element for predicting pre-European contact sites. Researchers have noted that pre-contact archaeological resources are often within 0.25 mile of flowing water in the Bay Area.

Pre-European Contact Setting

Human occupation in Northern California extends back at least 9,000 to 11,500 years, with Native occupation and use of the Bay Area extending back more than 5,000 to 8,000 years and possibly longer. Rising sea levels about 5,000 to 7,000 years ago and marshland infilling along estuary margins from about 7,000 years ago onward have obscured evidence of early occupation. The extent of shorelines and the locations of marshlands and creeks within the Project area have changed over the past 6,000 years because of both natural factors and urban development, particularly flood control.

[2] Broughton, J.M. 1999. Resource Depression and Intensification during the Late Holocene, San Francisco Bay: Evidence from the Emeryville Shellmound Vertebrate Fauna. In *Anthropological Records* 32:22.

[3] META Willow Village Project. 2022. Cultural Resources Assessment Report. Prepared for Pacific Innovation Partners, LLC. Schoenherr, Allan A. 1992. *A Natural History of California*. University of California Press, Berkeley, CA, p. 627.

Archaeological research in the Bay Area has been interpreted with use of several chronological schemes, based on stratigraphic differences and cultural traits. The initial classification sequence used three horizons, Early, Middle and Late, to designate both chronological periods and social change, based on stratigraphic patterns and an analysis of grave goods to explain local and regional cultural change from about 4,500 years ago to European contact. This classification scheme has been revised, although the prior nomenclature (Early, Middle, and Late Horizon) is still in common use. [4] Moratto suggests that the Early Horizon dates from circa 3,000/3,500 to 4,500 years ago, the Middle Horizon dates from circa 1,500 to 3,500 years ago, and the Late Horizon dates from circa 250 to 1,500 years ago.[5]

Hylkema has presented a four-period chronological framework for the northern Santa Clara Valley/southern Bay Area and provided details regarding the environment and chronology for selected archaeological sites from the southern Bay Area and peninsula.[6]

Early Native American use of the Study Area was heavily influenced by the presence of various seasonal creeks and marshlands around San Francisco Bay as well as the foothills to the east. Creeks provided a year-round source of freshwater and riparian resources, while the foothills provided access to nuts, seeds, game, tool stones, and other resources. San Francisco Bay and seasonal bodies of water would have been sources of fish, waterfowl and riparian vegetation.

Pre-European contact archaeological sites in the general vicinity represent habitation sites, including villages; temporary campsites; stone tool and other manufacturing areas; quarries for stone procurement; cemeteries, typically associated with large villages; isolated burial sites; rock art locations; bedrock mortars or other milling feature sites; and trails. Sites in the general area appear to have been selected for relative accessibility, protection from seasonal flooding, and proximity to a diversified resource base. Most of the prehistoric shellmounds and associated sites in the area are situated at the ecotone (boundary) between salt marsh and alluvial plain ecozones.

Archaeological information suggests a gradual steady increase in the population over time, with a growing focus on large permanent settlements in later periods. The transition from hunter-collectors to villages with a greater sedentary lifestyle was due to more efficient resource procurement as well as a focus on the exploitation food staples, greater ability to store food at village locations, and development of increasing complex social and political systems, including long-distance trade networks.

Ethnographic Setting

Menlo Park is situated within territory once occupied by the Costanoan, also commonly referred to as Ohlone. Eight Ohlone languages were spoken in the area, from the southern edge of the Carquinez Strait to portions of the Big Sur and Salinas Rivers south of Monterey Bay as well as areas approximately 50 miles inland from the coast. Menlo Park lies on the approximate ethnolinguistic boundary between the Tamyen and Ramaytush languages. Tamyen, or Santa Clara Costanoan, was spoken around the south end of San Francisco Bay and in the lower Santa Clara Valley; it seems to have had about 1,200 speakers. Ramaytush, or San Francisco Costanoan, was spoken by about 1,400 people in San Mateo and San Francisco Counties.[7]

---

[4] Fredrickson, D.A. 1994. Spatial and Cultural Units in Central California Archaeology. In *Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson*. Richard E. Hughes (ed.), pp. 25–47. Contributions of the University of California Archaeological Research Facility 52.

[5] Moratto, Michael J. 1984. *California Archaeology*. Academic Press, New York, NY.

[6] Hylkema, Mark G. 2002. Tidal Marsh, Oak Woodlands, and Cultural Florescence in the Southern San Francisco Bay Region. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*. J.M. Erlandson and T.L. Jones, (eds.) Perspectives in California Archaeology 6:233–262.

[7] Levy, R. 1978. Costanoan. In *Handbook of North American Indians*, Chapter 8, California, pp. 398–413. W.C. Sturtevant (ed.). Smithsonian Institution, Washington, DC.

Ohlone territories were composed of one or more land-holding groups that anthropologists refer to as *tribelets*. The tribelet consisted of a principal village that was occupied year-round; smaller hamlets and resource gathering and processing locations were occupied intermittently or seasonally.[8] The Puichon tribelet was on the western shore of San Francisco Bay, between lower San Francisquito Creek and lower Stevens Creek, now the areas where Menlo Park, Palo Alto, and Mountain View are located.[9]

Seven Spanish missions were founded in Ohlone territory between 1776 and 1797. While living within the mission system, the Ohlone commingled with other groups, including the Yokuts, Miwok, and Patwin. Members of the Puichon tribelet went to Mission San Francisco between 1781 and 1794 and Mission Santa Clara from 1781 to as late as 1805. Mission life was devastating to the Ohlone population.[10] When the first mission was established in Ohlone territory in 1776, the Ohlone population was estimated to be 10,000. By 1832, the Ohlone numbered less than 2,000 as a result of introduced disease, harsh living conditions, and reduced birth rates.[11,12,13]

Ohlone recognition and assertion began to move to the forefront during the early 20th century. This movement was enforced by legal suits brought against the United States government by the Indians of California (1928–1964) for reparation due to them for the loss of traditional lands. The Ohlone participated in the formation of political advocacy groups, which brought attention to the community and resulted in a re-evaluation of the rights due to its members.[14] In recent years, the Ohlone have become increasingly organized as a political unit and developed an active interest in preserving their ancestral heritage. Many Ohlone are active in maintaining their traditions and advocating for Native American issues.

Historic-Era Development

Spanish Period

The Spanish Period in the San Francisco Bay Area began in 1769 with initial historic exploration of the region and ended in 1821 when the area became part of newly independent Mexico. Between 1769 and 1776, several Spanish expeditions passed through Ohlone territory in the region, including the Fages (1770 and 1772) and Juan Bautista de Anza (1775/1776) expeditions. The route of Anza's 1776 exploration followed the baylands from San Francisquito Creek north to San Mateo Creek, passing through four Ohlone villages in the general vicinity of the Proposed Project.[15] A village with about 25 huts was

8 Kroeber, A.L. 1955. Nature of the Land-Holding Group. In *Ethnohistory* 2:303–314.

9 Milliken, R. 1995. *A Time of Little Choice: The Disintegration of Tribal Culture in the San Francisco Bay Area 1769–1810.* (Ballena Press Anthropological Papers No. 43.) Ballena Press, Novato, CA.

10 Ibid.

11 Cook, S.F. 1943a. The Conflict between the California Indians and White Civilization, I: The Indian Versus the Spanish Mission. In *Ibero-Americana* 21. Berkeley, CA.

12 Cook, S.F. 1943b. The Conflict between the California Indians and White Civilization, II: The Physical and Demographic Reaction of the Non-Mission Indians in Colonial and Provincial California. In *Ibero-Americana* 22. Berkeley, CA.

13 Levy, R. 1978. Costanoan. In *Handbook of North American Indians*, Chapter 8, California, pp. 398–413. W.C. Sturtevant (ed.). Smithsonian Institution, Washington, DC.

14 Bean, L.J. 1994. *The Ohlone Past and Present: Native Americans of the San Francisco Bay Region*. Ballena Press, Menlo Park, CA.

15 A designated a National Historic Trail (National Park Service 1995).

noted on the banks of San Francisquito Creek, to the south [*Ssiputca*], near present-day Middlefield Road.[16] Government policy in northwestern New Spain focused on the establishment of *presidios* (forts), missions, and *pueblos* (secular towns). No known Spanish Period structures or features are known to have been present in or adjacent to the Project Site.[17]

Mexican Period

The Mexican Period in the San Francisco Bay Area began in 1822 when Mexico gained control of the region from Spain and ended in 1848 with the conclusion of the Mexican-American War. During the Mexican Period, the present location of Menlo Park was within the former Rancho Los Cochintos, or *Cachanigtac*, later known as Rancho Las Pulgas. Rancho Las Pulgas was granted to José D. Arguello by Governor Diego de Borica in 1820 as well as Governor Pablo Vincente Sola in 1820 or 1821. On November 27, 1835, a formal grant was made to Luis Antonia Arguello, son of the presidio commandante, by Governor José Castro. On October 2, 1857, Arguello patented Rancho Las Pulgas to his second wife, Maria de la Soledad, et. al. In the intervening years, the property expanded from the original 17,754 acres (4 square leagues) to approximately 35,240.47 acres. It was bounded by San Mateo Creek on the north and San Francisquito Creek on the south. No known Mexican Period structures or features are known to have been present in or adjacent to the Project Site.[18]

American Period

California became a United States territory following the conclusion of the Mexican American War in 1848 and the Treaty of Guadalupe Hidalgo. California was admitted as a state in 1850. The gold rush, beginning in 1848, brought a massive influx of immigrants to California, with the estimated population of the territory increasing from less than 14,000 (exclusive of Native populations) to 224,000 between 1848 and 1852. San Mateo County was created in 1856 from the southern portion of San Francisco County. The county was expanded in 1868 through annexation of part of Santa Cruz County.

In the periods following the initial gold rush and later completion of the transcontinental railroad in 1869, many migrant laborers settled in California as farmers and ranchers, creating a new domestic market for agricultural products. This agricultural market was later broadened through railroad construction and development of the refrigerator railroad car in the 1880s.

---

[16] META Willow Village Project. 2022. Cultural Resources Assessment Report. Prepared for Pacific Innovation Partners, LLC. Bolton, H. 1930. *Anza's California Expeditions. Volume IV: Font's Complete Diary of the Second Anza Expedition*. University of California, Berkeley, CA, pp. 325 and 326; Hoover, M.B., H.E. Rensch, and E.G. Rensch. 1966. *Historic Sports in California*. Third edition. Revised by William N. Abeloe. Stanford University Press, Stanford, CA; Milliken, R.T. 1983. *The Spatial Organization of Human Population on Central California's San Francisco Peninsula at the Spanish Arrival*. Unpublished M.A. thesis, Department of Inter-Disciplinary Studies, Sonoma State University, Rohnert Park, CA; A.K. 1973–1974. Indians of San Mateo County. In *La Peninsula: Journal of San Mateo County Historical Association* 17(4).

[17] META Willow Village Project. 2022. Cultural Resources Assessment Report. Prepared for Pacific Innovation Partners, LLC. Hendry, G.W., and J.N. Bowman. 1940. *The Spanish and Mexican Adobe and Other Buildings in the Nine San Francisco Bay Counties, 1776 to about 1850.* MS on file, Bancroft Library, University of California, Berkeley, CA; Hoover et al. 1966. *Historic Sports in California*; Beck, W.A., and Y.D. Haase. 1974. *Historical Atlas of California.* Third printing. University of Oklahoma Press, Norman, OK.

[18] META Willow Village Project. 2022. Cultural Resources Assessment Report. Prepared for Pacific Innovation Partners, LLC. Hendry and Bowman. 1940. *The Spanish and Mexican Adobe and Other Buildings in the Nine San Francisco Bay Counties, 1776 to about 1850*; Hoover et al. 1966. *Historic Sports in California*; Beck and Haase. 1974. *Historical Atlas of California.* Third printing.

Construction of the San Francisco & San José Railroad (SF&SJRR) between 1861 and 1864 was a significant impetus to the development of towns on the San Mateo Peninsula. The SF&SJRR reached Redwood City in September 1863 and began regular service between San Francisco and Mayfield (now Palo Alto) on October 18, 1863. Service was extended to San José in January 1864. In 1869, SF&SJRR was consolidated into the Southern Pacific Railroad, which was acquired by the Central Pacific in 1870. The Caltrain commuter route, located southwest of the Project Site in downtown Menlo Park, follows the alignment of the original SF&SJRR line.

Increased settlement in the Bay Area led to construction and expansion of local and regional transportation systems during the latter 19th and early 20th centuries. These connected San Francisco to towns in San Mateo County. Notable transportation routes and systems in the Study Area included El Camino Real, former tolls roads, the San Francisco Railroad (1863) (later Southern Pacific Railroad [1906–1907]), the electric streetcar service in 1903, and the Bayshore Highway. [19]

City of Menlo Park

In the 1850s, Irish immigrants Dennis Oliver and Daniel McGlynn bought 1,700 acres along County Road, known today as El Camino Real, on the San Francisco Peninsula, approximately 20 miles south of current-day San Francisco. Oliver and McGlynn gave Menlo Park its name when they established "Menlough," a series of local farms named after their ancestral community. A few years later, Menlo Park became a desirable vacation destination for San Francisco's upper class. Palatial houses were constructed on large parcels in the burgeoning community. El Camino Real served as a major thoroughfare. Historic downtown Menlo Park ultimately developed along this route. Completion of the Southern Pacific Railroad (SPRR) through Menlo Park in 1863, and its connection to San José one year later, exponentially increased Menlo Park's accessibility to city dwellers who were seeking leisure in a rural environment. By 1874, Menlo Park incorporated in response to its rapid growth and infrastructure challenges.[20]

Through the late 19th and early 20th centuries, Menlo Park underwent several transformative events. Stanford University opened in 1891 south of Menlo Park, which strengthened the local economy. From 1907 to 1910, the SPRR constructed the Dumbarton Cutoff Line through northern Menlo Park, which provided a 16.4-mile freight connection from the SPRR San Francisco Peninsula mainline to the Alameda County mainline. A bridge built to carry the Dumbarton Cutoff across San Francisco Bay was the earliest structure to span the Bay. Furthermore, Menlo Park was chosen as the location for Camp Fremont, a World War I–era military training ground that brought in thousands of temporary inhabitants; Menlo Park's population of approximately 2,000 increased to approximately 40,000 during World War I. Numerous new businesses opened, and city improvements were undertaken during camp operations. These improvements remained to serve the growing city after the camp closed.[21]

---

[19] Hoover et al. 1966. *Historic Sports in California*; Fickewirth, A.A. 1992. *California Railroads: An Encyclopedia of Cable Car, Common Carrier, Horsecar, Industrial Interurban, Logging, Monorail, Motor Road, Short Lines, Streetcar, Switching and Terminal Railroad in California (1851–1992)*. Golden West Books, San Marino, CA; Hart, J.D. 1987. *A Companion to California.* Revised and expanded. Oxford University Press, New York, NY.

[20] Placeworks. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update.* June 1. Public review Draft EIR. Prepared for City of Menlo Park, CA.

[21] Placeworks. 2016. *ConnectMenlo*; P.S. Preservation Services. 1996. *Request for Determination of Eligibility for Inclusion in the National Register of Historic Places, Southern Pacific Railroad Dumbarton Cutoff, Southern Pacific Railroad Dumbarton Bridge, and Southern Pacific Railroad Newark Slough Bridge.* December. Sacramento, CA. Prepared for U.S. Coast Guard.

During the subsequent decades, Menlo Park developed from a small town to an important part of the increasingly urbanized San Francisco Peninsula region. Menlo Park's population rose from 2,414 residents in 1930 to 26,836 by 1970. In the 1920s and 1930s, Menlo Park's transportation infrastructure began to expand outward from downtown with the growth of its residential neighborhoods. By the late 1930s, El Camino Real expanded to four lanes, which resulted in the demolition, relocation, or closure of several Menlo Park structures and businesses. Simultaneously, the Belle Haven neighborhood, approximately 4 miles north of downtown Menlo Park and adjacent to San Francisco Bay, was developed by David D. Bohannon, with two-bedroom homes selling for as little as $2,950.[22]

Development of the entire San Francisco Peninsula continued during the mid-20th century, and Menlo Park became a de facto suburb of San Francisco. During this period, Menlo Park became a major technology hub, both regionally and globally. The Stanford Research Institute was established in 1946. By 1970, it was known as SRI International; it remains headquartered in Menlo Park. By the late 1950s, a white-collar industrial development market sprouted in Menlo Park, as in many of the nation's suburbs. Beginning in the 1980s, the rapid expansion of the technology sector increased Menlo Park's popularity. Menlo Park remains a highly sought-after residential community today. Meta Platforms, Inc. (Meta) continues to expand as a major economic presence in the city, while Silicon Valley, the region that includes northwest Santa Clara County and the southern portions of the San Francisco Peninsula, houses numerous major employers in the information technology industry.[23]

As presented previously, the Study Area for cultural resources comprises the main Project Site, Hamilton Avenue Parcels North and South, Willow Road Tunnel site, and all adjacent parcels. The following sections describe historical development patterns that took place specifically within the Study Area, as organized by subarea.

Main Project Site

The area immediately surrounding the main Project Site was settled first in the American Period by Irish immigrant Samuel Carnduff, who arrived in Ravenswood, California, in 1862 with his second wife and children. Carnduff first leased and later purchased 50 acres of the former Rancho Las Pulgas in 1865. Carnduff farmed wheat and hay and operated a dairy. Together with neighbor Samuel Nash, Carnduff also leased land and farmed additional crops. When Samuel Carnduff died in 1884, the property passed to his widow Anne and son William. In 1905, Anne Carnduff deeded a lineal easement for the Hetch-Hetchy aqueduct along part of the southern edge of the main Project Site to the Spring Valley Water Company.[24]

Anne Carnduff died in September 1917. Most of her estate, including the Carnduff farm, was transferred to William Carnduff. The Carnduff farm was sold to the United Helicopter Corporation (later Hiller Helicopters [currently Hiller Aircraft]) in 1947.

Hiller Aircraft began to construct facilities east of Menlo Park's Belle Haven neighborhood during the mid-1940s. After construction of its primary plant, Hiller Aircraft produced helicopters for the consumer market and, in the early 1950s, was one of a number of helicopter manufacturers that provided aircraft to the United States military for use in the Korean War. Later in the decade, the company placed greater emphasis on research and development and expanded its campus through construction of the Advanced Research Division

[22] Placeworks. 2016. *ConnectMenlo*.

[23] Ibid.

[24] The Spring Valley Water Company was later purchased by the City and County of San Francisco; it evolved into a municipal agency, the San Francisco Public Utilities Commission.

facility at 1390 Willow Road.[25] Hiller Aircraft continued to build new facilities for various support purposes during the 1950s and 1960s, accounting for the construction of the five additional buildings within the Menlo Science and Technology Park. By the late 1960s, ownership of Hiller Aircraft passed to larger companies. Several research- and industry-related tenants subsequently leased space within the development.[26]

From the late 1950s to the late 1960s, Lockheed Corporation, as a contractor to the U.S. Central Intelligence Agency, oversaw development of the CORONA surveillance satellite program within three leased buildings at Hiller Aircraft's Menlo Park campus. The program's primary aim was to develop a satellite that could be used for photographic reconnaissance over the Soviet Union. The Hiller Aircraft campus housed all aspects of the program, including technology development, assembly, and testing. The first successful launch of a satellite developed in Hiller Aircraft facilities took place in 1960; CORONA satellite deployment continued through the following decade. Lockheed relocated its CORONA development facilities to nearby Sunnyvale in 1969, and the program was discontinued in 1971.[27] More details on the history of Hiller Aircraft and the CORONA satellite program are available in the California Department of Parks and Recreation (DPR) form set for the Menlo Science and Technology Park included in Appendix 3.8-1, *Historical Resource Evaluations*.

In 1964, the Maryland-based Fairchild Stratos Corporation (Fairchild) purchased the main Project Site, with the intention of continuing helicopter manufacturing operations. However, by 1974, Fairchild ceased making helicopters and began leasing properties to various tenants. In 1979, Lincoln Properties purchased the site and began to redevelop it as the Lincoln Willow Business Park. In the following years, former Hiller helicopter buildings were demolished, and new buildings were constructed. By 1991, Hamilton Avenue and Hamilton Court extended to the main Project Site.[28] In 1998, AMB Property Corporation purchased the main Project Site from Lincoln and renamed it the Menlo Science and Technology Park. In 2015, Peninsula Innovation Partners, LLC (a subsidiary of Meta), purchased the main Project Site. Since then, the main Project Site has been used primarily as office space for Meta; several tenants with existing uses have continued to operate onsite.[29]

Hamilton Avenue Parcels North and South

Hamilton Avenue Parcel North previously consisted of undeveloped land that was used for hay cultivation, cattle grazing, and other agricultural operations. This site was developed with residential uses in the 1940s. By the 1960s, the site included a contractor's storage yard and commercial buildings. The Lefholz Construction Company occupied the site from at least 1969 to 1971. The Menlo Park City Housing Department occupied Hamilton Avenue Parcel North from 1973 to 1977. A Youth Service Center was located at the site from 1976 to 1980. The Big Six Domino Club was located at the site from 1988 to 1996.[30,31] In 2000, Hamilton Avenue Parcel North was developed with approximately 16,000 square feet of retail space, which currently includes the Belle Haven Retail Center and a Jack in the Box restaurant.

---

25 U.S. Geological Survey. 1953. *Palo Alto, California-Nevada.* Map, 1:24000, 15-minute series. Denver, CO.

26 JRP Historical Consulting, LLC. 2019. *Menlo Science and Technology Park*. Department of Parks and Recreation forms 523A, 523B, 523L, March 27.

27 JRP Historical Consulting, LLC. 2019. *Menlo Science and Technology Park*.

28 U.S. Geological Survey. 1991. *Palo Alto, California-Nevada.* Map, 1:24000, 15-minute series. Denver, CO.

29 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Menlo Science and Technology Park, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. August 16.

30 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871–899 Hamilton Avenue, Menlo Park, California*. June 16.

31 Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. April 23.

Hamilton Avenue Parcel South previously consisted of undeveloped land that was used for hay cultivation, cattle grazing, and other agricultural operations. The site was developed by the late 1930s with several small structures, providing church, retail, grocery, restaurant, and residential uses in the following decades. By 1991, the prior structures were removed; the site remained undeveloped until 2000.[32] At that time, a service station was constructed, including approximately 4,500 square feet of retail space and a car wash.

Willow Road Tunnel Site

Willow Road, adjacent to the west side of the main Project Site, was a private road by 1857 or 1858. By 1864, it was known as "Willow Road," a descriptor of the willows at the edge of the marsh.[33] In 1889, Willow Road proceeded a short distance east to the Carnduff farmstead. The Dumbarton Cutoff Line was completed in 1909 along the northern edge of the main Project Site; it was bisected by the Carnduff farm and Willow Road.[34] Willow Road was reportedly under construction when Dumbarton Bridge, the first automobile crossing on San Francisco Bay, approximately 1.75 miles northeast of the main Project Site, opened on January 15, 1927.[35] Upon the bridge's construction, Willow Road served as the primary automobile link to the west end of the bay crossing until the Bayfront Expressway was completed during final decades of the twentieth century. Historic aerial photographs indicate Willow Road has had an at-grade crossing with the Dumbarton Cutoff Line since the rail line was built.[36]

Built-Environment Resources

The following section presents details regarding built-environment resources within and adjacent to the Project Site with the potential to qualify as historical resources under CEQA. A property is considered a historical resource under CEQA if it is listed in or formally determined eligible for listing in the California Register of Historical Resources (California Register), included in an adopted local register, identified as significant in a qualifying historical resource survey, or otherwise determined by the CEQA lead agency to be historically significant. Table 3.8-1 summarizes the built-environment resources within the Study Area, their associated assessor's parcel numbers (as applicable), dates of construction, and a determination as to whether each resource qualifies as a significant historical resource under CEQA, based on previous evaluations.

[32] Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. October 13.

[33] META Willow Village Project. 2022. Cultural Resources Assessment Report. Prepared for Pacific Innovation Partners, LLC. Brown, A.K. 1975. *Place Names of San Mateo County*. San Mateo County Historical Association, College of San Mateo Campus, San Mateo, CA (see Sowers, J. 2005. *Creek and Watershed Map of Palo Alto and Vicinity.* Oakland Museum of California, Oakland, CA).

[34] META Willow Village Project. 2022. Cultural Resources Assessment Report. Prepared for Pacific Innovation Partners, LLC. William Self Associates. 2009. *Final Archaeological Research Design and Evaluation Plan: Bay Division Pipeline Reliability Upgrade Project*. Prepared on behalf of ENTRIX-Ward JV for U.S. Army Corps of Engineers and San Francisco Public Utilities Commission:2-27.

[35] META Willow Village Project. 2022. Cultural Resources Assessment Report. Prepared for Pacific Innovation Partners, LLC. Svanevik, Michael, and Shirley Burgett. 2000. *Menlo Park California: Beyond the Gate.* Second facsimile edition. Menlo Park Historical Association, Menlo Park, CA, p. 119.

[36] Nationwide Environmental Title Research, LLC. 1948, 1956, 1982, 1991. *Aerial Photograph of Willow Road, Menlo Park, California*. Available: https://www.historicaerials.com. Accessed: March 7, 2022.

Table 3.8-1. Historic-Aged Built-Environment Resources within the Study Area

Address/Name	APN	Date Constructed	Evaluation	CEQA Historical Resource
Main Project Site				
Main Project Site (all buildings evaluated collectively as a potential historic district)	Numerous	1956–1962	Not eligible for listing	No
1205–1275 Hamilton Court	055-440-010	1979	N/A (not of historic age)	No
1200–1240 Hamilton Court	055-440-020	1979	N/A (not of historic age)	No
1105–1195 Hamilton Court	055-440-030	1980	N/A (not of historic age)	No
1100–1190 Hamilton Court	055-440-040	1980	N/A (not of historic age)	No
1003–1005 Hamilton Avenue	055-440-050	1996	N/A (not of historic age)	No
927–953 Hamilton Avenue	055-440-090	1988	N/A (not of historic age)	No
959–967 Hamilton Avenue	055-440-090	1988	N/A (not of historic age)	No
1374–1376 Willow Road	055-440-110	1959–1962	Not eligible for listing	No
1390 Willow Road	055-440-130	1956	Not eligible for listing	No
925 Hamilton Avenue	055-440-190	1988	N/A (not of historic age)	No
1370 Willow Road	055-440-210	1962	Not eligible for listing	No
940 Hamilton Avenue	055-440-230	1962	Not eligible for listing	No
960 Hamilton Avenue	055-440-230	1982	Not eligible for listing*	No
980 Hamilton Avenue	055-440-260	1962	Not eligible for listing	No
1380 Willow Road	055-440-300	1982	N/A (not of historic age)	No
1010–1042 Hamilton Avenue	055-440-310	1981	N/A (not of historic age)	No
1050–1098 Hamilton Avenue	055-440-320	1981	N/A (not of historic age)	No
990–998 Hamilton Avenue	055-440-330	1982	N/A (not of historic age)	No
1360 Willow Road	055-440-340	1982	N/A (not of historic age)	No
1350 Willow Road	055-440-350	1985	N/A (not of historic age)	No
Hamilton Avenue Parcels North and South				
871–883 Hamilton Avenue	055-398-270	2000	N/A (not of historic age)	No
1401 Willow Road	055-398-280	2000	N/A (not of historic age)	No
1399 Willow Road	055-395-090	2000	N/A (not of historic age)	No
Offsite Parcels				
1385 Willow Road	055-383-560	1953	Not eligible for listing	No
1396 Carlton Avenue	055-395-060	1952	Not eligible for listing	No
777 Hamilton Avenue	055-398-290	2017	N/A (not of historic age)	No
1340 Willow Road	055-432-150	c. 1980–1982	N/A (not of historic age)	No
1305 O'Brien Drive/ 1350 Adams Court	055-472-030	1988/2016	N/A (not of historic age)	No
1355/1365 Adams Court	055-471-050	1985	N/A (not of historic age)	No
Dumbarton Cutoff Linear Historic District (containing the contributing Dumbarton Cutoff Line)	N/A	1907–1910	Eligible for National Register of Historic Places listing	**Yes**

Address/Name	APN	Date Constructed	Evaluation	CEQA Historical Resource

Sources: JRP Historical Consulting, LLC. 2021. *1385 Willow Road, Menlo Park, California*. June 2. Department of Parks and Recreation forms 523A, 523B, 523L; JRP Historical Consulting, LLC. 2021. *1396 Carlton Avenue, Menlo Park, California*. June 2. Department of Parks and Recreation forms 523A, 523B, 523L; JRP Historical Consulting, LLC. 2017, *Dumbarton Cutoff*. February 1. Department of Parks and Recreation form 523L; JRP Historical Consulting, LLC. 2021. *Menlo Science and Technology Park, Menlo Park, California.* Department of Parks and Recreation forms 523A, 523B, 523L; Nationwide Environmental Title Research, LLC. 1980, 1982*. Aerial Photograph of 1340 Willow Road, Menlo Park, California*. Available: https://www.historicaerials.com. Accessed: February 19, 2021; ParcelQuest. 2021. *Property Detail Report, 828 Hamilton Avenue, 777 Hamilton Avenue, and 1355 Adams Court, Menlo Park, CA.* Available: http://www.parcelquest.com. Accessed: February 19 and May 21, 2021; Peninsula Innovation Partners, LLC. 2020.

"*" denotes a resource that is not of historic age, based on City of Menlo Park property data, but the resource received a National Register of Historic Places and California Register of Historical Resources evaluation in JRP Historical Consulting, LLC, 2021, *Menlo Science and Technology Park, Menlo Park, California*, DPR forms 523A, 523B, 523L.

Main Project Site

The main Project Site is developed with 20 buildings, of which five are historic-aged buildings (i.e., more than 50 years old, the age above which built-environment resources generally have the potential to become eligible for listing in the California Register and therefore qualify as CEQA historical resources). The remaining 15 buildings have construction dates of 1979 or later, which is 50 years prior to the date the NOP was released.

Between 2019 and 2021, JRP Historical Consulting, LLC (JRP), prepared a DPR form set for the main Project Site to document evaluation of historic-aged buildings as well as the property as a whole. JRP's evaluation found that three buildings—1390 Willow Road, 940 Hamilton Avenue, and 960 Hamilton Avenue[37]—met the significance requirements of National Register of Historic Places (National Register)/California Register Criteria A/1 (i.e., significant events) for their associations with the CORONA surveillance satellite program. The remaining three historic-aged buildings within the main Project Site were not associated historically with the CORONA program, and no other tenants on the site (including Hiller Aircraft) appear to have made significant contributions to local, regional/state, or national history to the extent necessary to support Criteria A/1 significance.

Although the three buildings used for the CORONA program appear to have historical significance, JRP evaluated the buildings' integrity relative to their proposed period of significance, 1958–1969, and found that 1390 Willow Road, 940 Hamilton Avenue, 960 Hamilton Avenue, as well as their immediate environment, have been altered to such a degree that the buildings have diminished integrity of setting, design, materials, workmanship, feeling, and association. Because of these diminished aspects of integrity, JRP found that the overall integrity of the resources has been compromised and that they no longer reflect their character from the time when they were used for the CORONA program. As a result, the JRP evaluation concluded that the three buildings do not convey their historical significance and are not eligible for listing in the National Register or California Register. Furthermore, JRP determined that none of the historic-aged buildings in the Menlo Science and Technology Park, nor the property as a whole, meets the significance thresholds established by National Register/California Register

[37] Note that JRP also evaluated 960 Hamilton Avenue, despite the fact that the City of Menlo Park property data indicate that the building was constructed in 1982 and therefore was not yet 50 years old when the NOP was released.

Criteria B/2 (i.e., significant persons), C/3 (i.e., significant architecture, design, engineering), and D/4 (i.e., significant information potential).[38] The DPR form set documenting JRP's evaluation of the Menlo Science and Technology Park is available in Appendix 3.8, *Historical Resource Evaluations*.

Hamilton Avenue Parcels

The buildings on Hamilton Avenue Parcels North and South are not of historic age.

Offsite Parcels

The main Project Site and Hamilton Avenue Parcels North and South lie adjacent to several residential, commercial, and institutional buildings. None of the buildings adjacent to the main Project Site appear to be more than 50 years old; however, two residential buildings adjacent to Hamilton Avenue Parcels North and South were constructed during the early 1950s. These two buildings, 1385 Willow Road and 1396 Carlton Avenue, received National Register/California Register evaluations, as documented on DPR form sets, in 2021 to establish their historical resource status. The 2021 evaluations found that neither building meets the eligibility requirements of the National Register or California Register and neither qualifies as a CEQA historical resource.[39, 40]

Offsite Improvements

Offsite improvement locations include the roundabout at the Hetch-Hetchy right-of-way; areas along Hamilton Avenue, Bayfront Expressway, and a portion of Willow Road and University Avenue for underground utility lines; the Pacific Gas and Electric Company Ravenswood substation and associated utility line locations; and various intersections. All locations are within urbanized areas that have been previously disturbed and do not contain built-environment resources (e.g., buildings, structures, objects, districts) that would qualify as historical resources. In addition, Willow Road Tunnel, proposed as part of the Project, would extend northward from the main Project Site under the Dumbarton Cutoff Line at Willow Road. Originally constructed from 1907 to 1910, the Dumbarton Cutoff Line consists of tracks that were first recorded by P.S. Preservation Services on a DPR form set in 1996. According to this recordation, the 16.4-mile Dumbarton Cutoff Line, including features between Redwood City in San Mateo County to the west and Niles in Alameda County to the east, contributes to the Dumbarton Cutoff Linear Historic District.

The 1996 P.S. Preservation Services study found the district eligible for listing in the National Register under Criterion A and identified 1909–1945 as its period of significance. JRP subsequently updated the district documentation in 2008 through a DPR update sheet that, in addition to confirming the Dumbarton Cutoff Linear Historic District's eligibility for listing in the National Register, added three contributing culverts. JRP again updated the district's documentation in 2017 by reiterating its National Register eligibility and clarifying information regarding the historic property boundary and character-defining features of the resource. In 2019, the California State Historic Preservation Officer (SHPO) concurred with the findings of the 2017 DPR recordation through the Section 106 process. As a result of SHPO concurrence, the Dumbarton Cutoff Linear Historic District—inclusive of the rail corridor—is

[38] JRP Historical Consulting, LLC. 2021. *Menlo Science and Technology Park*.

[39] JRP Historical Consulting, LLC. 2021. *1385 Willow Road, Menlo Park, California*. June 2. Department of Parks and Recreation forms 523A, 523B, 523L; JRP Historical Consulting, LLC. 2021. *1396 Carlton Avenue, Menlo Park, California*. June 2. Department of Parks and Recreation forms 523A, 523B, 523L.

[40] The properties at 1385 Willow Road and 1396 Carlton Avenue were evaluated pursuant to Mitigation Measure CULT-1 of the ConnectMenlo EIR, which requires an individual project proposed on *or adjacent to* a site with a building that is more than 50 years old to prepare a site-specific evaluation of the historic-aged resources.

formally listed in the California Register pursuant to Public Resources Code (PRC) Section 5024.1(d)(1). Furthermore, it qualifies as a historical resource under CEQA per Section 15064.5(a)(1) of the CEQA Guidelines.

As established in the 1996, 2012, and 2017 recordations, the contributing elements of the Dumbarton Cutoff Linear Historic District are the following: Dumbarton Cutoff Line, Dumbarton Bridge, Newark Slough Bridge, Henderson Underpass, University Culvert, and Newark Culvert. Located immediately adjacent to the Project Site, the Dumbarton Cutoff Line consists of a single set of standard-gauge steel tracks on wooden ties and stone ballast along a low earthen berm; only the track is visible at the surface where the linear resource crosses Dumbarton Road. The segment of the Dumbarton Cutoff Line adjacent to the Project Site is assumed to date to the historical resource's period of significance, although appurtenant features such as crossing signals were installed at a later date.[41]

Archaeological Resources

Records Search and Literature Review

The Cultural Resources Assessment Report prepared by Basin includes archival record searches and literature reviews conducted at the Northwest Information Center (NWIC); Bancroft Library at the University of California, Berkeley; and Basin Research Associates, San Leandro, as described below.

Main Project Site and Hamilton Avenue Parcels North and South

The records search and literature review identified one previously recorded multi-component (historic and pre-European contact) archaeological resource within the Project Site, CA-SMA-160/H (P-41-000160), also referred to as the Hiller Mound. The historic component of CA-SMA-160/H consists of the remains of the Carnduff farm. Samuel Carnduff originally purchased 50 acres in 1865, then eventually expanded his holdings to 180 acres. The pre-European contact component of this resource has been subject to multiple phases of archaeological investigation since 1949. More recently, archaeological material was identified during infrastructure improvements and other development in 2012 and 2017. Discoveries encountered during construction-related ground disturbance in 2012 and 2017 were overseen by the Native American Heritage Commission– (NAHC-) appointed Most Likely Descendant (MLD).[42] The NAHC-appointed Most Likely Descendent was a member of the Amah Mutsun Band of Mission San Juan Bautista.

The archeological component of the Hiller Mound has several parts, the most culturally sensitive of which is referred to as the Hiller Mound Core. Although CA-SMA-160/H has not been formally evaluated for eligibility for listing in the California Register, it has been assumed eligible under Criterion 4 for its potential to contribute to regional research questions, given its age and the significance of the data that it contains. Furthermore, it was subsequently assumed eligible for listing in the National Register under Criterion D. According to the Cultural Resources Assessment Report, the resource also appears eligible for the California Register under Criterion 1 because of its importance to Ohlone culture, as ascribed by the MLD.[43]

---

41 P.S. Preservation Services. 1996. *Request for Determination of Eligibility*; JRP Historical Consulting, LLC. 2008. *Southern Pacific Railroad, Dumbarton Cutoff Linear Historic District*. Department of Parks and Recreation form 523L. June 4; JRP Historical Consulting, LLC. 2017. *Dumbarton Cutoff*. February 1. Department of Parks and Recreation form 523L.

42 Basin Research Associates, Inc. 2019, revised 2022. *Cultural Resources Assessment Report*. Meta Willow Campus Project, City of Menlo Park, San Mateo County, CA. Prepared for Pacific Innovation Partners, LLC.

43 Ibid.

An Enhanced Identification Program (EIP) was implemented by Basin in 2017 and reported in 2019. The purpose of the EIP was to identify the horizontal and vertical extent of subsurface cultural deposits associated with CA-SMA-160/H within the main Project Site. Qualified archaeologists and Native American monitors were present during all identification activities.[44]

Offsite Parcels

One additional archaeological resource was identified in the vicinity of the Project Site. This resource consists of the structural remains of Schilling's Arden Salt Works at the Ravenswood and Alviso salt ponds (P-41-002351). The site, located 0.3 mile from the Project Site, was previously evaluated for its significance and determined not eligible for listing in the National Register. This is the only offsite known archaeological resource identified in the Cultural Resources Assessment Report.

Assembly Bill 52 and Senate Bill 18 Consultation

To identify additional archaeologically sensitive areas and potential tribal cultural resources within the Project area, the City of Menlo Park (City) contacted seven individuals who represent five local California Native American tribes. Letters with Project details, a map, and a request for consultation were sent on December 23, 2020. The letters solicited responses from each contact, including questions, comments, or concerns regarding the Proposed Project. The letters were sent to the following local California Native American tribes:

- Amah Mutsun Tribal Band
- Costanoan Rumsen Carmel Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- The Ohlone Indian Tribe

In July 2021, the City requested an updated AB 52 and Senate Bill (SB) 18 consultation list from the NAHC. On July 23, 2021, the City received a tribal consultation list, including nine contacts from the following California Native American tribes:

- Amah Mutsun Tribal Band
- Costanoan Rumsen Carmel Tribe
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
- The Ohlone Indian Tribe
- Wuksache Indian Tribe/Eshom Valley Band
- Tamien Nation

Consistent with the requirements of PRC Section 21080.3.1, the City mailed letters on December 23, 2020, to the original seven tribal contacts and on September 9, 2021, to the additional tribal contacts who were identified by the NAHC, notifying them of their opportunity to consult for the Proposed

[44] Ibid.

Project and identify and mitigate the Proposed Project's potential impacts on tribal cultural resources. To date, the City has received requests for consultation from the Amah Mutsun Tribal Band, Tamien Nation, and Muwekma Ohlone Tribe. Consultation efforts are ongoing.

Regulatory Setting

Federal

National Historic Preservation Act, Section 106

Although the Proposed Project is not anticipated to require compliance with Section 106 of the National Historic Preservation Act, the National Register and federal guidelines related to the treatment of cultural resources are relevant for the purposes of determining whether significant cultural resources, as defined under CEQA, are present and guiding the treatment of such resources.

National Historic Preservation Act and National Register of Historic Places

Built-environment and archaeological resources are protected through the National Historic Preservation Act (16 United States Code 470f). The National Historic Preservation Act requires project review of effects on historic properties only when projects involve federal funding or permitting or occur on federal land; therefore, it is not applicable to discretionary actions at the municipal level. However, the National Historic Preservation Act establishes the National Register, which provides a framework for resource evaluation and informs the process for determining impacts on historical resources under CEQA.

The National Register is the nation's official comprehensive inventory of historic resources. Administered by the National Park Service, the National Register includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. Typically, a resource that is more than 50 years of age is eligible for listing in the National Register if it meets any one of the four eligibility criteria *and* retains sufficient historical integrity. A resource less than 50 years old may be eligible if it can be demonstrated that it is of "exceptional importance" or a contributor to a historic district. National Register criteria are defined in *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation*.

Properties that are listed in the National Register, as well as properties that are formally determined to be eligible for listing in the National Register, are automatically listed in the California Register, described below, and therefore considered historical resources under CEQA.

State

California Environmental Quality Act (other than sections added by AB 52)

CEQA, as codified in PRC Section 21000 et seq. and implemented by the CEQA Guidelines (14 California Code of Regulations Section 15000 et seq.), is the principal statute governing environmental review of projects in California. CEQA defines a historical resource as a property listed in, or eligible for listing in, the California Register; included in a qualifying local register; or determined by a lead agency to be historically significant. In order to be considered a historical resource, a property must be old enough to allow an understanding of the historic importance of the resource and obtain a scholarly perspective on the events or individuals associated with the resource, which is generally at least 50 years. Section 21084.1 of the PRC and Section 15064.5 of the CEQA Guidelines define a historical resource for purposes of CEQA as the following:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register (PRC Section 5024.1).

2. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g). Such resources will be presumed to be historically or culturally significant. Public agencies must treat such resources as significant, unless the preponderance of evidence demonstrates that they are not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the California Register (PRC Section 5024.1).

4. The fact that a resource is not listed in or determined to be eligible for listing in the California Register, not included in a local register of historical resources (pursuant to PRC Section 5020.1[k]), or identified in a historical resources survey (meeting the criteria in PRC Section 5024.1[g]) does not preclude a lead agency from determining that the resource may be a historical resource, as defined in PRC Sections 5020.1(j) or 5024.1.

CEQA also requires lead agencies to consider whether projects will affect unique archaeological resources. PRC Section 21083.2(g) states that "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2. Has a special and particular quality, such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

CEQA requires lead agencies to determine if a project would have a significant effect on historical resources or unique archaeological resources. If a resource is neither a unique archaeological resource nor a historical resource, the CEQA Guidelines note that the effects of a project on that resource shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064.5[c][4]). In addition, projects that comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties benefit from a regulatory presumption under CEQA that they would have a less-than-significant impact on a historical resource (14 California Code of Regulations 15126.4[b][1]). Projects that do not comply with the Secretary's standards may or may not cause a substantial adverse change in the significance of a historical resource and may be subject to further analysis to assess whether they would result in material impairment of a historical resource's significance.

Under CEQA, a substantial adverse change in the significance of a historical resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Actions that would materially

impair the significance of a historical resource are any actions that would demolish or adversely alter the physical characteristics that convey the property's historical significance and qualify it for inclusion in the California Register, the National Register, or in a local register or survey that meets the requirements of PRC Sections 5020.1(k) and 5024.1(g).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and indicating which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The California Register criteria are based on the National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by CEQA to be automatically included in the California Register, including California properties that were formally eligible for or listed in the National Register. To be eligible for the California Register as a historical resource, a resource must be significant at the local, state, and/or federal level under one or more of the following evaluative criteria, as defined in PRC Section 5024.1(c):

1. The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. The resource is associated with the lives of persons important in our past.
3. The resource embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. The resource has yielded, or may be likely to yield, information important in prehistory or history.

As with the National Register, a significant historical resource must possess integrity in addition to meeting the significance criteria to be considered eligible for listing in the California Register. Consideration of integrity for evaluation of California Register eligibility follows the definitions and criteria from National Park Service *National Register Bulletin 15*.

California Native American Historic Resources Protection Act

The California Native American Historic Resources Protection Act of 2002 imposes civil penalties, including imprisonment and fines of up to $50,000 per violation, for persons who unlawfully and maliciously excavate, remove, destroy, injure, or deface a Native American historic, cultural, or sacred site that is listed or may be listed in the California Register.

Assembly Bill 52

Tribal cultural resources were originally identified as a distinct CEQA environmental category with the adoption of AB 52 in September 2014. For all projects that are subject to CEQA that received a notice of preparation, notice of negative declaration, or mitigated negative declaration on or after July 1, 2015, AB 52 requires the lead agency for a proposed project to consult with the geographically affiliated California Native American tribes. The legislation creates a broad, new category for environmental resources, "tribal cultural resources," which must be considered under CEQA. AB 52 requires a lead agency to not only consider the resource's scientific and historical value but also whether it is culturally important to a California Native American tribe.

AB 52 defines tribal cultural resources as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are included in or determined to be eligible for inclusion in the California Register; included in a local register of historical resources, as defined in PRC Section 5020.1(k); or determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria of PRC Section 5024.1(c) (CEQA Section 21074). A cultural landscape that meets the definition of a tribal cultural resource is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. A historical resource described in PRC Section 21084.1; a unique archaeological resource, as defined in subdivision (g) of PRC Section 21083.2; or a "nonunique archaeological resource," as defined in subdivision (h) of PRC Section 21083.2 may also be a tribal cultural resource if it conforms to the definition of a tribal cultural resource.

AB 52 also sets up an expanded consultation process. For projects initiated after July 1, 2015, lead agencies are required to provide notice of the proposed projects to any tribe that is traditionally and culturally affiliated with the geographic area that requested to be informed by the lead agency, following PRC Section 21018.3.1(b). If, within 30 days, a tribe requests consultation, the consultation process must begin before the lead agency can release a draft environmental document. Consultation with the tribe may include discussion of the type of review necessary, the significance of tribal cultural resources, the significance of a project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. The consultation process will be deemed concluded when either (a) the parties agree to mitigation measures or (b) any party concludes, after a good-faith effort, that an agreement cannot be reached. Any mitigation measures agreed to by the tribe and lead agency must be recommended for inclusion in the environmental document. If a tribe does not request consultation, or otherwise assist in identifying mitigation measures during the consultation process, a lead agency may still consider mitigation measures if the agency determines that a project will cause a substantial adverse change to a tribal cultural resource.

Senate Bill 18

SB 18, established in September 2004, requires local governments to consult with California Native American tribes prior to preparing or amending both general plans (as defined in California Government Code Section 65300 et seq.) and specific plans (as defined in Government Code Section 65450 et seq.). The purpose of this consultation is to include California Native American tribes early in the planning process to allow for the identification and protection of cultural resources. This process also allows cultural resources to be considered during the broad-scale local and regional planning process rather than at a project level. The following includes a sequential list of local government responsibilities:

- Local governments must notify appropriate tribes, as identified by the NAHC, prior to the adoption or amendment of a general plan or specific plan.
- Tribes have 90 days from the receipt of notification to request consultation (Government Code Section 65352.3).
- Prior to the adoption or substantial amendment of a general plan or specific plan, local governments must refer the proposed action to the appropriate tribes, as identified by the NAHC, regardless of whether previous consultation has taken place.
- Local governments must allow a 45-day comment period (Government Code Section 65352).
- Local governments must provide notice of a public hearing to all tribes that filed a written request for such notice at least 10 days prior to the hearing (Government Code Section 65092).

Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner, and cause of any death. If the coroner determines that the remains are not subject to his or her authority and recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact by telephone within 24 hours the NAHC.

Public Resources Code Section 5097.98

Section 5097.98 of the PRC stipulates that whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The decedents may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and recommend to the owner or the person responsible for the excavation work means for treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. The descendants shall complete their inspection and make their recommendation within 24 hours of their notification by the NAHC. The recommendation may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Local

Menlo Park General Plan

The City General Plan consists of Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2015–2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The following goals and policies from the Land Use Element that have been adopted to avoid or mitigate environmental impacts are relevant to cultural and tribal resources and the Proposed Project:

Goal LU-7: Sustainable Services. Promote the implementation and maintenance of sustainable development, facilities, and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

> **Policy LU-7.8: Cultural Resource Preservation**. Promote preservation of buildings, objects, and sites with historic and/or cultural significance.[45]

The following goals and policies from the Open Space/Conservation Element that have been adopted to avoid or mitigate environmental impacts are relevant to cultural resources and the Proposed Project:

Goal OSC-3: Protect and Enhance Historic Resources. Protect and enhance cultural and historical resources for their aesthetic, scientific, educational, and cultural values.

[45] City of Menlo Park. 2016. *ConnectMenlo: Menlo Park Land Use and Mobility Update*, *City of Menlo Park General Plan.* Adopted: November 29. Available: https://www.menlopark.org/DocumentCenter/View/15014/Land-Use-Element_adopted-112916_final_figures?bidId=. Accessed: March 17, 2022.

Policy OSC-3.1: Prehistoric or Historic Cultural Resources Investigation and Preservation. Preserve historical and cultural resources to the maximum extent practical.

Policy OSC-3.2: Prehistoric or Historic Cultural Resources Protection. Require significant historic or prehistoric artifacts to be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation and to ensure compliance with local, state, and federal regulations.

Policy OSC-3.3: Archaeological or Paleontological Resources Protection. Protect prehistoric or historic cultural resources either onsite or through appropriate documentation as a condition of removal. When a development project has sufficient flexibility, require avoidance or preservation of the resources as the primary form of mitigation, unless the City identifies superior mitigation. If resources are documented, undertake coordination with descendants and/or stakeholder groups, as warranted.

Policy OSC-3.4: Prehistoric or Historic Cultural Resources Found during Construction. If cultural resources, including archaeological or paleontological resources, are uncovered during grading or other onsite excavation activities, require construction to stop until appropriate mitigation is implemented.

Policy OSC-3.5: Consultation with Native American Tribes. Consult with those Native American tribes with ancestral ties to the Menlo Park city limits regarding General Plan amendments and land use policy changes.

Policy OSC-3.6: Identification of Potential Historic Resources. Identify historic resources for the historic district in the Zoning Ordinance and require design review of proposals affecting historic buildings.[46]

Environmental Impacts

This section describes environmental impacts related to cultural and tribal cultural resources that could result from implementation of the Proposed Project. The section begins with criteria of significance that establish the thresholds for determining whether an impact would be significant. It then presents impacts associated with the Proposed Project and identifies mitigation measures to address the impacts as needed.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect on cultural or tribal cultural resources if it would:

- Cause a substantial adverse change in the significance of a historical resource, pursuant to CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Disturb any human remains, including those interred outside of dedicated cemeteries; or
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is:

[46] City of Menlo Park. 2013. *Open Space/Conservation, Noise, and Safety Elements, at Home in Menlo Park*, *City of Menlo Park General Plan.* Adopted: May 21. Available: https://www.menlopark.org/DocumentCenter/View/234/Open-Space-and-Conservation-Noise-and-Safety-Elements?bidId=. Accessed: April 28, 2021.

- Listed or eligible for listing in the California Register or in a local register of historical resources, as defined in PRC Section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

A discussion of each of these criteria is included in the impact analysis below. If an impact on a historical, archaeological, or tribal cultural resource would be significant, CEQA requires feasible measures to minimize the impact (14 California Code of Regulations Section 15126.4[a][1]).

Methods for Analysis

The following section analyzes potential impacts on built-environment, archaeological, and tribal cultural resources, as well as human remains, that may be caused by the Proposed Project. Impacts of the Proposed Project are analyzed for built-environment resources within or adjacent to the Project Site that meet the definition of historical resources, as outlined in PRC Section 21084.1 and CEQA Guidelines Section 15064.5 and described in the *Environmental Setting*, above. Per CEQA Guidelines Section 15064.5(b)(2), the analysis considers the potential for Project activities to materially impair the significance of a historical resource by causing direct changes to the physical characteristics of that resource as well as by causing changes in its immediate setting. To assess the Proposed Project's potential to create a significant impact on archaeological and tribal resources, ICF peer reviewed the following report provided by the Project Sponsor:

- *Cultural Resources Assessment Report: Meta Willow Campus Project, City of Menlo Park, San Mateo County* by Basin (2019, revised 2022).

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the following impacts that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update.[47]

- Impacts related to historical resources were analyzed in the ConnectMenlo EIR as Impact CULT-1 (pages 4.4-12 to 4.4-15). It was determined that impacts on historical resources would be significant if they would lead to demolition or alteration with the potential to change the historic fabric or setting of historic architectural resources. Mitigation Measure CULT-1 (page 4.4-15) requires an individual project that is proposed on or adjacent to a site with a building that is more than 50 years old to prepare a site-specific evaluation to determine if the project is subject to completion of a site-specific historic resources study and, if necessary, conformance with the current Secretary of the Interior's Standards for the Treatment of Historic Properties, with Guidelines for Preserving, Rehabilitating, and Restoring Historic Buildings. The ConnectMenlo EIR did not identify any historical resources within the vicinity of the Project Site.
- Impacts related to archaeological resources were analyzed in the ConnectMenlo EIR as Impact CULT-2 (pages 4.4-16 to 4.4-18). It was determined that impacts would be less than significant with implementation of Mitigation Measures CULT-2a and CULT-2b. Mitigation Measure CULT-2a, which would be applied if archeological resources are found during construction, would require cessation of proximate

[47] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Prepared by Placeworks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 19, 2021.

construction (i.e., within a 100-foot radius from the find), evaluation by a qualified archaeologist, recordation on DPR forms, preparation of an archeological data recovery plan if the resource is significant, and curation and reporting. Mitigation Measure CULT-2b requires Native American tribes to be consulted in connection with general plan amendments or land use policy changes.

- Impacts related to human remains were analyzed in the ConnectMenlo EIR as Impact CULT-4 (page 4.4-20). It was determined that impacts would be less than significant with implementation of Mitigation Measure CULT-4. This mitigation measure requires compliance with relevant state statutes and regulations if human remains are encountered during ground disturbance.
- Impacts related to tribal cultural resources, as defined by PRC Section 21074, were analyzed in the ConnectMenlo EIR as Impact CULT-5 (pages 4.4-21). Impacts were determined to be less than significant with implementation of Mitigation Measures CULT-2a, CULT-2b, and CULT-4 from the ConnectMenlo EIR.

Impacts and Mitigation Measures

Impact CR-1. Historical Resources. The Proposed Project would cause a substantial adverse change in the significance of a historical resource, pursuant to Section 15064.5 (LTS/M).

Built-environment resources within and adjacent to the Project Site were assessed for CEQA historical resource status pursuant to ConnectMenlo Mitigation Measure CULT-1. The buildings or structures on or adjacent to the main Project Site and Hamilton Avenue Parcels North and South, as well as offsite parcel locations, do not qualify as historical resources under CEQA.

Although not part of the main Project Site, the Dumbarton Cutoff Line would be affected as part of the Proposed Project because of construction of Willow Road Tunnel. The Dumbarton Cutoff Line qualifies as a historical resource for the purposes of CEQA because it is identified as a contributor to the Dumbarton Cutoff Linear Historic District, which has previously been determined eligible for listing in the National Register, with SHPO concurrence, and is listed in the California Register. The Dumbarton Cutoff Line comprises at-grade railroad tracks on wooden ties and stone ballast in the vicinity of Willow Road. This segment of track is assumed to date to the historical resource's period of significance (1909–1945), thereby contributing to the significance of the resource.

The Proposed Project would construct a 50-foot-wide tunnel under the current Dumbarton Cutoff Line corridor at Willow Road to facilitate tram, service vehicle, bicycle, and pedestrian traffic between the main Project Site and the Meta West Campus and Bay Trail. Willow Road Tunnel would involve cut-and-cover construction, which would remove a section of Willow Road surface pavement as well as the steel tracks belonging to the Dumbarton Cutoff Line within the Willow Road right-of-way. It is anticipated that no more than 100 feet of the Dumbarton Cutoff Line (approximately the length of the segment of track currently within the Willow Road right-of-way) would be removed during construction as a result of the Proposed Project. The Proposed Project would not physically alter the track, ties, ballast, or berm surrounding Willow Road, and the track would be returned to its original location after construction.

Removal of a 100-foot-long segment of track within the Willow Road crossing/right-of-way could, if the removed rail is damaged or not returned to its original location, hinder the historical resource's ability to convey the significance of the Dumbarton Cutoff Linear Historic District; therefore, rail removal has the potential to cause a substantial adverse change in the significance of the resource. This activity would cause a break in the Dumbarton Cutoff Line, which spans 16.4 miles between Redwood City in San Mateo County and Niles in Alameda County, and may diminish the linear resource's integrity of materials, workmanship, feeling, and association when viewed from within the vicinity of Willow Road.

Regarding the resource's integrity of setting, the Project proposes construction of numerous new features immediately adjacent to the Dumbarton Cutoff Line. These include new office buildings, the Elevated Park, and public realm improvements, along with roadway reconfiguration and the Willow Road Tunnel construction described above. The tallest proposed feature immediately adjacent to the Dumbarton Cutoff Line, a glass atrium, would reach a maximum height of up to approximately 120 feet. Although this represents an increase in height compared with the one-story buildings currently at this location, the Proposed Project would not alter any features within the setting of the Dumbarton Cutoff Line that contribute to its historical significance. The Project Site has been substantially developed since the resource's period of significance, as have most areas adjacent to the Dumbarton Cutoff Line in San Mateo County. The Proposed Project represents a continuation of the development that has occurred since the immediate post–World War II period. It would not limit the Dumbarton Cutoff Linear Historic District's ability to express its era of construction or early use, its physical characteristics, or its significant transportation role as the first transbay rail link. However, as a result of the Proposed Project's temporary removal of a segment of track from the Dumbarton Cutoff Line, which currently crosses Willow Road, the resource could lose a portion of the historic material that expresses the significant historic character of the Dumbarton Cutoff Linear Historic District if the material is damaged or not properly returned to its original location. This activity could discernibly alter the resource's historical integrity and the public's ability to understand its historic character, as observed from Willow Road. Therefore, the Proposed Project could constitute material impairment of the significance of the Dumbarton Cutoff Line. The Proposed Project's impact on historical resources is considered significant.

MITIGATION MEASURE. Implementation of Project Mitigation Measure CR 1.1 would require the Project Sponsor to remove the tracks belonging to the Dumbarton Cutoff Line in a sensitive manner, store them during construction, and reinstall them in their historic location following completion of Project construction. This measure would ensure that the resource's overall physical characteristics and extant alignment would remain intact; following the Proposed Project, the Dumbarton Cutoff Line and the historic district to which it contributes would retain all aspects of historical integrity as well as the physical characteristics that support inclusion in the National Register and California Register. With implementation of Project Mitigation Measure CR 1.1, the Dumbarton Cutoff Line and the Dumbarton Cutoff Linear Historic District would still convey their historical significance and continue to qualify as historical resources for the purposes of CEQA. Impacts on built-environment resources would therefore be ***less than significant with mitigation***.

CR 1.1. Remove, Store, and Reinstall Dumbarton Cutoff Line Tracks.

> The Project Sponsor shall remove the Dumbarton Cutoff Line tracks, store them during construction of the Proposed Project, and reinstall them in their historic location without irreparable damage to their character-defining historic fabric. The Project Sponsor will prepare a preservation plan that specifies the practices to be employed to preserve the historical integrity of the tracks during their removal, storage, and reinstallation. These methods may include the following: using straps to lift rails rather than chains or other "metal on metal" methods, marking or numbering the track components so they can be replaced in their original sequence, and ensuring secure storage onsite or in a lay-down area. Following tunnel construction, the rail segments will be returned to their preconstruction location in Willow Road on new ballast and ties or other appropriate material for the rail crossing. The preservation plan shall be reviewed and approved by the City and the San Mateo County Transit District (SamTrans) prior to the issuance of demolition permits related to construction activities within Willow Road, and the Project Sponsor will incorporate the recommended protective measures into construction specifications.

Impact CR-2. Archaeological Resources. The Proposed Project would cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 (LTS/M).

A stated above, one multi-component archaeological resource (CA-SMA-160/H) was identified within the main Project Site. No archaeological resources were identified at Hamilton Avenue Parcels North and South, the Willow Road Tunnel site, or offsite parcel locations within the Study Area. CA-SMA-160/H has been subject to multiple phases of archaeological study and is assumed eligible for listing in the California Register.

A project that may cause a substantial adverse change in the significance of a historic or unique archeological resource may have a significant effect on the environment. Substantial adverse change in the significance of a cultural resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired.

CEQA allows lead agencies to require reasonable efforts to permit any unique archeological resources to be preserved in place or left in an undisturbed state (PRC Section 21083.2[a]). Examples of treatment include, in no order of preference:

- Planning construction to avoid archeological sites;
- Deeding archeological sites into permanent conservation easements;
- Capping or covering archaeological sites with a layer of soil before building on the sites; and
- Planning parks, greenspace, or other open space so as to incorporate archeological sites (PRC Section 21083.2[b]).

Excavation as mitigation is restricted to those parts of the unique archaeological resources that would be damaged or destroyed by a project (PRC Section 21083.2[d]). According to the Office of Historic Preservation, "[a]voidance and preservation in place are the preferable forms of mitigation for archeological sites."[48]

The Proposed Project would avoid known archaeological resources in the Hiller Mound Core by means of preservation in place. Improvements on the main Project Site would include grading and filling to elevate the property above the adopted Federal Emergency Management Agency (FEMA) base flood elevation (BFE), thereby complying with the City's sea-level rise requirements of the zoning ordinance, and, outside the Hiller Mound Core, creating buildable pads and constructing a new vehicular circulation network. Once completed, the fill would establish a protective cover over the potential archeological resources at the main Project Site, thereby reducing the risk of damage from flooding, unintentional disturbance, or unauthorized excavation. In addition, the Proposed Project would incorporate the Hiller Mound Core into open space, thereby avoiding the construction of buildings or other substantial structures in this area. Collectively, these Proposed Project features would be consistent with the appropriate treatment measures established by CEQA Section 20183.2, including avoidance, capping and covering, and incorporating archaeological sites into parks, greenspace, or other open space. Nonetheless, given the relatively shallow depth of the archaeological deposits associated with CA-SMA-160/H, as well as the dispersal of deposits from past disturbance associated with natural drainage, agriculture, and construction, the Proposed Project would most likely disturb known resources. In addition, it is possible that the Proposed Project could disturb unknown deposits during construction activities, such as grading or demolition. Construction of the Proposed Project would require temporary erection of an estimated 40 scaffolding towers for construction of a glass atrium within the Hiller Mound Core. Geotechnical models of stresses induced by the gravity load

[48] Office of Historic Preservation. n.d. *Technical Assistance Series #1*. Available: https://ohp.parks.ca.gov/pages/1054/files/ts01ca.pdf.

of the proposed fill cap and the existing soil (i.e., the cumulative stress of proposed fill and existing soil) indicate that the proposed fill cap would result in uniform pressure across the underlying primary midden and alluvial soil profile. Additional modeling suggests that the temporary scaffolding, with its 16-foot square base, would reduce the concentrated pressure on the mound and result in a relatively minor increase in stress at the primary midden layer due to the load transfer through the layer of new engineered fill. Project-related ground disturbance would have the potential to disturb both known and as-yet undocumented archaeological deposits associated with CA-SMA-160/H and other archeological resources. The impact would be potentially significant.

MITIGATION MEASURES. Compliance with federal, state, and local laws and regulations, including applicable ConnectMenlo EIR mitigation measures, City General Plan goals and policies, and Project-specific mitigation measures, would protect significant archaeological resources within the Project Site by providing archaeological resources sensitivity training to workers; ensuring preservation in place or, if infeasible, archaeological data recovery when significant archaeological resources are encountered and cannot be avoided; and allowing early detection of potential conflicts between development and resources. The Proposed Project has implemented ConnectMenlo EIR Mitigation Measure CULT-1 by completing the site-specific historical and archeological resource studies referenced in this Draft EIR. The Proposed Project would implement ConnectMenlo EIR Mitigation Measure CULT-2a, as modified to avoid redundancy with Project-specific mitigation, if a potentially significant subsurface cultural resource is encountered during ground-disturbing activities. In addition, the Project Sponsor would implement Project Mitigation Measures CR-2.1 and CR-2.2, which would reduce impacts on CA-SMA-160/H and unknown archeological resources to a less-than-significant level. These measures would be implemented on the main Project Site. ConnectMenlo EIR Mitigation Measure CULT-2a (as modified) and Mitigation Measure CR 2.2 apply to Hamilton Avenue Parcels North and South and the Willow Road Tunnel site, areas where Project-related ground disturbance would have the potential to affect elements of CA-SMA_160/H and unknown archaeological resources. Impacts on archaeological resources would be ***less than significant with mitigation***.

CR 2.1. Avoidance, Monitoring, and Treatment

Avoidance and Minimization of Ground-Disturbing Activities

The Project Sponsor shall avoid or minimize ground-disturbing excavation in CA-SMA-160/H to the extent feasible in both the high-sensitivity area[49] (1.77 acres) and revised site boundary (7.03 acres), as detailed below. The City will review and confirm the implementation of mitigation measures with each construction phase.

- The Project Sponsor shall note on any plans that require ground-disturbing excavation that there is potential for exposing buried cultural resources, including Native American burials. Any archaeological site information supplied to the contractor shall be considered and marked confidential.
- The Project Sponsor shall install a culturally sterile engineered cap to cover the archaeological deposit within the Hiller Mound Core and preserve the resource in place. The 4 to 7 feet of engineered fill will function as a protective cover for cultural deposits within the Hiller Mound Core and raise the grade to accommodate future sea-level-rise above the 100-year flood elevation, consistent with surrounding areas where buildings will be constructed.

[49] Defined here as the Hiller Mound Core.

- Onsite soil material is suitable as fill material provided it is processed to remove concentrations of organic material, debris, and particles greater than 6 inches in maximum dimension; oversized particles shall either be removed from the fill or broken down to meet the requirement. Imported fill material shall meet the above requirements and have a plasticity index of less than 20. Material used for engineered fill shall meet appropriate Department of Toxic Substances Control (DTSC) Environmental Screening Levels (ESLs), as determined by the environmental engineer.

Fill Placement within the Hiller Mound Core Boundary

Construction activities shall be conducted in a manner that protects against penetration of the core area and reduces the potential for disturbance from concentrated surface loads. The following measures shall be implemented within the Hiller Mound Core during fill placement and any subsequent construction to reduce potential impacts on subsurface archaeological materials.

- An elevation contour plan shall be created to guide the surface preparation necessary to place the fill cap within the Hiller Mound Core boundaries. The plan shall show the top of the primary midden elevation, based on archaeological GeoProbe data, to establish a 6-inch-thick buffer zone above the primary midden layer, below which soil disturbance or penetration shall not be permitted.
- Tree root balls from trees removed within the Hiller Mound Core boundary that have roots extending within an area 24 inches from the primary midden layer shall be left in place. Stumps may be ground flat with the existing grade.
- Clearing of surface vegetation within the Hiller Mound Core boundary shall be performed through hand grubbing.
- Ground surface preparation prior to fill placement within the Hiller Mound Core boundary shall use a walk-behind sheepsfoot roller to densify the 6-inch-thick buffer-zone material. The use of relatively light equipment (typical equipment weight of 3,000–5,000 pounds), such as a walk-behind roller, reduces potential for densification below the buffer zone.
- A layer of geogrid reinforcement shall be placed over the prepared ground surface within the Hiller Mound Core boundary. Geogrid shall consist of a triaxial grid (e.g., TX140 or approved equivalent). A second layer of geogrid shall be placed to reinforce the engineered fill approximately 24 inches above the base geogrid layer. Geogrid shall be installed in accordance with the manufacturer's specifications.
- Once the 6-inch-thick buffer zone has been prepared and reinforcement grid placed within the Hiller Mound Core boundary, engineered fill may be placed in 8-inch lifts and compacted using a single-drum ride-on sheepsfoot roller. The roller shall not be parked or left stationary on the Hiller Mound Core overnight. If yielding subgrade is encountered in the buffer zone, the geotechnical consultant may recommend placement of additional layers of reinforcement within the engineered fill. This determination will be based on field observations during preparation of the ground surface.
- To protect the primary midden, construction vehicles and construction equipment (with the exception of the equipment necessary to place and compact the engineered fill) shall not be permitted to rest on or pass over the Hiller Mound Core boundary until after engineered fill placement is complete to provide a buffer between mound material and concentrated vehicle loads. Once fill placement is complete, the primary midden shall be protected, but construction

vehicles and construction equipment within the Hiller Mound Core nonetheless shall continue to be limited to the minimum number necessary to complete construction of the Proposed Project. Vehicles shall not be left stationary or parked on the Hiller Mound Core overnight. The contractor shall ensure that vehicles and equipment will not leak fuel or other liquids when operating on the Hiller Mound Core. Leaking vehicles and equipment shall be promptly removed from the Hiller Mound Core area and repaired before use is resumed on the Hiller Mound Core.

Temporary Construction Loading – Installation of Temporary Scaffolding within the Hiller Mound Core Boundary

The following measures shall be implemented within the Hiller Mound Core boundary during scaffold erection to reduce potential impacts on subsurface archaeological materials.

- Scaffolds within the Hiller Mound Core boundary shall be installed no earlier than 3 months after the engineered fill placement related to sea-level rise.
- Scaffolds within the Hiller Mound Core boundary shall use 16-foot square bases on the engineered fill cap. Minor leveling of the fill cap shall be allowed at each scaffold installation, but excavation or other penetrations into the fill surface shall not be permitted. If equipment or the temporary auxiliary structures needed to install the atrium frame and associated glass would disturb more than 12 inches below the surface of the fill, the archeological consultant shall determine whether protective measures shall be required, including the installation of a wood or plastic mat around each scaffold.
- Scaffolds within the Hiller Mound Core boundary shall be removed promptly after installation and inspection of the framework and glass within the atrium to remove pressure from the engineered fill over the Hiller Mound Core.

CR 2.2. Train Workers to Respond to the Discovery of Cultural Resources and Prepare an Archaeological Monitoring Plan and Archeological Treatment Plan.

If avoidance or preservation in place is not possible, the following measures will be followed:

- Prior to the start of fill placement and other ground-disturbing construction, the archaeological consultant or project archaeologist shall conduct archaeological resources sensitivity training and Native American tribal representatives shall conduct tribal cultural sensitivity training for workers and construction superintendents. Training shall be required for all construction personnel participating in ground-disturbing construction to alert them to the archaeological sensitivity of the area and provide protocols to follow in the event of a discovery of archaeological materials. The principal archaeological consultant and project archaeologist shall develop and distribute, for job-site posting, a document ("ALERT SHEET") that summarizes the potential finds that could be exposed, the protocols to be followed, and the points of contact to alert in the event of a discovery. The ALERT SHEET and protocols shall be presented as part of the training. The contractor shall be responsible for ensuring that all workers requiring training are in attendance. Training shall be scheduled at the discretion of the Project Sponsor in consultation with the City. Worker training shall be required for all contractors and sub-contractors and documented for each permit and/or phase of a permit that requires ground-disturbing activities onsite. For work in the Hiller Mound Core, worker training shall also be included for workers who will work on the surface or who will drive across the Hiller Mound Core.

- The archaeological consultant shall review, identify, and evaluate cultural resources that may be inadvertently exposed during construction to determine if a discovery is a historical resource and/or unique archaeological resource under CEQA. Significant resources shall be subject to treatment/mitigation that prevents an adverse effect on the resource, in accordance with PRC Section 15064.5. Mitigation could include avoidance, preservation in place, or the scientific removal, analysis, reporting, and curation of any recovered cultural materials. If the discovery constitutes a tribal cultural resource, consultation shall be undertaken with the person the NAHC identifies as the MLD to determine appropriate treatment.
- The Project Sponsor and archaeological consultant shall develop an Archaeological Monitoring Plan (AMP)[50] to guide archaeological and tribal monitoring of ground-disturbing construction and protect any cultural materials and tribal cultural resources exposed during construction from further damage so they can be identified and evaluated for their potential eligibility for listing in the California Register and properly treated. The AMP's monitoring plan for tribal cultural resources shall be developed in consultation with Native American tribal representatives. The AMP shall be submitted to the City of Menlo Park for review and approval prior to issuance of a building permit and/or Project implementation.

  The AMP shall include, at a minimum:

  - Background information and context data on the Project and cultural resource;
  - Monitoring requirements, including worker awareness training; a discussion of specific locations and the intensity of the monitoring effort for areas with potential for the discovery of unexpected cultural materials; and anticipated personnel, including retention of local Native American tribal representative(s) from lists maintained by the NAHC;
  - Protocols for unexpected discoveries during construction, consistent with modified ConnectMenlo EIR Mitigation Measure CULT-2a;
  - Pre-historic research design, identifying pertinent archaeological research issues and questions; anticipated property types; and data requirements for addressing each research issue to be used for significance evaluation;
  - Detailed procedures regarding unexpected significant discoveries made during construction, including a discussion of field and artifact analysis methods to be used.
  - Treatment of human remains (consistent with state burial law and recommendations of the NAHC MLD and Modified ConnectMenlo EIR Mitigation Measure CULT-4);
  - Laboratory methods, including artifact cataloging and special analyses.
  - The plan shall outline provisions for reporting (e.g., Monitoring Closure Report), artifact curation, and potential public outreach in the event of significant finds.
  - A formal Archaeological Treatment Plan (ATP), which may include data recovery, shall be prepared prior to any grading or ground-disturbing activity.

[50] *Archaeological monitoring r*efers to the controlled observation and regulation of construction operations on or in the vicinity of a known or potentially significant cultural resource to prevent or minimize impacts on the resource.

- The ATP, similar to the AMP, shall detail the appropriate procedures, analytical methods, and reports to be completed if data recovery of significant archaeological Native American cultural materials, including Native American burials, is undertaken. Curation at an appropriate repository of recovered archaeological and Native American cultural materials shall be arranged once the extent of the collected materials is known. The ATP will be developed and implemented by the project archaeologist, with the precise treatment for identified resources determined in consultation with the City and, for tribal cultural resources, Native American tribal representatives.
- The ATP may be included within the AMP, for a combined Archaeological Monitoring and Treatment Plan, at the discretion of the archaeological consultant.

CULT-2a (Modified ConnectMenlo EIR) Stop Work if Archaeological Material or Features Are Encountered during Ground-Disturbing Activities.

- If a potentially significant subsurface cultural resource is encountered during ground-disturbing activities on any parcel in the city, all construction activities within a 100-foot radius of the find shall cease until a qualified archeologist determines whether the resource requires further study. All developers in the Study Area shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Any previously undiscovered resources found during construction activities shall be recorded on appropriate DPR forms and evaluated for significance in terms of CEQA criteria by a qualified archeologist in accordance with Project Mitigation Measure CR 2.2.

Impact CR-3. Human Remains. The Proposed Project could disturb human remains, including those interred outside of dedicated cemeteries. (LTS/M)

Native American human remains could be exposed and disturbed during ground-disturbing activities. A Native American archaeological site (CA-SMA-160/H) was identified within the main Project Site. This resource has the potential to contain human remains interred outside of formal cemeteries. Native American burial locations within the main Project Site could be affected by ground-disturbing construction due to their location within areas proposed for subsurface improvements. Excavation activities associated with the Proposed Project would not affect any known reburial locations. Other ground-disturbing construction activities at Hamilton Avenue Parcels North and South and the Willow Road Tunnel site could also encounter unknown deposits. This impact would be ***potentially significant***.

MITIGATION MEASURES. The Proposed Project would implement ConnectMenlo EIR Mitigation Measure CULT-4, as modified, based on the Project's cultural resources assessment report, if human remains are encountered at the Project Site during ground-disturbing activities. The Project Sponsor would also implement Mitigation Measures CR 2.1 and CR 2.2 within the main Project Site, given the presence of CA-SMA-160/H, and Mitigation Measure CR 2.2 within Hamilton Avenue Parcels North and South and the Willow Road Tunnel site. Mitigation Measures CR 2.1 and CR 2.2 include measures to avoid or minimize ground-disturbing excavation near CA-SMA-160/H, to the extent feasible, and preparation of an AMP and ATP that details the appropriate procedure if remains are encountered. Therefore, the Project Project's impact on human remains would be ***less than significant with mitigation***.

CR-2.1. Avoidance, Monitoring, and Treatment.

CR-2.2. Train Workers to Respond to Discovery of Cultural Resources and Prepare an Archeological Monitoring Plan and Archaeological Treatment Plan.

CULT-4: (Modified ConnectMenlo EIR) Comply with State Regulations Regarding the Discovery of Human Remains at the Project Site.

Procedures of conduct following the discovery of human remains citywide have been mandated by Health and Safety Code Section 7050.5, PRC Section 5097.98, and the California Code of Regulations Section 15064.5(e) (CEQA). According to the provisions in CEQA, if human remains are encountered at the site, all work in the immediate vicinity of the discovery shall cease and necessary steps to ensure the integrity of the immediate area shall be taken. The San Mateo County Coroner shall be notified immediately. The coroner shall then determine whether the remains are Native American. If the coroner determines the remains are Native American, the coroner shall notify the NAHC within 24 hours, which will, in turn, notify the person the NAHC identifies as the MLD in connection with any human remains. Further actions shall be determined, in part, by the desires of the MLD. The Project Sponsor, the Project archaeologist, and the MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects, including those associated with known and unknown Native American burial locations (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The MLD will have 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, or the owner does not accept the recommendation of the MLD in accordance with Public Resources Code 5097.98(e), the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

Impact CR-4. Tribal Cultural Resources. The Proposed Project could cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe and that is:

a) Listed or eligible for listing in the California Register or a local register of historical resources, as defined in PRC Section 5020.1(k), or

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. (LTS/M)

To identify tribal cultural resources within the Project Site, the City initially contacted seven individuals who represent five local California Native American tribes. Letters with Project details, a map, and a request for consultation were sent to all seven individuals on December 23, 2020. In July 2021, the City requested an updated AB 52 and SB 18 consultation list from the NAHC. On July 23, 2021, the City received the tribal consultation list, which included nine contacts. The City mailed letters on September 9, 2021, to the two additional tribal contacts who were identified by the NAHC, notifying them of their opportunity to consult for the Project and identify and mitigate the Project's potential impacts on tribal cultural resources. In response to the consultation letters, prior to publication of the Draft EIR, the City received requests for consultation from the Amah Mutsun Tribal Band, Tamien Nation and Muwekma Ohlone Tribe. Consultation efforts are ongoing.

A cultural site that can also be considered a tribal cultural resource was identified within the main Project Site (CA-SMA-160/H). Project-related ground disturbance has the potential to encounter both known and as-yet undocumented Native American deposits associated with CA-SMA-160/H. Other ground-disturbing construction activities at Hamilton Avenue Parcels North and South and the Willow Road Tunnel site could also encounter unknown Native American deposits. This impact would be potentially significant.

MITIGATION MEASURES. The Proposed Project would implement Mitigation Measure CR 2.2 and ConnectMenlo EIR Modified Mitigation Measures CULT-2a and CULT-4 if potentially significant subsurface cultural resource or human remains are encountered during ground-disturbing activities. In addition to these mitigation measures, the Project Sponsor would implement Project Mitigation Measure CR 2.1 within the main Project Site. The measures require worker training prior to construction to allow early identification of inadvertent archaeological and tribal cultural resource discoveries, as well as archeological and tribal monitoring, thereby reducing impacts on precontact archaeological resources, which have the potential to be considered tribal cultural resources. These mitigation measures also require working with the three tribes that requested consultation on the appropriate treatment when a tribal cultural resource is encountered. Therefore, impacts related to tribal cultural resources would be ***less than significant with mitigation incorporated***.

CR-2.1. Avoidance, Monitoring, and Treatment

CR-2.2. Train Workers to Respond to Discovery of Cultural Resources and Prepare an Archeological Monitoring Plan and Archaeological Treatment Plan

CULT-2a (Modified ConnectMenlo EIR) Stop Work if Archaeological Material or Features Are Encountered during Ground-Disturbing Activities.

CULT-4: (Modified ConnectMenlo EIR) Comply with State Regulations Regarding the Discovery of Human Remains at the Project Site.

Cumulative Impacts

Impact C-CR-1: Cumulative Impacts on Cultural and Tribal Cultural Resources. Cumulative development would result in a less-than-significant cumulative impact on cultural and tribal cultural resources, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on cultural and tribal cultural resources. (LTS)

Summary of Analysis in the ConnectMenlo EIR

As stated in Section 4.4, Cultural Resources, of the ConnectMenlo EIR, the geographic context for cumulative impacts associated with cultural and tribal cultural resources considers growth projected in the ConnectMenlo study area in combination with buildout of the City and the region.

Development of past, current, and future projects within the ConnectMenlo study area, City, and region has the potential to result in development-related impacts on cultural and tribal cultural resources. However, new development would be subject to existing federal, state, and local regulations as well as general plan goals, policies and programs, which would, to the maximum extent practicable, reduce cumulative development-related impacts on cultural and tribal cultural resources.

The ConnectMenlo EIR found that, with mitigation, development consistent with ConnectMenlo would not make a cumulatively considerable contribution to significant cumulative impacts on cultural and tribal cultural resources. Specifically, the ConnectMenlo EIR concluded that the potential contribution to significant cumulative impacts on historic architectural resources would be mitigated to less than cumulatively considerable with implementation of Mitigation Measure CULT-1. The ConnectMenlo EIR also concluded that potentially cumulatively considerable contributions to significant cumulative impacts on identified archaeological resources and tribal cultural resources, as well as human remains, would be mitigated with implementation of Mitigation Measures CULT-2a, CULT-2b, and CULT-4.[51] In addition, the ConnectMenlo EIR noted that existing federal, state, and local regulations, as well as general plan goals, policies, and programs, would serve to protect cultural resources in Menlo Park. Therefore, the ConnectMenlo EIR determined that cumulative impacts associated with cultural and tribal cultural resources under ConnectMenlo would be ***less than significant.***

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for the cumulative impacts associated with cultural and tribal cultural resources considers growth projected by ConnectMenlo within the Study Area in combination with buildout in the city and the region.

As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for the EIR also includes the additional unrestricted units from the 123 Independence Drive and East Palo Alto projects. As with the Proposed Project, the additional unrestricted units from the 123 Independence Drive and East Palo Alto projects, as well as other projects in the vicinity, would be required to comply with existing federal, state, and local regulations as well as general plan goals, policies and programs.

The Proposed Project would not result in a substantial change in the ConnectMenlo project. Therefore, with Project-level and applicable ConnectMenlo mitigation measures, along with Project modifications, as applicable, the Proposed Project would not be a cumulatively considerable contributor to a significant cumulative impact on cultural and tribal cultural resources and would not cause new or substantially more severe significant impacts related to cultural and tribal cultural resources than those analyzed in the ConnectMenlo EIR. Therefore, consistent with the conclusions in the ConnectMenlo EIR, the Proposed Project would not make a cumulatively considerable contribution to significant cumulative impacts with respect to cultural and tribal cultural resources.

[51] Note that the ConnectMenlo EIR analyzed cumulative impacts on paleontological resources in the cultural resources section and identified Mitigation Measure CULT-3 to reduce impacts. Paleontological resources are discussed in Section 3.10, *Geology and Soils*, of this EIR.

3.9 Biological Resources

This section describes the affected environment and regulatory setting for biological resources related to the Proposed Project. It also describes the potential impacts on biological resources that would result from implementation of the Proposed Project and feasible mitigation measures to reduce the impacts. This section is based on the H.T. Harvey & Associates *Willow Village Master Plan Biological Resources Report* (Master Plan BRA),[1] the *Willow Village Tunnel and North Ramp Biological Resources Assessment* (Tunnel BRA),[2] and *Willow Village Master Plan Bird-Safe Design Assessment* (Bird Safe Design).[3] ICF peer reviewed all reports prepared by H.T. Harvey & Associates. Several subsections below are taken verbatim from the BRAs, while other subsections have been adapted and updated for the environmental impact report (EIR). Unless otherwise noted, the information in this section is cited to the H.T. Harvey & Associates Master Plan BRA, Tunnel BRA, and Bird Safe Design, which are included as Appendix 3.9.

Issues identified in response to the Notice of Preparation (Appendix 1) were considered in preparing this analysis. The applicable issues pertain to native and migratory bird species, the planting of replacement trees, and sensitive natural communities in general.

Existing Conditions

Environmental Setting

The Project Site is within a heavily urbanized area of San Mateo County near San Francisco Bay (Bay). It includes two discrete areas: the main Project Site and Hamilton Avenue Parcels North and South, both of which are north of US 101 in the Bayfront Area of Menlo Park. Offsite areas include the Willow Road Tunnel site (referred to in the Tunnel BRA as the "Willow Village Tunnel and North Ramp Parcels"), located at the intersection of Willow Road and the Dumbarton Rail Corridor, just south of State Route (SR) 84. Additional offsite areas include the Pacific Gas and Electric Company (PG&E) Ravenswood substation and areas for potential intersection improvements that may be included as Project conditions. The main Project Site, the Hamilton Avenue Parcels North and South, and areas for Willow Road Tunnel and the North Ramp Parcels are heavily developed. They have sparse vegetation, consisting mainly of trees and shrubs within landscaped areas. The PG&E Ravenswood substation contains little vegetation. All of these areas are developed and have no natural features that provide habitat for special-status species. Beyond the Project Site, developed/landscaped areas dominate the landscape for miles in each direction.

The Study Area consists of the Project Site (i.e., main Project Site plus Hamilton Avenue Parcels North and South), the offsite Willow Road Tunnel site, and a 100-foot buffer beyond these areas that includes adjacent sensitive habitats that could be affected by the Proposed Project.

[1] H.T. Harvey & Associates. 2022. *Willow Village Master Plan Biological Resources Report*. Los Gatos, CA. Prepared for Peninsula Innovation Partners, Menlo Park, CA. February 24. Unpublished.

[2] H.T. Harvey & Associates. 2021. *Willow Village Tunnel and North Ramp Biological Resources Assessment.* Los Gatos, CA. Prepared for Signature Development Group, Oakland, CA. July 2. Unpublished.

[3] H.T. Harvey & Associates. 2022. *Willow Village Master Plan Bird-Safe Design Assessment*. Los Gatos, CA. Prepared for Peninsula Innovation Partners, Menlo Park, CA. February 24. Unpublished.

Project Site

The approximately 63-acre Project Site, inclusive of the main Project Site and Hamilton Avenue Parcels North and South, is generally bounded by the currently inactive Dumbarton Rail Corridor to the north, an existing life science complex to the east (Menlo Park Labs Campus), the San Francisco Public Utilities Commission's Hetch Hetchy right-of-way and Mid-Peninsula High School to the south, and Willow Road and commercial and residential development in the Belle Haven neighborhood to the west.

A review of historical aerial photographs indicates that the main Project Site was largely an agricultural property until the 1940s. From 1956 to 1996, the main Project Site was developed with numerous buildings and parking lots (i.e., the Menlo Science and Technology Park). Currently, the 59-acre main Project Site is occupied by 20 office, industrial, and warehouse buildings. The Project Site also includes Hamilton Avenue Parcels North and South. Hamilton Avenue Parcel North (consisting of two legal parcels), the approximately 1.8-acre block at the northwest corner of Willow Road and Hamilton Avenue, is currently developed with approximately 16,000 square feet of retail buildings, including the Belle Haven Retail Center and a Jack in the Box restaurant. Hamilton Avenue Parcel South, an approximately 1.3-acre parcel at the southwest corner of Willow Road and Hamilton Avenue, includes a service station with approximately 4,500 square feet of retail space and a car wash.

Elevations within the Project Site range from approximately 6 to 13 feet (North American Vertical Datum of 1988). Soils at the Project Site are classified as Urban Land (urban land-orthents, cut-and-fill complex [0 to 5 percent slopes], and urban land-orthents, reclaimed complex [0 to 2 percent slopes]). This soil type has a variable profile to a depth of approximately 40 inches, with silty clay generally occurring from 40 to 60 inches. It is considered a well-drained soil.[4] No native soils are present at ground surface on the Project Site. The depth of artificial fill is unknown.

The entire Project Site is occupied by developed/landscaped areas that include office buildings, restaurants, a service station, parking lots, walking paths, mulched and irrigated areas, and extensive plantings that include ornamental trees and other landscape species. The characteristic species of this area include Canary Island pine (*Pinus canariensis*), Chinese pistache (*Pistacia chinensis*), London plane (*Platanus xhispanica*), eucalyptus (*Eucalyptus* sp.), and crepe myrtle (*Lagerstroemia* sp.). Common understory plants include buckbrush (*Ceanothus* sp.) and rosemary (*Rosmarinus officinalis*).

The wildlife species that are most often associated with developed/landscaped areas are those that are tolerant of periodic human disturbances, including introduced species such as the European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), and black rat (*Rattus rattus*). Numerous common, native species are also able to use these habitats, especially the landscaped areas, including the western fence lizard (*Sceloporus occidentalis*), striped skunk (*Mephitis mephitis*), and a variety of birds such as the American crow (*Corvus brachyrhynchos*), Anna's hummingbird (*Calypte anna*), California towhee (*Melozone crissalis*), bushtit (*Psaltriparus minimus*), chestnut-backed chickadee (*Poecile rufescens*), and California scrub-jay (*Aphelocoma californica*), all of which were observed on the Project Site during the reconnaissance survey by H.T. Harvey & Associates in April 2019. In addition, the eaves of the buildings on the Project Site may be attractive to other nesting or roosting bird species in the area, such as the black phoebe (*Sayornis nigricans*). Furthermore, a number of large eucalyptus trees in the northern portion of the Project Site may provide suitable nesting habitat for raptors, such as the red-tailed hawk (*Buteo jamaicensis*), which was observed during the reconnaissance survey in the Study Area. However, a focused survey of the Study

[4] Natural Resources Conservation Service. 2021. *Web Soil Survey*. Custom Soil Report. Available: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed: April 8, 2021.

Area detected no evidence (i.e., old nests) of raptors having previously nested on the Project Site. Similarly, an examination of trees and structures on the Project Site failed to find any large cavities that might provide suitable bat roosting habitat. Therefore, large roosting or maternity colonies of bats are not expected to occur in the Study Area.

California annual grassland habitat occurs along the Dumbarton Rail Corridor, primarily outside the Project Site. However, a very small area encroaches on the northeast corner of the Project Site. This habitat is dominated by non-native grasses and forbs such as wild oat (*Avena* sp.), fennel (*Foeniculum vulgare*), bull mallow (*Malva nicaeensis*), black mustard (*Brassica nigra*), and bristly ox-tongue (*Helminthotheca echioides*). Many of these non-native plant species are ranked as moderately or highly invasive by the California Invasive Plant Council. For example, fennel is highly invasive and has severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Moderately invasive species, such as wild oats and black mustard, have substantial and apparent ecological impacts.

Wildlife use of California annual grasslands in the Study Area is limited by frequent human disturbance, the abundance of non-native and invasive species, and isolation of the grassland habitat remnants from more extensive grasslands. As a result, wildlife species associated with more extensive grasslands are absent from the small patches of grasslands in this area. Most of the bird species using this habitat during the breeding season nest in nearby landscaped habitats, using the California annual grassland only for foraging. Few species of reptiles and amphibians occur in the California annual grassland in the Study Area because of its disturbed nature and low level of habitat heterogeneity. Nevertheless, reptiles such as the western fence lizard and gopher snake (*Pituophis melanoleucus*) occur in this type of habitat, and amphibians such as the Sierran chorus frog (*Pseudacris sierra*) and western toad (*Anaxyrus boreas*), which breed in freshwater marshes in the area, forage in this habitat. The small mammals expected to be present include the native western harvest mouse (*Reithrodontomys megalotis*) and non-native house mouse, Norway rat, and black rat. Small burrowing mammals, such as the Botta's pocket gopher (*Thomomys bottae*) and California ground squirrel (*Spermophilus beecheyi*), are also present. Larger mammals, such as the striped skunk, Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), and black-tailed jackrabbit (*Lepus californicus*), are also likely to occur here.

The Project Site does not support wetland or aquatic habitat. A small, isolated segment of forested wetland that may be claimed as waters of the United States is located in a drainage ditch along the northern edge of the main Project Site. Similarly, a linear area of herbaceous-dominated seasonal wetland is located in the Dumbarton Rail Corridor, immediately north of the Hamilton Avenue Parcels North and South. Another herbaceous seasonal wetland is located outside the northeast corner of the main Project Site. Immediately outside the southern edge of the main Project Site, but within an area where offsite improvements would be made, is a ditch. Its location is partially within the Hetch Hetchy easement area. This ditch, which is concrete lined in some locations, is dominated by upland (i.e., non-wetland) vegetation. The ditch collects water from the surrounding uplands; this water flows into a storm drain.

Outside the Project Site, developed lands associated with existing commercial land uses are present. North of the main Project Site, beyond the inactive Dumbarton Rail Corridor, is a storage facility. A large brackish marsh is present north of the storage area as well as both north and south of the old rail line but farther to the north and northeast. This marsh, which contains several channels and extends north to SR 84 and east to University Avenue, is dominated by salt marsh and brackish marsh plants. Farther to the north and northeast are former salt ponds, now managed as waterbird habitat associated with Don Edwards San Francisco Bay National Wildlife Refuge (Refuge) and the waters and marshes of the Bay.

Willow Road Tunnel Site

The offsite Willow Road Tunnel site is surrounded by dense commercial and residential development in Menlo Park. The site is generally bordered by SR 84 to the north, commercial development and a large brackish marsh to the east, and commercial development to the west and south. The Willow Road Tunnel site is bisected by Willow Road, which is oriented north to south, and the Dumbarton Rail Corridor, which is oriented east to west.

Elevations on the Willow Road Tunnel site range from approximately 6.1 to 12.9 feet above sea level (North American Vertical Datum of 1988). The Natural Resources Conservation Service has mapped two soil units on the Willow Road Tunnel site: urban land-orthents, reclaimed complex (0 to 2 percent slopes), and Novato clay (0 to 1 percent slopes). In soil taxonomy, orthents are defined as young soils that lack horizon development because of either steep slopes or parent materials that lack weatherable minerals. Typically, these are very shallow soils. Novato clay soils are deep, poorly drained soils that form in alluvium deposits along bay margins.

There are two habitat/land use types on the Willow Road Tunnel site: developed/landscaped and ruderal grassland. West of Willow Road, developed portions of the Willow Road Tunnel site consist of paved pedestrian pathways and vehicle roadways with surrounding areas of landscape vegetation. Landscape trees within these areas include native coast live oak (*Quercus agrifolia*) and non-native Monterey cypress (*Hesperocyparis macrocarpa*), ginkgo (*Ginkgo biloba*), and desert willow (*Chilopsis linearis*). Landscape plants within these areas include native California fuchsia (*Epilobium canum*) and non-native trumpet vine (*Vampsis radicans*), ceanothus (*Ceanothus* sp.), and deer grass (*Muhlenbergia rigens*). East of Willow Road, developed portions of the Willow Road Tunnel site are located entirely within a paved parking area.

Ruderal grassland habitat occurs within the portion of the Willow Road Tunnel site that falls along the Dumbarton Rail Corridor. At the time of the June 2021 survey by H.T. Harvey & Associates, this habitat had been recently mown. This habitat is dominated by non-native grasses and forbs such as wild oat (*Avena* sp.), fennel (*Foeniculum vulgare*), bull mallow (*Malva nicaeensis*), black mustard (*Brassica nigra*), and bristly ox-tongue (*Helminthotheca echioides*). Many of these plant species are ranked as moderately or highly invasive by the California Invasive Plant Council.

The developed/landscaped habitat on the Willow Road Tunnel site provides nesting and foraging opportunities for some urban-adapted species of birds. Bird species that occur in these areas include the native Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), dark-eyed junco (*Junco hyemalis*), and American crow (*Corvus brachyrhynchos*). These species may use the trees or ground vegetation on the site for nesting. No nests of raptors (e.g., hawks, owls, and falcons) were observed on the Willow Road Tunnel site or in immediately adjacent areas during the reconnaissance-level survey, although larger trees on the site provide suitable nesting habitat for raptors such as the Cooper's hawk (*Accipiter cooperii*).

Common urban-adapted mammal species that may occur in developed areas of the Willow Road Tunnel site include the native raccoon (*Procyon lotor*) and non-native house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), black rat (*Rattus rattus*), and eastern gray squirrel (*Sciurus carolinensis*). In addition, small numbers of burrows for California ground squirrels (*Otospermophilus beecheyi*) and Botta's pocket gophers (*Thomomys bottae*) were observed within landscaped areas west of Willow Road.

Wildlife use of ruderal grassland habitat on the Willow Road Tunnel site is limited by frequent human disturbance, the abundance of non-native and invasive species, and isolation of this habitat from more extensive grasslands in the region. The majority of bird species that use the grasslands on the Willow Road Tunnel site inhabit nearby developed/landscaped areas and use grasslands primarily for foraging. Such species include mourning dove (*Zenaida macroura*), lesser goldfinch, dark-eyed junco, American crow,

and Brewer's blackbird (*Euphagus cyanocephalus*). Several other species of birds use the ruderal grassland habitat during the nonbreeding season. These include golden-crowned sparrow (*Zonotrichia atricapilla*), savannah sparrow (*Passerculus sandwichensis*), and white-crowned sparrow (*Zonotrichia leucophrys*), all of which forage on the ground or in herbaceous vegetation, primarily for seeds. Reptiles such as the western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis melanoleucus*) also occur in this type of habitat.

Offsite Improvements

Construction on offsite areas could include the placement of utilities lines under existing rights-of-way, construction of a roundabout, and improvements to a PG&E substation. All of these areas are developed and have no natural features that provide habitat for special-status species.

Wetlands and Non-Wetland Waters of the United States

There are no wetlands or non-wetland waters of the United States or waters of the state that would be subject to U.S. Army Corps of Engineers (USACE) or Regional Water Quality Control Board (RWQCB) jurisdiction on the main Project Site, Hamilton Avenue Parcels North and South, the Willow Road Tunnel site, or the PG&E Ravenswood substation site. However, a small, isolated[5] segment of forested wetland occurs in a drainage ditch just outside the northern edge of the main Project Site. This segment of the ditch is characterized by a dense overstory of willow (*Salix* sp.), with minimal groundcover, consisting predominantly of tall flatsedge (*Cyperus eragrostis*) and poison oak (*Toxicodendron diversilobum*). The wetland hydrology at this forested wetland is supported by localized freshwater runoff from the surrounding area, which pools on or saturates the soils in the lowest portion of the drainage ditch during the wet season.

A herbaceous seasonal wetland is located offsite within the Dumbarton Rail Corridor between Willow Road and Chilco Street in the extreme northwestern part of the Study Area, entirely outside the Project Site. Another herbaceous seasonal wetland is located just off the northeast corner of the Project Site. These wetlands are characterized by slight depressions. The northwestern herbaceous seasonal wetland is dominated by Italian rye grass (*Festuca perenne*), Bermuda grass (*Cynodon dactylon*), and bird's foot trefoil (*Lotus corniculatus*), along with obligate species such as narrow-leaved cattail (*Typha angustifolia*) and chairmaker's bulrush (*Schoenoplectus americanus*) scattered throughout the feature. The northeastern herbaceous seasonal wetland is dominated by narrow-leaved cattail, with saltmarsh baccharis (*Baccharis glutinosa*) and dallis grass (*Paspalum dilatatum*) also present. Freshwater hydrology in this area is most likely a result of localized runoff and possibly groundwater upwelling that reaches the root zone but does not typically cause inundation.

At the time of the H.T. Harvey & Associates reconnaissance survey in 2019 and a site visit for a wetland delineation in August 2021, no ponding water or saturated soil was observed in the herbaceous seasonal wetlands, but soils were saturated to approximately 6 inches below the ground's surface. In addition, a review of historical aerial imagery indicates that the wetlands do not typically contain ponded water for any significant length of time. The herbaceous seasonal wetlands in the Study Area provide only marginal habitat for most wildlife species because of their limited extent and the limited depth and duration of ponding, if they even support ponding at all. Wildlife diversity is expected to be low. However, many of the same bird species described in the developed/landscaped and California annual grassland habitats above may forage in herbaceous seasonal wetlands. These species include dark-eyed junco, white-crowned sparrow, and California towhee.

[5] This feature is considered isolated because it is in a depression surrounded by upland areas and lacks a surface hydrologic connection to areas that are more clearly considered jurisdictional waters of the United States.

The ditch outside the southern edge of the main Project Site and partially within the Hetch Hetchy right-of-way provides no aquatic habitat; therefore, no aquatic or wetland wildlife species are associated with this feature.

A large brackish marsh is located approximately 215 feet northeast of the Willow Road Tunnel site, north of the Dumbarton Rail Corridor and east of Willow Road. This brackish marsh, which extends north to SR 84 and east to University Avenue and contains several channels, is dominated by salt marsh and brackish marsh plants. As a result, marsh-associated wildlife species such as the San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), Alameda song sparrow (*Melospiza melodia pusillula*), northern harrier (*Circus hudsonius*), and possibly the salt marsh harvest mouse (*Reithrodontomys raviventris*) may occur in the brackish marsh.

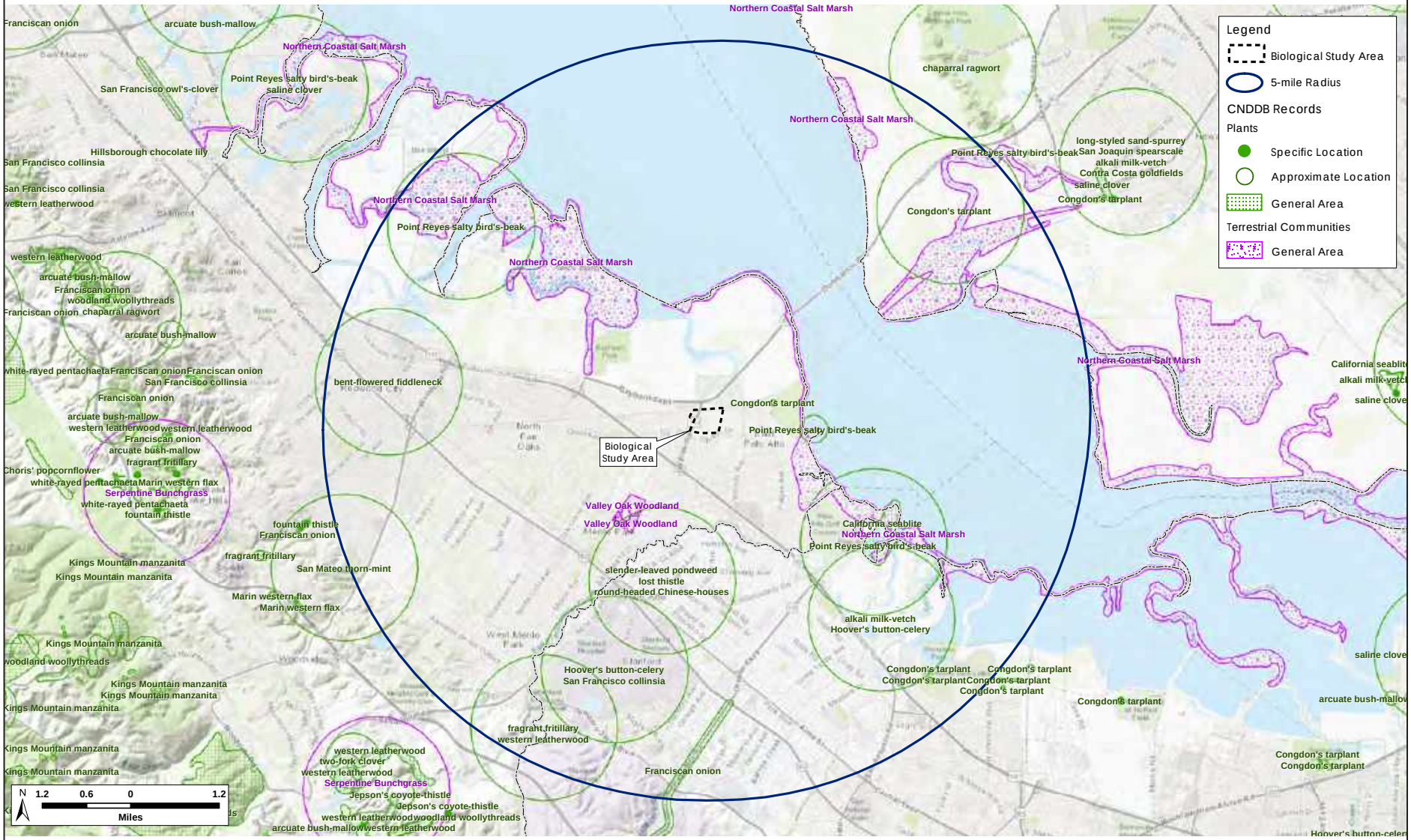
Special-Status Species

The California Environmental Quality Act (CEQA) requires an assessment of the effects of a project on species that are protected and considered "threatened, rare, or endangered." Such species are typically described as "special-status species." For the purpose of environmental review of the Proposed Project, special-status species have been defined as described below. Information concerning threatened, endangered, and other special-status species was collected from several sources and reviewed by H. T. Harvey & Associates biologists, as summarized in the BRA. Figure 3.9-1, Special-Status Plant Species, depicts the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDB) records of special-status plant species in the general vicinity of the Project Site. Figure 3.9-2, Special-Status Animal Species, depicts CNDDB records of special-status animal species. These generalized maps show areas where special-status species are known to occur or have occurred historically.

Special-Status Plant Species

For purposes of this analysis, "special-status" plants are considered plant species that are:

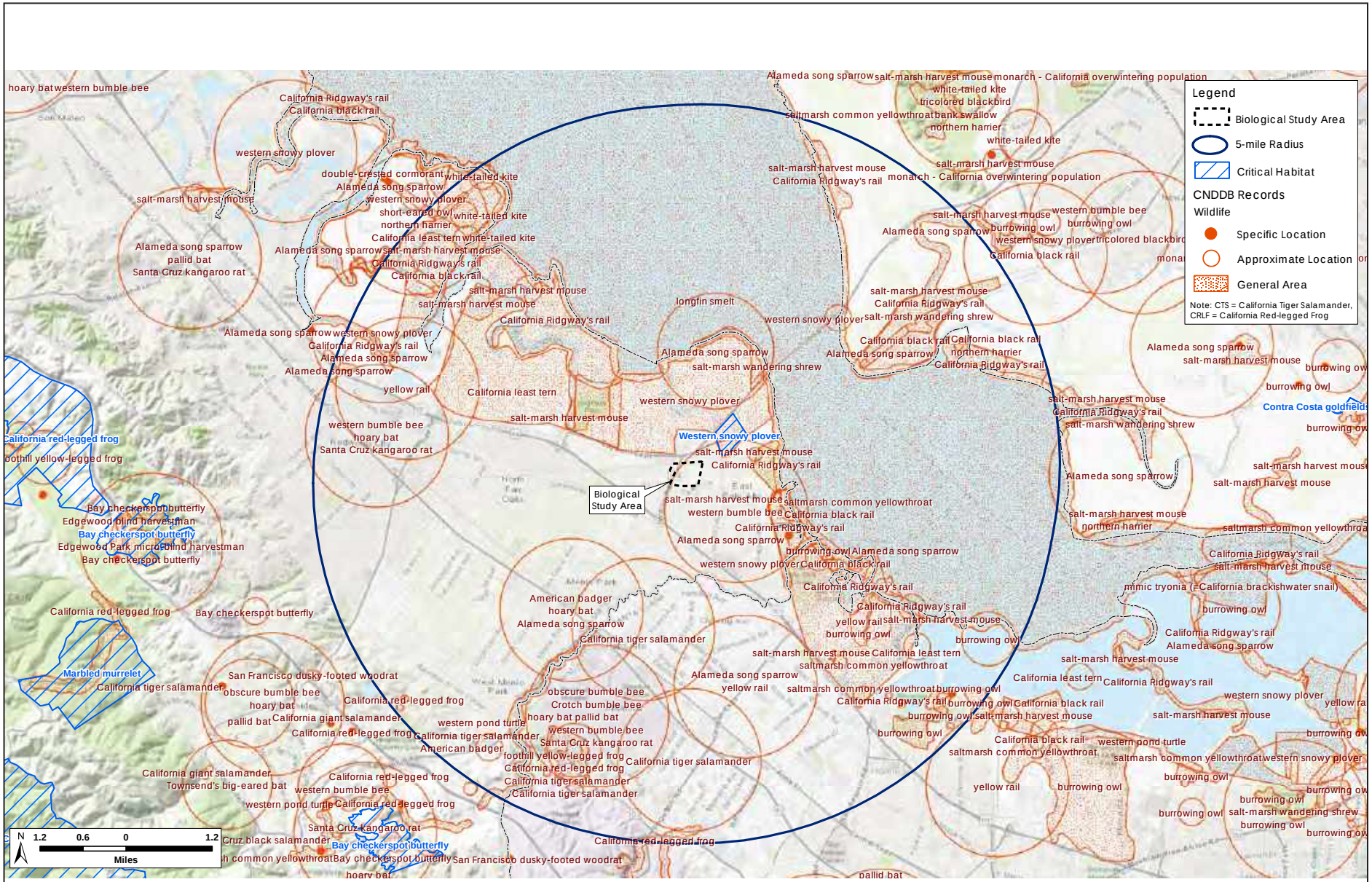
- Listed under the federal Endangered Species Act (ESA) as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the California Endangered Species Act (CESA) as threatened, endangered, rare, or a candidate species.
- Listed by the California Native Plant Society (CNPS) as California Rare Plant Rank (CRPR) 1A, 1B, 2, 3, or 4. CNPS rankings are as follows:
    - 1A = Plants presumed extirpated in California and either rare or extinct elsewhere.
    - 1B = Plants that are rare, threatened, or endangered in California and elsewhere.
    - 2A = Plants that are presumed extirpated in California but common elsewhere.
    - 2B = Plants that are rare, threatened, or endangered in California but more common elsewhere.
    - 3 = Plants about which more information is needed.
    - 4 = Plants of limited distribution (i.e., a watch list species).



Source: H.T. Harvey & Associates, 2020 and CNDDB, 2020.

ICF Graphics ... 00040.18 (5-25-2021) JC

Figure 3.9-1
Special Status Plant Species



Source: H.T. Harvey & Associates, 2020 and CNDDB, 2020.

ICF Graphics ... 00040.18 (5-25-2021) JC

Figure 3.9-2
Special Status Animal Species

The CRPRs are further described by the following threat code extensions:

- .1 = Species that are seriously endangered in California.
- .2 = Species that are fairly endangered in California.
- .3 = Species that are not very endangered in California.

The CNPS[6] and CNDDB[7] identify 89 special-status plant species as potentially occurring in at least one of the nine U.S. Geological Survey (USGS) quadrangles containing or surrounding the Study Area, which includes the Willow Road Tunnel site. These are CRPR 1 or 2 species or, in San Mateo County, CRPR 3 or 4 species. Of those potentially occurring special-status plant species, 88 were determined to be absent from the Study Area for at least one of the following reasons: (1) lack of suitable habitat types; (2) absence of specific microhabitat or edaphic requirements, such as serpentine soils; (3) an elevation range that is outside the range of the species; or (4) a determination that the species is extirpated from the Project Vicinity. For purposes of this section, the term *Project Vicinity* encompasses the 5-mile radius surrounding the Project Site.

Appendix B of the BRA (Appendix 3.9) lists the plants that were determined absent, along with the basis for the determination. Suitable habitats, edaphic requirements, and elevation ranges were determined to be present in the Study Area for one plant species, Congdon's tarplant (*Centromadia parryi* ssp*. congdonii*), which can persist in disturbed grasslands and has been documented by the CNDDB in the Project Vicinity (Figure 3.9-1).

Although no suitable habitat occurs on the main Project Site or Hamilton Avenue Parcels North and South, there is suitable habitat for Congdon's tarplant within the Study Area (i.e., in the California annual grassland along the old rail line immediately north of the Project Site). If present on the Project Site or Hamilton Avenue Parcels North and South, this species should have been flowering and detectable during the H.T. Harvey & Associates reconnaissance survey in November 2017. Although a focused survey for the species was conducted within the Dumbarton Rail Corridor on June 12, 2020,[8] no individuals of this species were observed. In addition, there is potentially suitable habitat for Congdon's tarplant on the Willow Road Tunnel site, within the small area of ruderal grassland habitat along the Dumbarton Rail Corridor. However, a focused survey for Congdon's tarplant was conducted within this area on June 12, 2020, and no individuals of this species were observed. Therefore, there are no special-status plant species within the Study Area.

Special-Status Animal Species

For purposes of this analysis, "special-status" animals are considered species that are:

- Listed under the ESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under the CESA as threatened, endangered, or a candidate threatened or endangered species.

---

6 California Native Plant Society. 2021. *Inventory of Rare and Endangered Plants* (7.0 and 9.0 online editions). Available: http://www.cnps.org/inventory. Accessed: March 15,2022.

7 California Department of Fish and Wildlife. 2021. *California Natural Diversity Database*. RareFind 5.0. Available: http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed: March 15, 2022.

8 On June 10, 2020, Congdon's tarplant was documented as flowering at Sunnyvale Baylands Park, which is 9.4 miles southeast of the Study Area. Therefore, because this species was documented on June 10, 2020, as flowering at a site that was relatively close to the Study Area, but not on the Project Site, this species should have been detectable at the time of the June 12, 2020, site visit.

- Designated by CDFW as a California Species of Special Concern.
- Listed in the California Fish and Game Code as a fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

The protected special-status animal species that are known to occur, or potentially occur, in the region, as well as information regarding likelihood of occurrence in the Study Area, is presented in Table 3.9-1. Most of the special-status species listed in Table 3.9-1 are not expected to occur in the Study Area because it lacks suitable habitat, is outside the known range of the species, or is isolated from the nearest known extant populations by development or otherwise unsuitable habitat. For these reasons, the special-status animal species that are not expected to occur on the main Project Site, Hamilton Avenue Parcels North and South, the Willow Road Tunnel site, PG&E Ravenswood substation site, and in areas for potential intersection improvements include the Crotch bumble bee (*Bombus crotchii*), western bumble bee (*Bombus occidentalis*), green sturgeon (*Acipenser medirostris*), Central California coast steelhead (*Oncorhynchus mykiss*), California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana draytonii*), western pond turtle (*Actinemys marmorata*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), California Ridgway's rail (*Rallus obsoletus obsoletus*), California black rail (*Laterallus jamaicensis coturniculus*), western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarum browni*), black skimmer (*Rynchops niger*), burrowing owl (*Athene cunicularia*), northern harrier, loggerhead shrike (*Lanius ludovicianus*), salt marsh harvest mouse, salt marsh wandering shrew (*Sorex vagrans halicoetes*) and American badger (*Taxidea taxus*). Some of these species, such as the northern harrier, loggerhead shrike, white-tailed kite (*Elanus leucurus*), salt marsh harvest mouse, and salt marsh wandering shrew, may occur in wetland habitats near but outside, to the north and northeast, the main Project Site, Hamilton Avenue Parcels North and South, or the Willow Road Tunnel site. However, they are absent from these areas because there is no suitable habitat present and the species are separated from the Project Site by dense urban development and SR 84. Furthermore, the proposed development footprint is well removed from suitable habitat for these species. Several other special-status species have some potential to occur in the Study Area as visitors, migrants, or transients but are not expected to reside or breed on the Project Site, occur in large numbers, or otherwise make substantial use of the Project Site. These include the San Francisco common yellowthroat, Alameda song sparrow, and pallid bat (*Antrozous pallidus*).

During the reconnaissance survey conducted by H.T. Harvey & Associates on November 13, 2017, multiple feral cats (*Felis catus*) were observed on the main Project Site and in the surrounding Study Area. Mammalian predation of birds and small mammals, including special-status species, is a natural process. However, when natural levels of predation increase because of the presence of non-native species, the health of local animal populations, including populations of special-status species, can be adversely affected. Feral cats have been implicated as a major predator for many native wildlife species, including birds and small mammals such as the salt marsh harvest mouse, which is known to occur in wetlands north and northeast of the Study Area. Not only does predation by feral cats represent a potential impact on animal populations, but feral cat feeding stations attract other predators, such as raccoons and skunks, thereby increasing predation pressure on native species in these locations.

Table 3.9-1. Special-Status Animal Species Known to Occur or Having Potential to Occur in the Project Vicinity

Scientific and Common Name	Status	Habitat	Potential for Occurrence in the Project Vicinity
Federal or State Endangered, Rare, or Threatened Species			
Crotch bumble bee (Bombus crotchii)	SC	Occurs in open grassland and scrub habitats. Like most other species of bumble bees, nests primarily underground (Williams et al. 2014). Generalist foragers that visit a variety of floral resources.	**Absent**. There is one historical record of the species approximately 4 miles southwest of the Project Site (CNDDB 2020), but there are no recent records in the vicinity. Although the species was historically found throughout the southern two-thirds of California, it now appears to be absent from most of its former range (Xerces Society 2018). It is not currently, or recently, known from the Study Area and not expected to occur because of recent range contractions.
Western bumble bee (*Bombus occidentalis occidentalis*)	SC	Occurs in meadows and grasslands with abundant floral resources. Nests are primarily underground.	**Absent**. There are several records of this species from the Project Vicinity, but all records are historical (CNDDB 2020). Although this species was historically found throughout much of central and Northern California, it is now confined to high-elevation sites and a small number of records on the Northern California coast (Xerces Society 2018). It is not expected to occur in the Study Area because of recent range contractions.
Green sturgeon (*Acipenser medirostris*)	FT, CSSC	Spawns in large river systems such as the Sacramento River; forages in nearshore oceanic waters, bays, and estuaries.	**Absent**. No suitable aquatic habitat is present in the Study Area. Green sturgeon may forage infrequently and in low numbers in the open Bay, which is 1.5 miles north and east of the Project Site; however, there is no aquatic connection between the Bay and the Project Site.
Central California Coast steelhead (*Oncorhynchus mykiss*)	FT	Cool streams with suitable spawning habitat and conditions that allow migration between spawning and marine habitats.	**Absent**. No suitable aquatic habitat is present in the Study Area. Steelhead may forage in the open Bay, which is 1.5 miles north and east of the Project Site; however, there is no aquatic connection between the Bay and the Project Site.
California tiger salamander (*Ambystoma californiense*)	FT, ST	Vernal or temporary pools in annual grasslands or open woodlands.	**Absent**. No suitable habitat is present in the surrounding Study Area. Furthermore, populations have largely been extirpated from San Mateo County because of habitat loss; the species is now considered absent from the majority of the Project Vicinity, including the Study Area. The closest occurrence in the Project Vicinity is at Lake Lagunita on the Stanford campus, which is 4 miles south of the Study Area (CNDDB 2020).

Scientific and Common Name	Status	Habitat	Potential for Occurrence in the Project Vicinity
San Francisco garter snake (Thamnophis sirtalis tetrataenia)	FE, SE	Prefers densely vegetated freshwater habitats. May use upland burrows for aestivation.	**Absent**. No suitable habitat is present in the Study Area. Furthermore, the Project Vicinity is outside the known range of the species.
California red-legged frog (*Rana draytonii*)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	**Absent**. No suitable habitat is present in the Study Area. Furthermore, this species has been extirpated from the majority of the Project Vicinity because of development, the alteration of hydrology within its aquatic habitats, and the introduction of non-native predators such as non-native fish and bullfrogs (*Lithobates catesbeianus*). The most recent record of the species in the Project Vicinity is from 2016 near Bear Gulch Reservoir, more than 4.8 miles southwest of the Study Area (CNDDB 2020).
California Ridgway's rail (Rallus obsoletus obsoletus)	FE, SE, SP	Salt marshes characterized by large expanses of saltmarsh cordgrass (*Spartina* spp.) or pickleweed (*Salicornia* spp.), with well-developed tidal channels.	**Absent**. Although the species is known to occur in the Palo Alto Baylands and Ravenswood Open Space Preserve, 1 mile east of the Study Area, as well as Greco Island, 1 mile northwest of the Study Area, no salt marsh habitat is present in the Study Area. Furthermore, the only marsh habitat within 700 feet of the main Project Site that is equivalent in size to the non-disturbance buffer typically required around active nests by the U.S. Fish and Wildlife Service and CDFW is a mosaic of both freshwater and salt marsh habitats in areas north of the Study Area. This marsh habitat lacks extensive patches of cordgrass or pickleweed, as well as tidally influenced braided channels, and therefore is not considered suitable habitat for California Ridgway's rail within the Study Area.
California black rail (Laterallus jamaicensis coturniculus)	ST, SP	Breeds in fresh, brackish, and tidal salt marshes.	**Absent**. This species occurs in the Project region, primarily as a scarce winter visitor; individuals have been recently recorded at a slough 0.5 mile north of the Study Area (CNDDB 2020). However, no suitable nesting or foraging habitat for California black rail is present in the Study Area.
Western snowy plover (Charadrius alexandrinus nivosus)	FT, CSSC	Sandy beaches on marine and estuarine shores and salt pannes in the Bay's saline-managed ponds.	**Absent**. Although western snowy plovers are known to nest in the salt panne habitat located in the Refuge's Ravenswood complex (CNDDB 2020), no suitable nesting or foraging habitat is present in the Study Area.

Scientific and Common Name	Status	Habitat	Potential for Occurrence in the Project Vicinity
California least tern (Sternula antillarum browni)	FE, SE, SP	Nests along the coast on bare or sparsely vegetated, flat substrates. In the South Bay, nests in salt pannes and on an old airport runway. Forages for fish in open waters.	**Absent**. Suitable nesting habitat for California least tern is not present in the Study Area. Least terns have been recorded in the Project Vicinity during the post-breeding season and have been known to forage in the Redwood City salt ponds 2.5 miles west of the Study Area (CNDDB 2020). Least terns have also been known to forage infrequently along the shores of the Palo Alto Baylands Preserve, located 3 miles southeast of the Study Area. However, least terns are not expected to forage in the Study Area because of the lack of open water habitat that would support fish.
Salt marsh harvest mouse (Reithrodontomys raviventris)	FE, SE, SP	Salt marsh habitat dominated by common pickleweed or alkali bulrush.	**Absent**. The species has been recorded in salt marsh habitat in the Project Vicinity, including on the Refuge north and east of the site (CNDDB 2020). Suitable pickleweed/alkali bulrush–dominated salt marsh habitat is present within several hundred feet of the Study Area (to the northeast). However, no suitable habitat is present in the Study Area.
California Species of Concern			
Western pond turtle (*Actinemys marmorata*)	CSSC	Permanent or nearly permanent water in a variety of habitats.	**Absent**. No suitable aquatic habitat is present in the Study Area.
Northern harrier (*Circus cyaneus*)	CSSC (nesting)	Nests in marshes and moist fields; forages over open areas.	**Absent**. Northern harriers nest and forage in the wetlands immediately north and northeast of the Study Area, but they are not expected to nest or forage in the Study Area because of a lack of suitable habitat.
Black skimmer (*Rynchops niger*)	CSSC (nesting)	Nests on sparsely vegetated beaches, isolated islands, and levees.	**Absent**. No suitable nesting or foraging habitat is present in or near the Study Area.
Burrowing owl (Athene cunicularia)	CSSC	Nests and roosts in open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels (*Spermophilus beecheyi*).	**Absent**. No nesting burrowing owls are known to occur in the surrounding Project Vicinity (CNDDB 2020), and no suitable burrowing owl roosting or nesting habitat (i.e., open grasslands with ground squirrel burrows) is present in the Study Area. The narrow strip of California annual grassland at the northern edge of the Study Area is too limited and too hemmed in by trees and development to provide good burrowing owl habitat. Therefore, the species is not expected to occur in the Study Area.

Scientific and Common Name	Status	Habitat	Potential for Occurrence in the Project Vicinity
Loggerhead shrike (*Lanius ludovicianus*)	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	**Absent**. No suitable breeding habitat is present in the Study Area, and the California annual grasslands in the Study Area are not extensive enough to provide suitable foraging habitat.
San Francisco common yellowthroat (*Geothlypis trichas sinuosa*)	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	**Absent as Breeder**. The San Francisco common yellowthroat breeds in wetlands immediately north and northeast of the Study Area, but no suitable breeding habitat is present in the Study Area itself. Small numbers may occasionally forage along the northern edge of the Study Area.
Alameda song sparrow (Melospiza melodia pusillula)	CSSC	Nests in salt marsh, primarily in marsh gumplant and cordgrass along channels.	**Absent as Breeder**. Song sparrows breed commonly in wetlands immediately north and northeast of the Study Area, but no suitable breeding habitat is present in the Study Area itself. Small numbers may occasionally forage along the northern edge of the Study Area.
Salt marsh wandering shrew (*Sorex vagrans halicoetes*)	CSSC	Medium to high marsh 6 to 8 feet above sea level with abundant driftwood and common pickleweed.	**Absent**. Suitable pickleweed-dominated salt marsh habitat is present within several hundred feet of the Study Area (to the northwest). However, no suitable habitat is present
Pallid bat (Antrozous pallidus)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	**Absent as Breeder**. Historically, pallid bats were very likely present in a number of locations throughout the Project region, but their populations have declined in recent decades. This species has been extirpated as a breeder from urban areas close to the Bay, as is the case in the Study Area. No suitable roosting habitat is present, and no known maternity colonies are present on or adjacent to the Study Area. There is low probability for the species occurring in the Project Vicinity at all because of urbanization; however, individuals from more remote colonies could forage over the Study Area on rare occasions.
American badger (*Taxidea taxus*)	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	**Absent**. Badgers are not known to occur in the Project region because of the lack of extensive grasslands and agricultural areas with the friable soils needed for digging burrows. No suitable habitat is present.
White-tailed kite (Elanus leucurus)	SP	Nests in trees; forages in extensive grasslands or marshes.	**Absent**. No suitable breeding habitat is present in the Study Area, and the California annual grasslands in the Study Area are not extensive enough to provide suitable foraging habitat. May nest north and northeast of the Study Area but determined to be absent from the Study Area.

Scientific and Common Name	Status	Habitat	Potential for Occurrence in the Project Vicinity

Sources: California Department of Fish and Wildlife. 2020. *California Natural Diversity Database.*

H.T. Harvey & Associates. 2021. *Willow Village Master Plan Biological Resources Report* (see Table 1 in Appendix 3.9).

H.T. Harvey & Associates. 2021. *Willow Village Tunnel and North Ramp Biological Resources Assessment*.

Xerces Society. 2018. R. Hatfield, S. Jepsen, S.F. Jordan, M. Blackburn, and A. Code. *Petition to the State of California Fish and Game Commission to List the Crotch Bumble Bee* (Bombus Crotchii), *Franklin's Bumble Bee* (Bombus franklini), *Suckley Cuckoo Bumble Bee* (Bombus suckleyi), *and Western Bumble Bee* (Bombus occidentalis) *as Endangered under the California Endangered Species Act.* Portland, OR. October 16.

Notes:

Special-Status Species Code Designations

FE	=	Federally Listed as Endangered
FT	=	Federally Listed as Threatened
SE	=	State Listed as Endangered
ST	=	State Listed as Threatened
SC	=	State Candidate for Listing
CSSC	=	California Species of Special Concern
SP	=	State Fully Protected Species

Sensitive Natural Communities and Habitats

A query of sensitive habitats in the CNDDB RareFind database by H.T. Harvey & Associates identified three sensitive habitats as occurring within the nine USGS quadrangles containing or surrounding the Study Area: serpentine bunchgrass grassland, valley oak woodland, and northern coastal salt marsh. Serpentine bunchgrass occurs only on serpentine soils, which do not occur in the vicinity of the Project Site. Valley oak woodland is characterized by valley oak (*Quercus lobata*), which is the dominant or co-dominant species in the tree canopy. Although some valley oak individuals do occur in the vicinity of the Project Site, they are ornamental plantings along buildings and roadways and therefore do not constitute this sensitive habitat type. The last sensitive habitat type, northern coastal salt marsh, occurs along sheltered inland margins of bays that are often co-dominated by pickleweed (*Salicornia spp*.), cordgrass (*Spartina spp*.), and sometimes saltgrass (*Distichlis spicata*). None of these species was noted in the vicinity of the Project Site; therefore, this habitat type is also absent.

As described above, the H.T. Harvey & Associates surveys and delineation of regulated habitats did not identify any wetlands or other waters that fall under the jurisdiction of USACE (i.e., waters of the United States) or the RWQCB or CDFW (i.e., waters of the state) on the Project Site itself. A small, isolated segment of forested wetland that could be considered part of waters of the state is located in a drainage ditch along the northern edge of the Study Area, just outside the boundary for the Proposed Project. One linear area of herbaceous seasonal wetland is immediately north of Hamilton Avenue Parcels North and South. Another herbaceous seasonal wetland is just outside the northeast corner of the Project Site. USACE may claim these features as jurisdictional waters of the United States. Furthermore, the RWQCB could consider these wetlands (and possibly an additional 0.13-acre area where the canopy of willows extends outside the 0.07-acre forested wetland footprint within which the willows are rooted) to be waters of the state.

Under the Navigable Waters Protection Rule (NWPR) (85 *Federal Register* 22250), which excluded ephemeral features, including ephemeral streams, swales, gullies, rills and pools, ditches, and isolated wetlands (i.e., wetlands that do no abut, are separated by more than a natural berm from, are not inundated by flooding in a typical year from, and do not have a direct hydrological connection in a typical year to a jurisdictional non-wetland water) from jurisdiction, these features would very likely not have been considered jurisdictional waters of the United States. However, the U.S. District Court for the District of Arizona issued an order on August 30, 2021, vacating and remanding the NWPR in the case of *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency* in Arizona. In light of this order, the agencies have halted implementation of the NWPR and are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice. As such, at the time of writing, USACE may claim these features as jurisdictional waters of the United States.

The RWQCB typically does claim jurisdiction over isolated wetlands under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) and therefore would most likely consider these wetlands to be waters of the state in any event. As waters of the state, and potential waters of the United States, these wetlands would be considered sensitive habitats for CEQA assessment purposes. The wetlands are not associated with a stream and therefore would not constitute sensitive riparian habitat claimed by CDFW.

A ditch, which was onsite and partially within the Hetch Hetchy right-of-way, was dominated by upland (non-wetland) vegetation during the April 2019 and August 2021 site visit made by H.T. Harvey & Associates. A visit to the site on December 31, 2021, after a prolonged and heavy rain event, revealed evidence of only a very small amount of the runoff that flowed through this ditch during the storm. The ditch drains to the Menlo Park stormwater system. Therefore, this feature is not considered sensitive or expected to be jurisdictional as a water of the United States because of the lack of hydrophytic vegetation.

This also indicates that hydric soils and wetland hydrology area also lacking, that this feature is very likely intermittent or ephemeral, and that it does not connect to a jurisdictional feature, such as a tributary or navigable water. In addition, because this feature was dug in uplands for the purpose of draining uplands and does not replace a natural drainage, it is considered an "artificial" drainage feature created for the purpose of conveying stormwater runoff. Moreover, ditches with ephemeral flows that are not relocated waters of the state or excavated in waters of the state are typically not considered waters of the state. Therefore, this feature would not be considered a water of the state. The brackish marsh habitat north and northeast of the Project Site provides habitat of higher quality compared with the forested wetland and the two seasonal wetland or aquatic features within the Study Area; however, the brackish marsh is outside the 5-mile radius that encompasses the Project Vicinity.

Regulatory Setting

Federal

Federal Endangered Species Act

The ESA protects federally listed wildlife species from harm or *take*, which is broadly defined as intending to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" or attempting to engage in any such conduct. Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as *take* even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Generally, listed plant species are legally protected from take under the ESA only if they occur on federal lands.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed threatened and endangered species under the ESA. USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under the ESA but may become listed in the near future and are often included in review of a project.

Federal Migratory Bird Treaty Act of 1918

The federal Migratory Bird Treaty Act (MBTA), 16 United States Code Section 703, prohibits the killing, possessing, or trading of migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests, and it prohibits the possession of all nests of protected bird species, whether they are active or inactive. An active nest is defined as one having eggs or young, as described by USFWS in its June 14, 2018, memorandum "Destruction and Relocation of Migratory Bird Nest Contents." Nest starts (i.e., nests that are under construction and do not yet contain eggs) and inactive nests are not protected from destruction.

In its June 14, 2018, memorandum, USFWS clarified the text regarding destruction of an active nest "while conducting any activity where the intent of the action is not to kill migratory birds or destroy their nests or contents," noting that such conduct is not prohibited under the MBTA.

Clean Water Act

The Clean Water Act (CWA) functions to maintain and restore the physical, chemical, and biological integrity of waters of the United States, which include, but are not limited to, tributaries to traditionally navigable waters that are currently or were historically used for interstate or foreign commerce, as well as adjacent wetlands. Historically, in non-tidal waters, USACE jurisdiction extended to the ordinary high-water mark (OHWM), which is defined in Title 33, Code of Federal Regulations (CFR), Part 328.3. If there are wetlands adjacent to channelized features, the limits of USACE jurisdiction extend beyond the OHWM

to the outer edges of the wetlands. Wetlands that are not adjacent to waters of the United States or tributaries are termed "isolated wetlands" and, depending on the circumstances, typically not subject to USACE jurisdiction. In tidal waters, USACE jurisdiction extends to the landward extent of vegetation associated with salt or brackish water or the high-tide line, as defined in 33 CFR Part 328.3 as "the line of intersection of the land with the water's surface at the maximum height reached by a rising tide."

Construction activities within jurisdictional waters are regulated by USACE. The placement of fill into such waters must comply with permit requirements of USACE. No USACE permit will be effective in the absence of Section 401 water quality certification. The State Water Resources Control Board (State Water Board) is the state agency, together with the RWQCBs, charged with implementing water quality certification in California.

USACE Jurisdictional Areas

In April 2020, EPA and USACE published a regulation regarding a new definition of waters of the United States. This regulation, the NWPR, revised the definition of waters that are federally regulated under the CWA. The new NWPR no longer narrows the definition of waters of the United States by focusing on traditional navigable waters and whether there is a surface water connection between them. The new NWPR was published in the *Federal Register* on April 21, 2020 (85 *Federal Register* 22250) and became effective June 22, 2020.

The revised definition identifies four categories for federally regulated waters, as follows:

- Territorial seas and traditional navigable waters;
- Perennial and intermittent tributaries to those waters;
- Certain lakes, ponds, and impoundments; and
- Wetlands adjacent to jurisdictional waters.

This final action lists 12 categories of exclusions, including the following:

- Features that contain water only in direct response to rainfall (e.g., ephemeral streams);
- Groundwater;
- Many ditches, including most farm and roadside ditches;
- Converted cropland;
- Farm and stock watering ponds; and
- Waste treatment systems.

According to the definition, there must be a surface water connection that is at least intermittent or perennial, such as wetlands that are meaningfully connected to other jurisdictional waters (e.g., by directly abutting or having regular surface water communication with jurisdictional waters). However, there can be non-jurisdictional connectors (e.g., ditches, sheetflow) between two jurisdictional waters.

The revised definition leaves unchanged the parameters used to identify and delineate wetlands and the OHWM characteristics used to define the upper boundary of USACE jurisdiction over non-wetland waters such as streams, ponds, and lakes. The boundaries of nontidal, non-wetland waters (streams) were delineated at the OHWM, as defined in 33 CFR 328.3. The OHWM represents the limit of potential USACE jurisdiction over non-tidal waters (e.g., streams, ponds) in the absence of adjacent wetlands (33 CFR 328.04).

USACE defines jurisdictional wetlands under CWA Section 404 as areas that exhibit positive field indicators for all three wetland parameters. The three parameters used to determine the presence of CWA Section 404 wetlands are (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. According to the *Corps of Engineers Wetlands Delineation Manual,*[9] "evidence of a minimum of one positive wetland indicator from each parameter (vegetation, soil, and hydrology) must be found in order to make a positive wetland delineation." However, as stated above, EPA and USACE have halted implementation of the NWPR and are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice. As such, at the time of writing, USACE may claim these features as jurisdictional waters of the United States.

Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899 prohibits the creation of any obstruction to the navigable capacity of waters of the United States. This includes discharging fill or building wharfs, piers, jetties, or other structures without Congressional approval or authorization from the Chief of Engineers and Secretary of the Army (33 United States Code 403).

Navigable waters of the United States, defined in 33 CFR 329.4, include all waters that are subject to the ebb and flow of the tide and those that are presently or have historically been used in commerce. The shoreward jurisdictional limit of tidal waters is defined in 33 CFR 329.12 as "the line on the shore reached by the plane of the mean (average) high water." It is important to understand that USACE does not regulate wetlands under Section 10, only the aquatic or open waters component of bay habitat. In addition, there is overlap between Section 10 jurisdiction and Section 404 jurisdiction. According to 33 CFR 329.9, a water body that was once navigable in its natural or improved state retains its character as "navigable in law," even though it is not presently used for commerce because of changed conditions or the presence of obstructions. Historical Section 10 waters may occur behind levees in areas that are not currently exposed to tidal or muted tidal influences that meet the following criteria: (1) the area is presently at or below the mean high-water line; (2) the area was historically at or below the mean high-water line in its "unobstructed, natural state"; and (3) there is no evidence that the area was ever above the mean high-water line.

As mentioned above, Section 404 of the CWA authorizes USACE to issue permits to regulate the discharge of dredged or fill material into waters of the United States. If a project proposes to discharge dredged or fill material into navigable waters of the United States or introduce other potential obstructions, a Letter of Permission that authorizes the impacts must be obtained from USACE under Section 10 of the Rivers and Harbors Act.

State

California Endangered Species Act

The CESA (California Fish and Game Code, Chapter 1.5, Sections 2050–2116) prohibits the take of any plant or animal listed as an endangered, threatened, or candidate species. In accordance with the CESA, CDFW has jurisdiction over state-listed species (California Fish and Game Code Section 2070). CDFW regulates activities that may result in take of individuals (i.e., intending to "hunt, pursue, catch, capture, or kill" or "attempting to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of take under the California Fish and Game Code. CDFW, however, has interpreted take to include the "killing of a member of a species that is the proximate result of habitat modification."

[9] Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Available: https://www.lrh.usace.army.mil/Portals/38/docs/USACE%2087%20Wetland%20Delineation%20Manual.pdf. Accessed: March 15, 2022.

California Environmental Quality Act

CEQA is a state law that requires state and local agencies to document and consider the environmental implications of their actions and refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid the effects. CEQA requires full disclosure of the environmental effects of agency actions, such as a general plan update or implementation of projects covered by the plan, on resources such as air quality, water quality, cultural resources, and biological resources. The State Resources Agency–promulgated guidelines for implementing CEQA are known as the CEQA Guidelines.

Section 15380(b) of the CEQA Guidelines provides that a species that is not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definitions in the ESA and the CESA as well as the section of the California Fish and Game Code dealing with rare or endangered plants and animals (Sections 2050–2115.5). This section was included in the guidelines to deal primarily with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either USFWS or CDFW or a species that is locally or regionally rare.

CDFW has produced three lists (i.e., amphibians and reptiles, birds, and mammals) of "species of special concern" that serve as "watch lists." Species on these lists are limited in distribution or the extent of their habitats has been reduced substantially such that a threat to their populations may be imminent. Therefore, their populations should be monitored. They may receive special attention during environmental review as potentially rare species but do not have specific statutory protection. All potentially rare or sensitive species, or habitats that are capable of supporting rare species, are considered for environmental review per CEQA Section 15380(b).

The CNPS, a non-governmental conservation organization, developed CRPRs for plant species of concern in California in its *Inventory of Rare and Endangered Plants*.[10] Although the CNPS is not a regulatory agency and plants on the lists have no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA's Section 15380 criteria, and adverse effects on these species may be considered significant. Impacts on plants that are listed by the CNPS as CRPR 3 or 4 are also considered during CEQA review, although, because these species are typically not as rare as those of CRPR 1B or 2, impacts on such species are less frequently considered significant.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of plant or animal communities. Vegetation types of "special concern" are tracked in the CNDDB RareFind database. Furthermore, CDFW ranks sensitive vegetation alliances according to their global (G) and state (S) rankings, which are analogous to those provided in the CNDDB. Global rankings of natural communities (G1–G5) reflect the overall condition (i.e., rarity and endangerment) of a habitat throughout its range, whereas S rankings reflect the condition of a habitat within California. If an alliance is marked as G1–G3, all associations within it would also be high priority. CDFW provides the Vegetation Classification and Mapping Program's currently accepted list of vegetation alliances and associations.[11]

[10] California Native Plant Society. 2021. *Inventory of Rare and Endangered Plants* (7.0 and 9.0 online editions). Available: http://www.cnps.org/inventory. Accessed: March 15, 2022.

[11] California Department of Fish and Wildlife. 2021. *Vegetation Classification and Mapping Program: Natural Communities List.* Available: http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp. Accessed: December 2021.

California Fish and Game Code

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue-line streams on USGS maps, and watercourses with subsurface flows generally fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A *stream* is defined in Title 14, California Code of Regulations Section 1.72, as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation." Using this definition, CDFW extends its jurisdiction to encompass riparian habitats that function as part of a watercourse. California Fish and Game Code Section 2786 defines *riparian habitat* as "lands that contain habitat that grows close to and depends on soil moisture from a nearby freshwater source." The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At a minimum, CDFW would claim jurisdiction over a stream's bed and bank. In areas that lack a vegetated riparian corridor, CDFW jurisdiction would be the same as USACE jurisdiction. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to California Fish and Game Code Section 1603, CDFW regulates any project proposed by any person that will "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department or use any material from the streambeds." California Fish and Game Code Section 1602 requires an entity to notify CDFW of any proposed activity that may modify a river, stream, or lake. If CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions to protect fish and wildlife and must comply with CEQA. The applicant may then proceed with the activity in accordance with the final LSAA.

Certain sections of the California Fish and Game Code describe regulations pertaining to the protection of certain wildlife species. For example, Section 2000 prohibits take of any bird, mammal, fish, reptile, or amphibian species, except as provided by other sections of the code.

California Fish and Game Code Sections 3503, 3513, and 3800, as well as other sections and subsections, protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by CDFW. Raptors (i.e., eagles, hawks, owls) and their nests are specifically protected in California under Section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird, except as otherwise provided by this code or any regulation adopted pursuant thereto."

Bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that non-game mammals or parts thereof may not be taken or possessed, except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities such as the destruction of an occupied roost for a nonbreeding bat resulting in the mortality of non-game mammals, including bats, or disturbances that result in the loss of a maternity colony and the death of young may be considered take by CDFW.

Porter-Cologne Water Quality Control Act

The State Water Board works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region and may approve, with or without conditions, or deny projects that could affect waters of the state. The board's authority comes from the CWA and the state's Porter-Cologne Act, which broadly defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because the Porter-Cologne Act applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of waters of the United States. For example, Water Quality Order No. 2004-0004-DWQ states that "shallow" waters of the state include headwaters, wetlands, and riparian areas. Moreover, the San Francisco Bay RWQCB's assistant executive director has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of the bank.

On April 2, 2019, the State Water Board adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In these new regulations, effective as of May 28, 2020, riparian habitats are not specifically described as waters of the state but, instead, as important buffer habitats for streams that do conform to the state wetland definition. The procedures describe riparian habitat buffers as important resources that may be included in required mitigation packages for permits concerning impacts on waters of the state as well as permit authorizations from the RWQCBs.

Pursuant to the CWA, projects that are regulated by USACE must also obtain a Section 401 water quality certification permit from the RWQCB. This certification ensures that a proposed project will uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the state may require waste discharge requirements, even if the area occurs outside USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements, even if USACE does not (e.g., for riparian habitats that are buffers to waters of the state). Under the Porter-Cologne Act, the State Water Board and nine RWQCBs also have responsibility for granting CWA National Pollutant Discharge Elimination System (NPDES) permits and waste discharge requirements for certain point-source and nonpoint-source discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

Waters of the State

The State Water Board's newly adopted regulations (April 2, 2019), effective as of May 28, 2020, entitled State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State, create a new statewide wetland definition that expands to include features that were not previously covered under federal law and creates a new permitting program for activities that result in the discharge of dredged or fill materials to any waters of the state. Under the Porter-Cologne Act, *waters of the state* are broadly defined as "[a]ny surface water or groundwater, including saline waters within state boundaries," including both natural and certain artificial or constructed facilities. Waters of the state include both waters of the United States and non-federal waters of the state.

Local

Menlo Park Municipal Code

The Menlo Park Municipal Code contains ordinances for Menlo Park. Title 16, Zoning, includes regulations relevant to biological resources on the Project Site, as discussed below.

Bird-Friendly Design. All new construction, regardless of size, is required to comply with the City of Menlo Park (City) bird-safe design requirements provided in Menlo Park Municipal Code Sections 16.43.140(6) (with respect to the O District) and 16.45.130(6) (with respect to the RMU District). These design requirements include appropriate measures to reduce bird collisions, as follows:

A. No more than 10 percent of the façade surface area shall have non-bird-friendly glazing.

B. Bird-friendly glazing includes, but is not limited to, opaque glass; clear glass with patterns covering the outside surface; paned glass with fenestration, frit, or etching patterns; and nonreflective glass with external screens. Highly reflective glass is not permitted.

C. Occupancy sensors or other switch control devices shall be installed on non-emergency lights and programmed to shut off during non-work hours and between 10:00 p.m. and sunrise.

D. The placement of buildings shall avoid the potential funneling of flight paths toward a building façade.

E. Glass skyways or walkways, free-standing (see-through) glass walls and handrails, and transparent building corners shall not be allowed.

F. Transparent glass shall not be allowed at the rooflines of buildings, including in conjunction with roof decks, patios, and green roofs.

G. Rodenticides shall not be allowed.

Per the zoning ordinance, a project may receive a waiver from requirements A through F, subject to submittal of a site-specific evaluation from a qualified biologist and review and approval by the Planning Commission. A waiver from requirement G is not authorized.

Landscape Design Plan. Menlo Park Municipal Code Section 12.44.090(a)(1)(G) provides that the use of invasive or noxious plant species is strongly discouraged. Invasive species are defined as those plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. A noxious weed refers to any weed designated by weed control regulations in the Weed Control Act and identified on a regional district noxious weed control list.

Heritage Trees. The Proposed Project would be subject to Menlo Park Municipal Code Section 13.24, which establishes regulations for the preservation of heritage trees. Section 13.24 defines *heritage trees* as:

- Trees of historical significance, special character, or community benefit specifically designated by resolution of the City Council;
- An oak tree (*Quercus* sp.) that is native to California and has a trunk circumference of 31.4 inches (i.e., a diameter of 10 inches) or more, as measured at 54 inches above the natural grade; and
- All trees other than oaks that have a trunk circumference of 47.1 inches (i.e., a diameter of 15 inches) or more, as measured at 54 inches above the natural grade, with the exception of trees that are less than 12 feet tall, which are exempt from this section.

To protect heritage trees, Section 13.24.030 of the Menlo Park Municipal Code requires a tree protection plan prepared by a certified arborist to be submitted for any work performed within a tree protection zone, which is an area 10 times the diameter of the tree. Furthermore, all tree protection plans should be reviewed and approved by the Public Works Director or his or her designee prior to issuance of any permit for grading or construction.

The removal of heritage trees or pruning of more than one-fourth of the branches or roots within a 12-month period requires a permit from the City's Director of Public Works or his or her designee and payment of a fee. The Director of Public Works may issue a permit when the removal or major pruning of a heritage tree is reasonable, based on considerations such as the condition of the tree, the need for removal (e.g., to accommodate proposed improvements), the ecological and long-term value of the tree, and feasible alternatives that would allow for tree preservation.

City of Menlo Park General Plan

The City General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2015–2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The following policies from the Open Space Element that have been adopted to avoid or mitigate environmental impacts are relevant to biological resources and the Proposed Project:

Goal OSC1: Maintain, Protect, and Enhance Open Space and Natural Resources.

Policy OSC1.1: Natural Resources Integration with Other Uses. Protect Menlo Park's natural environment and integrate creeks, utility corridors, and other significant natural and scenic features into development plans.

Policy OSC1.2: Habitat for Open Space and Conservation Purposes. Preserve, protect, maintain, and enhance water areas, water-related areas, and plant and wildlife habitat for open space and conservation purposes.

Policy OSC1.3: Sensitive Habitats. Require new development on or near sensitive habitats to provide baseline assessments prepared by qualified biologists and specify requirements relative to the baseline assessments.

Policy OSC1.4: Habitat Enhancement. Require new development to minimize the disturbance of natural habitats and vegetation and require re-vegetation of disturbed natural habitat areas with native or non-invasive naturalized species.

Policy OSC1.5: Invasive, Non-Native Plant Species. Avoid the use of invasive, non-native species, as identified on the lists of invasive plants maintained at the California Invasive Plant Council and U.S. Department of Agriculture, or other authoritative sources, in landscaping on public property.

Policy OSC1.6: South Bay Salt Pond Restoration Project and Flood Management Project. Continue to support and participate in federal and state efforts related to the South Bay Salt Pond Restoration Project and Flood Management Project. Provide public access to the Bay for enjoyment and recreational opportunities as well as conservation-focused educational opportunities related to the Bay, sloughs, and marshes.

Policy OSC1.15: Heritage Trees. Protect heritage trees, including during construction, through enforcement of the Heritage Tree Ordinance (Section 13.24 of the Menlo Park Municipal Code).

Goal OSC2: Provide Parks and Recreational Facilities.

Policy OSC2.4: Parkland Standards. Strive to maintain a standard of 5 acres of parkland per 1,000 residents.

Policy OSC-2.6 Pedestrian and Bicycle Paths. Develop pedestrian and bicycle paths consistent with the recommendations of local and regional trail and bicycle route projects, including projects involving the San Francisco Bay Trail (Bay Trail).

The following goals and policies from the Land Use Element that have been adopted to avoid or mitigate environmental impacts pertain to the Proposed Project:

Goal LU-6: Preserve open space lands for recreation; protect natural resources, as well as air and water quality; and protect and enhance scenic qualities.

Policy LU-6.5: Open Space Retention. Maximize the retention of open space on larger tracts (e.g., portions of the St. Patrick's Seminary site) through means such as rezoning, consistent with existing uses; clustered development; acquisition of a permanent open space easement; and/or the transfer of development rights.

Policy LU 6.6: Public Bay Access. Protect and support public access to the Bay for the enjoyment of open water, sloughs, and marshes, including restoration efforts and completion of the Bay Trail.

Policy LU-6.7: Habitat Preservation. Collaborate with neighboring jurisdictions to preserve and enhance the Bay, shoreline, San Francisquito Creek, and other wildlife habitat and ecologically fragile areas to the maximum extent possible.

Policy LU-6.8: Landscaping in Development. Encourage extensive and appropriate landscaping in public and private development to maintain the city's tree canopy and promote sustainability and healthy living, particularly through an increase in the number of trees and the use of water-efficient landscaping in large parking areas and the public right-of-way.

Policy LU-6.11. Baylands Preservation. Allow development near the Bay only in already-developed areas.

Environmental Impacts

This section describes the impact analysis related to biological resources for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect if it would result in any of the conditions listed below.

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Methods for Analysis

The analysis below is based on the two BRAs prepared by H. T. Harvey & Associates for the Proposed Project. The BRAs were prepared in conformance with ConnectMenlo EIR Mitigation Measure BIO-1, which requires preparation of a BRA, as specified by the specific conditions of the mitigation measure.

The identification of potential impacts on biological resources relied on a review of relevant Project information, scientific literature, and technical databases as well as site visits. Prior to conducting initial fieldwork, H. T. Harvey & Associates ecologists reviewed the original Project plans and the Project description provided by the Project Sponsor in November 2017 as well as aerial images,[12] a USGS topographic map, the CNDDB,[13] and other relevant scientific literature and technical databases. Previous reports prepared for the Project Site and Project Vicinity were also reviewed, including the arborist report for the main Project Site,[14] a supplemental report prepared for the Hamilton Avenue Parcels North and South,[15] the Final EIRs for the nearby Facebook Campus[16] and the Facebook Campus Expansion Project,[17] the Final EIR for the ConnectMenlo Project,[18] and the Comprehensive Conservation Plan and Environmental Assessment for the Refuge.[19] In addition, for plants, H. T. Harvey & Associates reviewed all species on the current CNPS CRPR 1A, 1B, 2A, and 2B lists occurring in the USGS Palo Alto, California, quadrangle as well as the eight surrounding quadrangles (Woodside, San Mateo, Redwood Point, Newark, Mountain View, Cupertino, Mindego Hill, and La Honda). Quadrangle-level results are not maintained for CRPR 3 and 4 species; therefore, a search of CNPS inventory records for such species occurring in San Mateo County[20] was also conducted. In addition, H. T. Harvey & Associates queried the CNDDB[21] for natural communities of special concern in the Project region. For purposes of this section, where this term is used, "Project Vicinity" encompasses a 5-mile radius surrounding the Project Site.

---

12 Google, Inc. 2020. *Google Earth* (version 7.3.0.3832). Available: http://www.earth.google.com. Accessed: March 15, 2022.

13 California Department of Fish and Wildlife. 2021. *California Natural Diversity Database*. RareFind 5.0. Available: http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed: December 2021.

14 SBCA Tree Consulting. 2017. *Willow Village Tree Survey*. July 11.

15 SBCA Tree Consulting. 2021. *Hamilton Avenue Parcels North and South Tree Survey*. April 2.

16 Atkins. 2012. *Menlo Park Facebook Campus Project Final Environmental Impact Report*. Prepared for the City of Menlo Park, CA. April. Available: https://menlopark.org/DocumentCenter/View/2637/Full-Final-EIR?bidId=. Accessed: March 15, 2022.

17 ICF International. 2016. *Facebook Campus Expansion Project Final EIR*. Prepared for the City of Menlo Park, CA. September. Available: https://www.menlopark.org/DocumentCenter/View/11885/Facebook-Final-EIR?bidId=. Accessed: March 15, 2022.

18 PlaceWorks. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update for the City of Menlo Park Final Environmental Impact Report.* Prepared for the City of Menlo Park, CA.

19 U.S. Fish and Wildlife Service. 2012. *Don Edwards San Francisco Bay National Wildlife Refuge Comprehensive Conservation Plan and Environmental Assessment*. October. Available: https://pubs.usgs.gov/ds/754/CaliforniaNevadaRegion(R8)/Don%20Edwards%20San%20Francisco%20Bay%20NWR%20-%20NWR%20visitor%20survey%202012.pdf. Accessed: March 15, 2022.

20 California Native Plant Society. 2021. *Inventory of Rare and Endangered Plants* (7.0 and 9.0 online editions). Available: http://www.cnps.org/inventory. Accessed: December 2021.

21 California Department of Fish and Wildlife. 2021. *California Natural Diversity Database*. RareFind 5.0. Available: http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp. Accessed: December 2021.

The Study Area was evaluated for the purpose of ensuring that all potential direct, indirect, and cumulative effects on biological resources would be considered. Reconnaissance-level field surveys of the Project Site, as well as the portion of the Study Area east of Willow Road and areas within the Dumbarton Rail Corridor, both east and west of Willow Road, were conducted by wildlife and plant ecologists from H.T. Harvey & Associates in October 2017, November 2017, April 2019, and June 2020. The purpose of the surveys was to provide a Project-specific impact assessment for the Proposed Project, as described above. Specifically, surveys were conducted to (1) assess existing biotic habitats and general plant and wildlife communities in the Study Area, (2) assess the potential for the Proposed Project to affect special-status species or their habitats, and (3) identify potential jurisdictional habitats, such as waters of the United States/state and riparian habitat. Additional site visits by H.T. Harvey & Associates were conducted in August 2021 for delineation of regulated habitats and in December 2021 to examine conditions in the southeast ditch following a period of heavy rains.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the following impacts that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update:[22]

- Impacts related to special-status species or the inadvertent loss of bird nests in active use were analyzed in the ConnectMenlo EIR as Impact BIO-1 (pages 4.3-19 to 4.3-23) and found to be less than significant with mitigation incorporated. The impact could be potentially significant because special-status species have the potential for occurrence in the remaining undeveloped lands in the Bayfront Area and, much more infrequently, in the semi-natural (e.g., ditches, annual grassland) portions of Menlo Park where construction with future development allowed under the City General Plan could occur. Implementation of Mitigation Measure BIO-1 would reduce the impact to less than significant by requiring the preparation of a Project-specific baseline biological resources assessment, prepared by a qualified biologist, on sites containing natural habitat with features such as mature and native trees or unused structures that could support special-status species and other sensitive biological resources as well as common birds protected under the MBTA. If sensitive biological resources are determined to be present, measures such as preconstruction surveys, buffers, and bird-safe design practices and materials, developed by the qualified biologist, would provide adequate avoidance or compensatory mitigation if avoidance is infeasible. Where jurisdictional waters or federally or state-listed species would be affected, appropriate authorization would be obtained by the Project Sponsor.
- Impacts related to the loss of coastal salt marsh vegetation in the Baylands and possibly areas of riparian scrub and woodland along San Francisquito Creek and other drainages in the area were analyzed in the ConnectMenlo EIR as Impact BIO-2 (pages 4.3-24 and 4.3-25) and found to be less than significant with mitigation incorporated. Implementation of Mitigation Measure BIO-1 would reduce this impact to less than significant, as described in the first bullet point.
- Impacts related to the loss of wetland habitat in the area were analyzed in the ConnectMenlo EIR as Impact BIO-3 (pages 4.3-25 and 4.3-26) and found to be less than significant with mitigation incorporated. Implementation of Mitigation Measure BIO-1 would reduce this impact to less than significant, as described in the first bullet point.

[22] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Prepared by PlaceWorks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 19, 2021.

Impacts related to the movement of fish and wildlife, wildlife corridors, or wildlife nursery sites in the area were analyzed in the ConnectMenlo EIR as Impact BIO-4 (page 4.3-26) and found to be less than significant with mitigation incorporated. Implementation of Mitigation Measure BIO-1 would reduce this impact to less than significant, as described in the first bullet point.

- Impacts related to conflicts with local policies and ordinances for the area were analyzed in the ConnectMenlo EIR as Impact BIO-5 (page 4.3-27) and found to be less than significant because the City General Plan is the overriding planning document for Menlo Park and the proposed amendments analyzed under the ConnectMenlo EIR would ensure internal consistency between the City General Plan and the City Zoning Ordinance. Furthermore, with adherence to City General Plan goals, policies, and programs in the Land Use and Open Space/Conservation, Noise, and Safety Elements and the City's Tree Preservation Ordinance, in combination with Menlo Park Municipal Code Chapters 12.44, Water-Efficient Landscaping, and 13.24, Heritage Trees, as well as federal and state laws, no conflicts with local plans and policies were anticipated, and impacts were determined to be less than significant.
- Impacts related to conflicts with an adopted habitat conservation plan, natural community conservation plan, or other local, regional, or state habitat conservation plan in the area were analyzed in the ConnectMenlo EIR as Impact BIO-6 (pages 4.3-27 to 4.3-28) and found to be less than significant with mitigation incorporated. Implementation of Mitigation Measure BIO-1 would reduce this impact to less than significant, as described in the first bullet point.

Impacts Not Evaluated in Detail

Impacts on an Adopted Habitat Conservation Plan or Natural Community Conservation Plan. The Project Site is not a part of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. The salt marshes immediately north of SR 84 and beyond the Project Site are part of the Refuge, which is actively constructing/implementing habitat restoration projects and pursuing the expansion and protection of habitats and associated plant and wildlife species contained therein. The Refuge is also closely involved in the South Bay Salt Pond Restoration Project, which has active restoration sites approximately 4 miles northeast of the Project Site, across Dumbarton Bridge (SR 84).

Implementation of the Proposed Project would include construction of a tunnel (Willow Road Tunnel) under the current Dumbarton Cutoff Line at Willow Road to facilitate tram, service-vehicle, bicycle, and pedestrian travel between the main Project Site and the West Campus. Although construction of Willow Road Tunnel may affect the California Department of Transportation (Caltrans) right-of-way as well as the San Mateo County Transit District (SamTrans) Dumbarton Corridor, all construction would be within the main Project Site, the Caltrans right-of-way, the Dumbarton Corridor, and the Meta Platforms, Inc. ("Meta"), Campus south of the Bay Trail and would not extend into the Refuge. The Proposed Project would require upgrades to the existing PG&E Ravenswood substation, which is near the Dumbarton Bridge approach. The substation is surrounded by wetlands; however, the site is paved and has limited vegetation. Furthermore, all upgrades and improvements to the existing substation would be within the substation site and would not encroach into the wetlands, either directly or indirectly. The proposed improvements would be within the footprint of the existing substation site. Additional offsite improvements would include the placement of utility lines under existing rights-of-way, roadway improvements, and construction of a roundabout. Overall, none of the Proposed Project's construction activities or operations would interfere with management or expansion of the Refuge or restoration of the salt ponds. The Proposed Project would result in no impact on an adopted habitat conservation plan,

natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, this impact is not evaluated further.

Impacts and Mitigation Measures

Impact BIO-1: Direct Impacts on Special-Status Species. The Proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations. (LTS)

There are no special-status plant species on the main Project Site, Hamilton Avenue Parcels North and South, or the Willow Road Tunnel site, and no wildlife species are expected to breed in these areas. However, as noted in Table 3.9-1, nonbreeding San Francisco common yellowthroat, Alameda song sparrow, and pallid bat individuals could occasionally forage on the main Project Site and Hamilton Avenue Parcels North and South. These species are not anticipated to forage at the PG&E Ravenswood substation because of the lack of vegetation at the site. The San Francisco common yellowthroats and Alameda song sparrows that breed in the offsite brackish marsh to the north and northeast disperse, particularly during the nonbreeding season, along the Dumbarton Rail Corridor, which bisects the Willow Road Tunnel site, to the dense vegetation on the northern edge of the main Project Site and Hamilton Avenue Parcel North, areas where they may forage. Pallid bats are expected to occur on or near the Project Site only on rare occasion, if at all. Although dispersing individuals could occasionally forage on the main Project Site and Hamilton Avenue Parcels North and South, because of the absence of high-quality roosting sites for pallid bats, this species is not expected to roost on the main Project Site or Hamilton Avenue Parcels North and South.

During demolition and construction, vegetation removal, noise, and the operation of heavy equipment could disturb foraging yellowthroats and song sparrows. In addition, disturbances within vegetation could result in habitat degradation or the loss of foraging habitat as well as declines in food resources for these bird species, along with pallid bat. However, in their current state, the main Project Site, Hamilton Avenue Parcels North and South, and the Willow Road Tunnel site do not provide high-quality habitat for these species. The species would not be likely to occur in these areas or close enough to be disturbed by demolition or construction activities. Given the relatively urban characteristics of the area, the amount of habitat that could be degraded would be minimal, as would the number of individuals that could be disturbed by Project activities.

The installation of lighting on buildings, along roads and paths, and in parking lots may result in potential impacts on animal species. Many animals, both special-status and common species, are sensitive to light cues, which influence their physiology and shape their behaviors, particularly during the breeding season. Artificial lighting may also indirectly affect animals by increasing the nocturnal activity of predators such as owls, hawks, and mammalian predators. The presence of artificial light may influence habitat use by rodents and breeding birds by causing avoidance of well-lit areas, resulting in a net loss of habitat availability and quality. However, because the Project Site is currently occupied by single- and multi-story buildings, parking lots, and roads with associated lighting, the Proposed Project is not expected to result in a substantial increase in artificial lighting. In addition, areas surrounding the main Project Site, Hamilton Avenue Parcels North and South, and the Willow Road Tunnel site are primarily developed urban or ruderal habitats that do not support sensitive species that might be significantly affected by illumination from the Proposed Project. If lighting in the northern portion of the main Project Site, Hamilton Avenue Parcels North and South, and the Willow Road Tunnel site were bright enough to increase illumination within the wetlands to the north/northeast, such an increase in lighting could have

adverse effects on special-status species in those wetlands. However, the Proposed Project would comply with City General Plan Policy LU-2.3, which requires mixed-use projects with residential units to consider potential compatibility issues associated with light spillover. As a result, lighting on the main Project Site, Hamilton Avenue Parcels North and South, and the Willow Road Tunnel site is not expected to increase the level of illumination on the habitat of sensitive species to the north and northeast. Furthermore, as discussed in Impact BIO-5, the Proposed Project would be required to comply with Mitigation Measure BIO-5.3 to reduce lighting impacts on migratory birds.

Construction on offsite areas could include the placement of utilities lines under existing rights-of-way, construction of roundabout, and improvements to a PG&E substation. All of these areas are developed and have no natural features that provide habitat for special-status species. Although the PG&E Ravenswood substation is adjacent to the marsh and wetlands, the upgrades would not introduce new or expanded lighting and would not affect the wetlands. Therefore, Project activities would not result in substantial impacts on the population and habitat of special-status species. Impacts would be ***less than significant***.

Impact BIO-2: Indirect Impacts on Special-Status Species. The Proposed Project would result in substantial predation among special-status bird and mammal species that breed in the nearby brackish marshes and may forage, in the case of special-status birds, in the Project area. (LTS/M)

As previously discussed, feral cat populations have been observed at the main Project Site, which increases predation of local animal populations, including special-status species. Implementation of the Proposed Project has the potential to result in an increase in the feral cat population. The main Project Site would include a new open space area as well as the publicly accessible Elevated Park, which would be located on an overpass above Willow Road. All of these new open space areas could provide suitable habitat for feral cat colonies and, as such, could facilitate increased predation among special-status species in the Baylands north of the Project Site because of their proximity. The influx of residents and their pets, or the establishment of new feral cat feeding stations by residents and workers, would also increase the feral cat population on the main Project Site. In addition, Willow Road Tunnel would provide direct access to the West Campus and a connection to the undercrossing below Bayfront Expressway that links the Bay Trail and the Meta Campuses, both East and West. The tunnel would be 12 feet tall and 50 feet wide, running under the Dumbarton Cutoff Line at Willow Road to facilitate tram, service-vehicle, bicycle, and pedestrian travel between the main Project Site and the West Campus. Willow Road Tunnel could increase feral cat movement in the Project area; it could also increase access to the Baylands north of the Project Site where special-status species are known to be present. Offsite improvements at the PG&E Ravenswood substation, other utility improvements, and intersection roadway improvements would not facilitate increased predation of special-status species.

Feral cats could access the main Project Site via the new Elevated Park or Willow Road Tunnel, allowing them to cross Willow Road and the Dumbarton Rail Corridor. Migration is most conceivable at night when traffic is reduced and mammalian predators are less likely to be injured or killed by cars; however, predators can already cross this area at street level. Therefore, indirect impacts on special-status species would be potentially significant.

MITIGATION MEASURE. Implementation of Project-specific Mitigation Measure BIO-2.1 would reduce impacts to ***less than significant with mitigation***.

BIO-2.1: Feral Cat Management Program.

The Project Sponsor shall implement a feral cat management program, similar to the program developed in conjunction with the Peninsula Humane Society and the Society for the

Prevention of Cruelty to Animals for the East Campus in 2013. For one week every 3 months (i.e., each quarter), three live trap cages, designed to trap cats, shall be placed around the perimeter of the main Project Site in locations where feral cats are likely to prey upon native wildlife species. Each trap cage shall be monitored and maintained on a daily basis during the week when traps have been set to determine whether a feral cat has been caught and whether the trap has inadvertently captured a non-target species. If a feral cat is caught, a representative from a pest control operator (or a similar service organization/company) shall be contacted and dispatched to transport the trapped cat to the Humane Society of San Mateo County, a local cat shelter, a local cat rescue facility, or other local facility that accepts feral cats. If an animal other than a feral cat is caught in one of the traps, it shall be released immediately at the trap location.

Impact BIO-3: Impacts on Riparian Habitat and Other Sensitive Natural Communities. Project demolition and construction would affect riparian habitat and other sensitive natural communities. (LTS/M)

No riparian habitats or other sensitive natural communities are present on the main Project Site, Hamilton Avenue Parcels North and South, the Willow Road Tunnel site, or at the PG&E Ravenswood substation. An isolated forested wetland is present offsite, immediately north of the main Project Site. A linear area of herbaceous seasonal wetland is present immediately north of the Hamilton Avenue Parcels North and South portion of the Project Site. Another herbaceous seasonal wetland is present just outside the northeast corner of the Project Site. These wetlands are small and isolated, located in depressional areas; there is no surface connection to more extensive wetlands. Because of their small, isolated nature and the lack of high-quality habitat for wildlife, the wetlands are not high-quality habitat features. Nevertheless, forested wetlands are relatively scarce along the edge of the Bay; seasonal wetlands along the edge of the Bay have declined because of development and fill. Therefore, the wetlands are considered sensitive habitat areas. In addition, a large brackish marsh is present approximately 215 feet northeast of the Willow Road Tunnel site, north of the Dumbarton Rail Corridor and east of Willow Road. However, this area would not be within the Project footprint and would not be affected by construction.

Development undertaken as part of the Proposed Project would result in a large portion of the main Project Site and Hamilton Avenue Parcels North and South being subject to soil disturbance because of replacement of the outdated industrial complex on the Main Project Site with a new mixed-used campus, relocation of a service station, relocation of roadways, and construction of the Elevated Park access point on Hamilton Avenue Parcels North and South. Trampling, equipment staging, and vegetation removal could contribute to disturbance. Several non-native, invasive plant species occur in the California annual grassland habitat along the northern edge of the Study Area. Invasive species can spread quickly and be difficult to eradicate. Many non-native, invasive plant species produce seeds that germinate readily following disturbance. Furthermore, disturbed areas are highly susceptible to colonization by non-native, invasive species that occur locally or whose propagules are transported by personnel, vehicles, and equipment. Areas of disturbance could promote the spread of non-native species, which could degrade the ecological values of the riparian habitat and natural communities that occur immediately adjacent to the main Project Site and Hamilton Avenue Parcels North and South and adversely affect native plants and wildlife that occur there.

Although no invasive weeds were observed by H.T. Harvey & Associates on the main Project Site and Hamilton Avenue Parcels North and South, it is possible that some offsite grading in areas along the northern edge would be necessary. Such grading may mobilize weeds within the immediate vicinity of the grading. However, given the minimal amount of disturbance in this offsite area, and the fact that surrounding areas are already developed, this disturbance is not expected to increase the spread of non-

native, invasive species into sensitive habitat areas. Furthermore, the Proposed Project would comply with Menlo Park Municipal Code Section 12.44.090(a)(1)(G), which discourages the use of invasive or noxious plant species for landscaping. Therefore, Project activities would not introduce invasive species to the main Project Site and Hamilton Avenue Parcels North and South or facilitate the spread of invasive plants into riparian habitats and other sensitive natural communities surrounding the main Project Site and Hamilton Avenue Parcels North and South. In addition, the invasive species observed on the main Project Site and Hamilton Avenue Parcels North and South are already present in or around the wetland habitats to the north and northeast, and the remainder of the surrounding area is developed/landscaped and therefore not susceptible to habitat degradation from the spread of invasive plants. Construction on offsite areas could include the placement of utility lines under existing rights-of-way, construction of a roundabout, and improvements to a PG&E Ravenswood substation. All of these areas are developed and have no natural features that provide habitat for special-status species. Construction of offsite project components would not result in impacts on special-status species or other sensitive biological resources. Therefore, the Proposed Project would result in less-than-significant impacts due to the spread of non-native, invasive species into sensitive natural communities.

Although the wetlands are outside the boundary for the main Project Site and Hamilton Avenue Parcels North and South, it is possible that these features may be affected, either temporarily or permanently, during Project grading. Construction of a bicycle/pedestrian path along the northern edge of the main Project Site would require soil excavated from basement construction to be brought in to elevate the site. Although a retaining wall, ranging from 2 to 7 feet in height, is proposed to support the path, some vegetation clearing, as well as fill, within the wetlands (or portions of the wetlands) may occur. As a result, it is possible that the entire 0.07-acre isolated forested wetland (as well as an additional 0.13-acre area where the canopy of willows extends outside the 0.07-acre forested wetland footprint within which the willows are rooted) and the 0.07-acre herbaceous seasonal wetlands may be lost because of fill. Even if the wetlands are not permanently affected, temporary impacts on wetlands may occur because of construction access, potentially resulting in degradation of wetland vegetation or hydrology. Owing to the scarcity of forested wetlands along the edge of the Bay and the decline in seasonal wetlands in the region, this impact would be potentially significant.

MITIGATION MEASURE. Implementation of Mitigation Measures BIO-3.1, BIO-3.2, and BIO-3.3 would reduce this impact to ***less than significant with mitigation***.

BIO-3.1: Avoid and Minimize Impacts on Riparian Habitat and Other Sensitive Natural Communities.

To the extent feasible, construction activities should avoid or minimize the removal of wetland vegetation or the placement of fill in the wetlands immediately north and northeast of the Project Site. If all direct impacts on wetlands (i.e., vegetation removal and fill) are avoided, Mitigation Measures BIO-3.2 and BIO-3.3 would not need to be implemented. However, if any wetland vegetation needs to be removed from the wetlands, or any fill needs to be placed in the wetlands, Mitigation Measure BIO-3.2 (and Mitigation Measure BIO-3.3 if permanent impacts would occur) shall be implemented.

BIO-3.2: In-Situ Restoration of Temporary Impacts.

If impacts on the wetlands immediately north of the Project Site are temporary, resulting in vegetation removal or temporary fill within the wetland but no permanent fill, then the wetland area shall be restored by the Project Sponsor following construction. The herbaceous seasonal wetlands are likely to become recolonized easily without the need for seeding and planting as long as their existing hydrology and topography are restored following temporary impacts. There is some potential for the arroyo willow clumps in the isolated forested wetland to regrow

from cut stumps. In such a case, the in-situ restoration shall involve simply protecting the area with exclusion fencing following construction to allow for regrowth of vegetation.

For temporary impacts involving removed willow root masses where in-situ restoration is still an option, a more detailed restoration plan shall be developed. The mitigation shall, at a minimum, achieve no net loss of wetland acreage (i.e., jurisdictional wetlands lost to fill shall be replaced through the creation or restoration of wetland habitat of the same type as the affected habitat [either forested or herbaceous seasonal] at a minimum ratio of 1:1 on an acreage basis or as otherwise required by any state or federal permitting agencies) or ecological functions and values through the restoration and enhancement of the affected wetlands to a level equal to or greater than the baseline condition of the existing wetlands. An in-situ restoration approach could involve salvaging wetland plant material prior to construction (e.g., willow cuttings or willow clumps, in the case of the isolated forested wetland) and then replanting the material if the seasonal timing of construction is appropriate. USACE and/or RWQCB approvals may be required to authorize temporary impacts on these features.

BIO-3.3: Provide Compensatory Mitigation.

If any permanent fill of the isolated forested wetland or the herbaceous seasonal wetlands occurs, the Project Sponsor shall provide new wetland habitat of the same type (either forested or herbaceous seasonal) to offset this impact, either through the creation, enhancement, or restoration of wetlands in an appropriate location or through the purchase of mitigation credits from a USACE- or RWQCB-approved wetland mitigation bank. The purchase of such credits shall serve as full mitigation for impacts on these wetland features.[23] If Project-specific creation, enhancement, or restoration of wetland habitat is implemented, habitat shall be restored or created at a minimum ratio of 2:1 (compensation: impact) on an acreage basis or as otherwise required by any state or federal permitting agencies. This ratio is not higher because of the relatively low quality of the wetlands on the Project Site relative to the more extensive, less fragmented wetlands elsewhere in the region, and it is not lower because of the temporal loss of wetland functions and values that would result from the lag between impacts on the wetlands and maturation of the mitigation habitat. USACE and/or RWQCB approvals may be required to authorize permanent impacts on this feature.

To the extent that compensatory mitigation is not provided by purchasing mitigation credits from a USACE- or RWQCB-approved wetland mitigation bank, then, if feasible, compensation shall be provided by creating, enhancing, or restoring wetland habitat so as to achieve the 2:1 ratio somewhere in San Mateo County or as otherwise required by any state or federal permitting agencies. A qualified biologist shall develop a wetland mitigation and monitoring plan that describes the mitigation, including the following components (or as otherwise modified by regulatory agency permitting conditions):

- Summary of habitat impacts and proposed mitigation ratios;
- Goal of the restoration to achieve no net loss of habitat functions and values;

[23] Refer to U.S. Army Corps of Engineers 33 Code of Federal Regulations, Part 325, and the State Water Board's State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (April 2, 2019), pages 28 and 29.

- Location of mitigation site(s) and description of existing site conditions;
- Mitigation design;
    - Existing and proposed site hydrology;
    - Grading plan, if appropriate, including bank stabilization or other site stabilization features;
    - Soil amendments and other site preparation elements, as appropriate;
    - Planting plan;
    - Irrigation and maintenance plan;
    - Remedial measures and adaptive management; and
- Monitoring plan, including final and performance criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule. Success criteria shall include quantifiable measurements of wetland vegetation type (e.g., dominance by natives), the appropriate extent for the restoration location, and the provision of ecological functions and values equal to or exceeding those in the affected wetland habitat. At a minimum, success criteria shall include following:
    - At Year 5 post-mitigation, at least 75 percent of the mitigation site shall be dominated by native hydrophytic vegetation.

The wetland mitigation and monitoring plan must be approved by the City and other applicable agencies prior to the wetland impacts and must be implemented within 1 year after the discharge of fill into wetland features. Alternately, offsite mitigation could be provided through the purchase of mitigation credits at an agency-approved mitigation bank, as noted above.

Impact BIO-4: Impacts on State and/or Federally Protected Wetlands. Project demolition and construction could affect state and/or federally protected wetlands. (LTS/M)

As described above, no wetlands occur on the Project Site, but an isolated forested wetland and herbaceous seasonal wetlands are located north and northeast of the Project Site. Furthermore, brackish wetlands occur north and northeast of the boundary for the Project Site. The isolated forested wetland, herbaceous seasonal wetlands, and brackish marsh may be subject to the regulatory jurisdiction of USACE and RWQCB.

As discussed under Impact BIO-3, above, although the Project proposes to avoid the aforementioned features to the extent feasible, it is possible that the 0.07-acre forested wetland (as well as an additional 0.13-acre area where the canopy of willows extends outside the 0.07-acre forested wetland footprint within which the willows are rooted) and the 0.07-acre seasonal wetlands along the northern edge of the Project Site may be affected, either temporarily or permanently, during Project grading. Owing to the scarcity of wetlands along the edge of the Bay, this direct impact would be significant. The brackish wetlands are approximately 220 feet from the nearest building and separated from the main Project Site by an approximately 25- to 40-foot-tall self-storage business. There are no brackish wetlands near the Hamilton Avenue Parcels North and South. A large brackish marsh is present approximately 215 feet northeast of the Project Site, north of the Dumbarton Rail Corridor and east of Willow Road. The areas between the Willow Road Tunnel site and the brackish marsh consist of a storage facility, the Dumbarton

Rail Corridor, Willow Road, and an area of uplands planted with native vegetation. The Proposed Project would not cause any direct impacts on any of these brackish wetlands.

Redevelopment has the potential to cause indirect impacts on nearby wetlands or water quality within those wetlands, given the onsite runoff patterns. During the 100-year storm, approximately 16 percent of the main Project Site's runoff flows overland to the brackish wetlands northeast of the site, with the rest flowing westward to the Willow Road storm drain.[24] The Proposed Project is expected to increase the area of overland flow somewhat that drains to the northeast corner of the main Project Site during the 100-year storm event but would detain water onsite so as not to exceed existing peak flow rates. Such infrequent storm events are not expected to shape species composition or habitat quality within the wetlands to the north and northeast because those habitats are governed by much more regular/frequent physical and ecological processes. As a result, an increase in runoff from the site during 100-year storm events would not have substantial impacts on wetlands north and northeast of the Project Site.

The Proposed Project's storm drainage system would be designed to convey 10-year storm events, as well as lesser events, from the entire main Project Site to the Willow Road storm drain. During 10-year storm events, as well as lesser events, no runoff would flow overland to the brackish wetlands north and northeast of the main Project Site. In addition, because the peak flow rate to the marsh would not increase during large storm events compared with existing conditions, no significant erosion or sedimentation impacts on the brackish marsh would occur during site discharges to the area. Furthermore, the Proposed Project would install stormwater infrastructure to collect site runoff and direct it into the City's storm drain system rather than the isolated forested wetland or herbaceous seasonal wetlands adjacent to the boundary for the main Project Site and Hamilton Avenue Parcel North. This would prevent post-construction changes in runoff, including runoff with sediment or oil and grease, which could degrade water quality.

As discussed in more detail in Section 3.11, *Hydrology and Water Quality*, the Proposed Project would be required to comply with the NPDES General Construction Permit, San Francisco Bay Municipal Regional Permit (MRP) Provision C.3, and San Mateo Countywide Water Pollution Prevention Program Provision C.3 Stormwater Technical Guidance. The MRP requires all projects to implement best management practices and incorporate low-impact development designs to block pollution from stormwater runoff, promote infiltration, and slow down the volume of water coming from a site after construction has been completed. In order to meet these permit and policy requirements, projects must incorporate the use of green roofs, impervious surfaces, tree planters, grassy swales, and bioretention or detention basins, among other elements. These same features would be used to treat any stormwater that flows to the offsite brackish marsh during large storm events. Therefore, because of the infrequency with which overland flows would enter offsite wetlands, the potential impact on wetland community composition or quality due to an influx of freshwater during large storm events would be considered less than significant.

Reductions in ambient light levels in wetland habitat can lead to a decrease in the amount of aquatic vegetation present, which can result in a reduction in the amount of cover and herbaceous food available in the wetland habitat. The Proposed Project would increase the maximum height of buildings on the main Project Site from approximately 34 feet to 110 feet. Therefore, the Proposed Project has the potential to affect vegetation near taller buildings because of changes in ambient lighting (i.e., shading). However, the increased height of the proposed buildings is not expected to result in a substantial change in the ambient light levels that reach nearby wetlands. The isolated forested wetlands immediately north of the main Project Site are currently bordered on the south by an area of tall trees that already provides some shade, and under the

[24] Sherwood Design Engineers. 2021. *Hydrology and Hydraulic Report for Willow Village, Menlo Park, California.* January 18.

Proposed Project, regardless of the height of buildings that are constructed nearby, these wetlands would still have exposure to the eastern sky, unimpeded by new buildings. Therefore, shading of this wetland under the Proposed Project is not expected to increase substantially compared with current levels.

The herbaceous seasonal wetland immediately outside the northeast corner of the Project Site is in an open area, with no substantive shading from trees or buildings. The herbaceous seasonal wetland immediately north of Hamilton Avenue Parcels North and South is currently bordered on the south by shrubs and small trees that provide a minimal amount of shade as well as two 20-foot-tall buildings, approximately 15 to 25 feet from the wetland, that also shade portions of the wetlands. Shading of both herbaceous seasonal wetlands by new buildings would reduce the amount of light received by wetland plants, thereby potentially affecting the health and growth of these plants. Therefore, some degradation of wetland habitat over time would be expected as a result. However, these wetlands would still have exposure to the eastern sky, unimpeded by new buildings; therefore, they would not be completely shaded. Because these herbaceous seasonal wetlands in the Study Area would continue to receive adequate lighting, impacts on their functions and values would be less than significant.

The brackish marsh north of the main Project Site is approximately 220 feet from the nearest proposed building and separated from the main Project Site by an approximately 25- to 40-foot-tall self-storage business. Therefore, shading of the marsh by the existing storage units currently has an effect on aquatic vegetation. The net increase in shading from the Proposed Project would be insignificant, given the main Project Site's distance from the marsh. Shade from the proposed buildings would reach the marsh for only short periods of the day when the sun is low in the sky and the ambient light is dimmer and providing less photosynthetic input. Furthermore, because of the open nature of the proposed development, with extensive open space, the Proposed Project would not result in one large, continuous shadow but would allow light to penetrate through the campus. Therefore, shading impacts on wetlands from the proposed buildings would be less than significant.

Compliance with state requirements to control the discharge of stormwater pollutants during construction under the NPDES Construction General Permit, best management practices, and post-construction measures and design features required by the MRP would reduce the Proposed Project's potential impact on the water quality of wetlands to a less-than-significant level. See Section 3.11, *Hydrology and Water Quality*.

MITIGATION MEASURES. As discussed above, the Proposed Project could affect a portion of the isolated forested wetland and herbaceous seasonal wetland along the northern edge of the main Project Site and Hamilton Avenue Parcel North during grading. Implementation of Mitigation Measures BIO-3.1, BIO-3.2, and BIO-3.3, outlined in Impact BIO-3, above, would reduce this impact to ***less than significant with mitigation.***

Impact BIO-5: Impacts on Wildlife Movement and Native Wildlife Nursery Sites. The removal of buildings, trees, shrubs, or woody vegetation and the construction of new buildings and installation of lighting could affect native migratory birds. (LTS/M)

For many species, a typical urban landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller pieces) can have a twofold impact on wildlife. First, as habitat patches become smaller, they are unable to support as many individuals (patch size). Second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

All Project activities would be within an already-developed footprint that is surrounded by existing development. Therefore, the Proposed Project would not result in fragmentation of natural habitats. Furthermore, the Proposed Project would include extensive open space. Any common, urban-adapted species that currently move through the Project Site would continue to be able to do so following Project construction. The Proposed Project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors.

Construction disturbance during the avian breeding season (February 1 through August 31, for most species) could result in the incidental loss of eggs or nestlings, either directly through destruction or disturbance of active nests or indirectly through nest abandonment. Given the absence of sensitive habitats on the Main Project Site, Hamilton Avenue Parcels North and South, the Willow Road Tunnel site, and the PG&E Ravenswood substation site, the habitats that are on the site support only regionally common, urban-adapted breeding birds and only a very small proportion of the species' regional populations. In addition, many birds are expected to continue to nest and forage on the main Project Site, Hamilton Avenue Parcels North and South, and the Willow Road Tunnel site after Project construction is completed. These birds are habituated to disturbance related to existing conditions at the main Project Site, Hamilton Avenue Parcels North and South, the Willow Road Tunnel site, and the PG&E Ravenswood substation site.

The Proposed Project would incorporate trees, shrubs, and forbs into the landscape design, which would provide some food and structural resources for the common, urban-adapted birds of the area as well as migrants that may use the area during spring and fall migration. However, all native bird species are protected from direct take by federal and state statutes. If the Proposed Project is implemented during the nesting season (February 1 to September 14), tree and shrub removal could result in the direct mortality of adult or young birds, the destruction of active nests, or disturbance of nesting adults, causing nest abandonment and/or loss of reproductive effort. Native bird species are protected by both state (California Fish and Game Code Sections 3503 and 3513) and federal (MBTA of 1918) laws. Any disturbance of nesting birds that results in the abandonment of active nests or the loss of active nests through vegetation or structure removal would be a potentially significant impact. In addition, the proposed buildings at the main Project Site could result in avian collision risks, as discussed in the *Willow Village Master Plan Bird-Safe Design Assessment* prepared by H.T. Harvey & Associates.[25] Birds at the main Project Site could also be affected by new buildings and other structures with significant glass façades.

The Proposed Project would also create approximately 20 acres of open space, consisting of paved pedestrian areas and landscape vegetation. Because of the anticipated extent of this vegetation, a greater number of landbirds, including both resident birds and migrating birds, could be attracted to the site compared to existing conditions.

Because birds do not necessarily perceive glass as an obstacle,[26] windows or structures that reflect the sky, trees, or other habitat may not be perceived as obstacles; therefore, birds may collide with them. Transparent windows can result in collisions when birds perceive an unobstructed flight path (e.g., at corners) or when the combination of transparent windows and interior vegetation results in attempts by birds to fly through glass to reach the vegetation. A number of factors play a role in determining the risk of bird collisions, including the amount and type of glass used, lighting, properties of the building (e.g., size, design, and orientation), type and location of vegetation around the building, and building location. Foggy conditions may

[25] H.T. Harvey & Associates. 2021. *Willow Village Master Plan Bird-Safe Design Assessment.* October 19.

[26] Sheppard, C., and G. Phillips. 2015. *Bird-Friendly Building Design*. Second edition. The Plains, VA: American Bird Conservancy. Available: https://abcbirds.org/wp-content/uploads/2015/05/Bird-friendly-Building-Guide_2015.pdf. Accessed: March 15, 2022.

exacerbate collision risks because birds may be even less able to perceive glass in the fog. The highest collision risk would most likely occur when inclement weather enters the region on a night with heavy bird migration, with clouds and fog making it difficult for birds to find high-quality stopover sites once they reach ground level.

Several architectural features of the buildings on the main Project Site would reduce the frequency of avian collisions. For instance, Project features such as overhangs and awnings may reduce the potential for bird collisions by making buildings appear more solid from a distance.[27,28] Birds that use habitats on the main Project Site or in adjacent areas would be more likely to interpret the buildings as solid structures rather than reflected sky or vegetation. At a more localized scale, Project features would reduce collisions by blocking birds' views of glazing, particularly birds that use the trees or roof vegetation above the overhangs and awnings.

Many of the Project buildings would be articulated and designed with numerous features that would break up exterior surfaces to avoid a smooth and unbroken appearance. Well-articulated buildings are perceived by birds as solid structures, particularly as birds approach from a distance.[29] In addition, as discussed above, awnings and overhangs are also expected to reduce bird collisions. The Proposed Project would include landscape vegetation in a number of locations immediately adjacent to glazed façades, especially at the Elevated Park adjacent to the south façade of the atrium and in landscaped areas adjacent to the north façade of the atrium. Where landscape vegetation must be planted adjacent to buildings, some agencies recommend planting the vegetation very close to glazed façades (i.e., within 3 feet) to reduce bird collisions. This obscures reflections in the glazing from vegetation and reduces fatal collisions by reducing the birds' flight speed.[30,31]

The other portions of the Project Site would not affect birds in the same way as the main Project Site. The buildings and structures on Hamilton Avenue Parcels North and South would be largely the same style and height as the existing buildings. In addition, the Willow Road Tunnel site would not include new structures that could confuse birds. At the PG&E Ravenswood substation, the upgrades would incorporate new utility distribution lines and transformers but no new buildings with glass façades.

The Proposed Project would also be required to comply with the City's bird-safe design requirements (as described above under Regulatory Setting), which would further reduce the risk of avian collisions on the main Project Site. Through incorporation of bird-friendly Project features, compliance with City requirements, and preparation of final architectural control plans, impacts related to bird collisions with buildings and other structures would be less than significant. The only exception to this would be at the atrium, as described in greater detail below.

---

27 San Francisco Planning Department. 2011. *Standards for Bird-Safe Buildings*. July 14. Available: https://sfplanning.org/sites/default/files/documents/reports/bird_safe_bldgs/Standards%20for%20Bird%20Safe%20Buildings%20-%2011-30-11.pdf. Accessed: March 15, 2022.

28 Sheppard, C., and G. Phillips. 2015. *Bird-Friendly Building Design*. Second edition. The Plains, VA: American Bird Conservancy.

29 San Francisco Planning Department. 2011. *Standards for Bird-Safe Buildings*. July 14.

30 Klem, D. 1990. Collisions between Birds and Windows: Mortality and Prevention (Colisiones de Pájaros con Ventanas: Mortalidad y Prevención). In *Journal of Field Ornithology*, 61(1):120–128. Available: https://www.muhlenberg.edu/media/contentassets/images/academics/biology/biology/faculty/klem/aco/documents/FieldJournal-Mortality1990.pdf. Accessed: March 15, 2022.

31 New York City Audubon Society, Inc. 2007. *Bird-Safe Building Guidelines*. New York, NY. May. Available: https://www.yumpu.com/en/document/read/51763353/bird-safe-building-guidelines-new-york-city-audubon-society/2. Accessed: March 15, 2022.

As depicted in the illustrative plan, an approximately 117-foot-tall, 129,000-square-foot glass atrium, located north of the Elevated Park within the main Project Site, would provide four levels of office and accessory space and approximately 3.7 acres of interior open space that would include paved pedestrian areas, landscape vegetation, and trees. The north side of the atrium would face open marsh and scrub habitats as well as the Bay; the south side would face the remainder of the main Project Site. A roadway, an open space area, and a bicycle park would be constructed along the north side of the atrium; the approximately 36-foot-tall Elevated Park would be constructed along the south side of the atrium. Vegetation and trees at the Elevated Park, as well as the area immediately north of the atrium, would be planted as close to the north and south façades as feasible.

As depicted in the illustrative plan, the lower approximately 12.5 feet of the atrium's south façade would consist of vertical glazing and several building entrances; the remaining areas on the atrium's north and south façades would use a network of glass panels to create a curved dome shape. At the east end, along the south façade, the atrium would be connected to the event building via a partially glazed passageway. A visitor center would be located on the ground floor below the Elevated Park at the west end of the atrium. Glass façades would surround the visitor center, contiguous with the atrium's vertical south façade. The east and west ends of the atrium would be closed off with use of large, predominantly glazed vertical façades that are depicted in the illustrative plan as approximately 45 to 50 feet tall. Because of the unique design of the atrium, bird-friendly Project features and compliance with City bird-safe design requirements would not reduce collision risks enough to avoid significant impacts under CEQA. Therefore, impacts would be potentially significant.

Construction of the Proposed Project would create new sources of light, which would emanate from fixtures for illuminating buildings, building architectural lighting, pedestrian lighting, and artistic lighting. Depending on the location, direction, and intensity of exterior lighting, light could spill into adjacent natural areas, thereby resulting in an increase in lighting compared to existing conditions. Areas south, east, and west of the Project Site are entirely developed urban habitats that do not support diverse or sensitive bird communities that might be substantially affected by illumination from the Proposed Project. Birds that inhabit the more natural areas to the north may be affected by an increase in lighting, as would birds in future vegetated open spaces on the Project Site. However, the number of shorebirds foraging near or flying over the Project Site is expected to be relatively low because shorebirds do not congregate in large numbers at or near the Project Site.

Light from the Project Site has some potential to attract and/or disorient birds, especially during inclement weather when nocturnally migrating birds descend to lower altitudes. As a result, some birds flying along the Bay at night may be attracted to the site and/or disoriented by the light, potentially causing them to collide with buildings. Certain migrant birds that use structures for roosting and foraging (e.g., swifts and swallows) could be vulnerable to collisions if they perceive illuminated building interiors as potential roosting habitat and attempt to enter the buildings through glass walls. Similarly, migrant and resident birds would be vulnerable to collisions if they perceive illuminated vegetation within buildings as potential habitat and attempt to enter through glass walls. Impacts on birds within the Project Vicinity due to artificial lights would be potentially significant.

MITIGATION MEASURE. Implementation of Mitigation Measures BIO-5.1, BIO-5.2, and BIO-5.3 would ensure that Project impacts on migratory birds would be ***less than significant with mitigation***.

BIO-5.1: Avoidance and Pre-construction Surveys for Nesting Migratory Birds.

The Project Sponsor shall implement the following measures to reduce impacts on nesting migratory birds:

- To the extent feasible, construction activities shall be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts on nesting birds protected under the MBTA and California Fish and Game Code will be avoided. The nesting season for most birds in San Mateo County extends from February 1 through August 31.
- If it is not possible to schedule construction activities between September 1 and January 31, then preconstruction surveys for nesting birds shall be conducted by a qualified ornithologist to ensure that no nests of migratory birds will be disturbed during Project implementation. Surveys shall be conducted no more than 7 days prior to the initiation of construction activities for each construction phase. During this survey, the ornithologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, California annual grasslands, buildings) in and immediately adjacent to the impact areas for migratory bird nests.
- If an active nest is found within trees or other potential nesting habitats that would be disturbed by construction activities, a construction-free buffer zone (typically 300 feet for raptors and 100 feet for other species) will be established around the nest to ensure that species that are protected under the MBTA and California Fish and Game Code will not be disturbed during Project implementation. The ornithologist shall determine the extent of the buffer.
- If construction activities will not be initiated until after the start of the nesting season, all potential nesting substrates (e.g., bushes, trees, grasses, and other vegetation) that are scheduled to be removed by the Proposed Project may be removed prior to the start of the nesting season (i.e., prior to February 1). This would preclude the initiation of nests in this vegetation and prevent any potential delay for the Proposed Project because of the presence of active nests in these substrates.

BIO-5.2: Atrium Bird-safe Design Requirements.

The Project Sponsor shall implement the following measures to reduce impacts on migratory birds due to construction of the atrium:

- The Project Sponsor shall treat 100 percent of the glazing on the dome-shaped portions of the atrium's façades (i.e., all areas of the north façade and all areas of the south façade above the Elevated Park) with a bird-safe glazing treatment to reduce the frequency of collisions. This glazing shall have a Threat Factor of 15 or less.[32] Because a Threat Factor is a nonlinear index, its value is not equivalent to the percent reduction in collisions that a

[32] A material's Threat Factor, as assigned by the American Bird Conservancy, refers to the level of danger posed to birds, based on the birds' ability to perceive the material as an obstruction, as tested using a "tunnel" protocol (a standardized test that uses wild birds to determine the relative effectiveness of various products at deterring bird collisions). The higher the Threat Factor, the greater the risk that collisions will occur. An opaque material will have a Threat Factor of 0, and a completely transparent material will have a Threat Factor of 100. Threat Factors for many commercially available façade materials can be found at https://abcbirds.org/wp-content/uploads/2021/01/Masterspreadsheet-1-25-2021.xlsx.

glazing product provides. However, products with lower Threat Factors result in fewer bird collisions.

- The Project Sponsor shall treat 100 percent of the glazing on the atrium's east and west façades with a bird-safe glazing treatment to reduce the frequency of collisions. This glazing shall have a Threat Factor of 15 or less.
- Interior trees and woody shrubs shall be set back from the atrium's east and west façades as well as the non-sloped portions (i.e., perpendicular to the ground) of the south façade by at least 50 feet to reduce the potential for collisions due to the visibility of interior trees. This 50-foot distance is more than the distance used in the Project design for the north façade and the sloped portions of the south façade (e.g., 20–25 feet for the north façade). This is because of the vertical nature of the east and west façades and the non-sloped portions of the south façade, as opposed to the articulated nature of the north façade and the sloped portions of the south façade, which are expected to reduce the visibility of internal vegetation to some extent, as well as the direct line-of-sight views between interior and exterior vegetation through the east and west façades and the non-sloped portions of the south façade compared to the north façade (where internal vegetation is elevated above exterior vegetation). Interior trees and shrubs that would not be visible through the east, west, and south façades may be planted closer than 50 feet to glass façades.
- Because the glass production process can result in substantial variations in the effectiveness of bird-safe glazing, a qualified biologist will review physical samples of all glazing to be used on the atrium to confirm that the bird-safe frit will be visible to birds under various lighting conditions and expected to be effective.
- The Project Sponsor shall monitor bird collisions around the atrium for a minimum of 2 years following construction to identify any collision "hot spots" (i.e., areas where collisions occur repeatedly). A monitoring plan for the atrium shall be developed by a qualified biologist and shall include focused surveys for bird collisions from late April through May (spring migration), September through October (fall migration), and mid-November through mid-January (winter) to maximize the possibility of detecting bird collisions that might occur. Surveys of the atrium shall be conducted daily for 3 weeks during each of these periods (i.e., 21 consecutive days during each season, for a total of 63 surveys per year). In addition, for the 2-year monitoring period, surveys of the atrium shall be conducted the day following nighttime events during which temporary lighting exceed would typical levels (i.e., levels specified in the International Dark-Sky Association's defined lighting zone, LZ-2 [Moderate Ambient], from dusk until 10:00 p.m., or 30 percent below these levels from 10:00 p.m. to midnight). The applicant can assign responsibility for tracking events and notifying the biologist when a survey is needed to a designated individual who is involved in the planning and scheduling of atrium events. The timing of the 63 seasonal surveys (e.g., morning or afternoon) shall vary on the different days to the extent feasible; surveys conducted specifically to follow nighttime events shall be conducted in the early morning.
- At a frequency of no less than every 6 months, a qualified biologist shall review the bird collision data for the atrium in consultation with the City to determine whether any potential hot spots are present (i.e., if collisions have occurred repeatedly at the same location). A potential *hot spot* is defined as a cluster of three or more collisions occurring within one of the 3-week monitoring periods described above at a given location at the atrium. The

location shall be identified by the qualified biologist, as makes sense for the observed collision pattern, and may consist of a single pane of glass, an area of glass adjacent to a landscape tree or light fixture, the 8,990-square-foot vertical façade beneath the Elevated Park, the façade adjacent to the vegetation at the Elevated Park, the atrium's east façade, the atrium's west façade, or another defined area where the collision pattern is observed. The definition of location shall be based on observations of collision patterns and the architectural, lighting, and/or landscape features that contributed to the collisions and not arbitrarily determined (e.g., by assigning random grids). If any such potential hot spots are found, the qualified biologist shall provide an opinion as to whether the potential hot spots will affect bird populations over the long term to the point that additional measures (e.g., light adjustments, planting of vegetation) will be needed to reduce the frequency of bird strikes at the hot spot in order to reduce impacts to a less-than-significant level under CEQA (i.e., whether it constitutes an actual hot spot). This determination shall be based on the number of birds and the species of birds that collide with the atrium over the monitoring period. In addition, a hot spot is automatically defined if a cluster of five or more collisions is identified at a given location at the atrium within one of the 3-week monitoring periods described above. If a hot spot is identified, additional measures will be implemented at the potential hot spot at the atrium; these may include one or more of the following options in the area of the hot spot, depending on the cause of the collisions:

  - Adding a visible bird-safe frit pattern, netting, exterior screens, art, printed sheets, interior shades, grilles, shutters, exterior shades, or other features to untreated glazing (i.e., on the façade below the Elevated Park) to help birds recognize the façade as a solid structure.
  - Installing interior or exterior blinds on buildings within the atrium to prevent light from spilling outward though glazed façades at night.
  - Reducing lighting by dimming fixtures, redirecting fixtures, turning lights off, and/or adjusting the programmed timing for dimming/shutoff.
  - Replacing certain light fixtures with new fixtures to increase shielding or redirect lighting.
  - Adjusting or reducing lighting during events.
  - Adjusting the timing of events to reduce the frequency during certain times of year (e.g., spring and/or fall migration) when relatively high numbers of collisions occur.
  - Adjusting landscape vegetation by removing, trimming, or relocating trees or other plants (e.g., moving them farther from glass) or blocking birds' views of vegetation through glazing (e.g., using a screen or other opaque feature).

- If modifications to the atrium are implemented to reduce collisions at a hot spot, 1 year of subsequent focused monitoring of the hot-spot location shall be performed to confirm that the modifications effectively reduced bird collisions to a less-than-significant level under CEQA. In the event that a hot spot is detected when there is less than 1 year remaining in the initial 2-year monitoring period, then the 1 year of subsequent monitoring at that hot spot would extend beyond the 2-year monitoring period described above.

BIO-5.3: Lighting Design Requirements.

The Project Sponsor shall implement the following measures to reduce lighting impacts on migratory birds:

- To the maximum extent feasible, up-lighting (i.e., lighting that projects upward above the fixture) shall be avoided in the Project design. All lighting shall be fully shielded to prevent illumination from shining upward above the fixture. If up-lighting cannot be avoided in the Project design, up-lights shall be shielded and/or directed such that no luminance projects above/beyond the objects at which they are directed (e.g., trees and buildings) and no light shines directly into the eyes of a bird flying above the object. If the objects themselves can be used to shield the lights from the sky beyond, no substantial adverse effects on migrating birds are anticipated.
- All lighting shall be fully shielded to prevent it from shining outward and toward Bay habitats to the north. No light trespass shall be permitted more than 80 feet beyond the Project Site's northern property line (i.e., beyond the Dumbarton Rail Corridor).
- Exterior lighting shall be minimized (i.e., outdoor lumens shall be reduced by at least 30 percent, or extinguished, consistent with recommendations from the International Dark-Sky Association [2011]) from 10:00 p.m. until sunrise, except as needed for safety and compliance with Menlo Park Municipal Code.
- Temporary lighting that exceeds minimal site lighting requirements may be used for nighttime social events. This lighting shall be switched off no later than midnight. No exterior up-lighting (i.e., lighting that projects upward above the fixture, including spotlights) shall be used during events.
- Lights shall be shielded and directed so as not to spill outward from the elevator/stair towers and into adjacent areas.
- Interior or exterior blinds shall be programmed to close on north-facing windows of buildings within the atrium from 10:00 p.m. to sunrise to prevent light from spilling outward.
- Accent lighting within the atrium shall not be used to illuminate trees or vegetation. Alternatively, the applicant shall provide documentation to the satisfaction of a qualified biologist that the illumination of vegetation and/or structures within the atrium by accent lighting and/or up-lighting will not make these features more conspicuous to the human eye from any elevation outside the atrium compared to ambient conditions within the atrium. The biologist shall submit a report to the City following completion of the lighting design, documenting compliance with this requirement.

Impact BIO-6: Conflicts with Any Local Policies or Ordinances that Protect Biological Resources. The Project would result in conflicts with the Menlo Park Municipal Code. (LTS/M)

Municipal Code Chapter 13.24, Heritage Trees. There are currently 784 trees on the main Project Site, including 274 trees that qualify as heritage trees under the City's Heritage Tree Ordinance.[33] The 784 trees consist of 40 different tree species, the most numerous of which are Canary Island pine (*Pinus canariensis*) and crepe myrtle (*Lagerstroemia* spp.) Five native (but planted and, therefore, also ornamental) tree species on the Project Site include Monterey cypress (*Hesperocyparis macrocarpa*),

[33] SCBA Tree Consulting. 2020. *Tree Survey and Valuation of Heritage Trees*. Prepared for Signature Development Group. August 27.

Monterey pine (*Pinus radiata*), coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), and coast redwood (Sequoia sempervirens).[34] Under the City's Heritage Tree Ordinance, heritage oak trees are regulated differently from other species of heritage trees (refer to the *Local* regulatory section, above). Per the most recent Project plans, Project arborist report, and heritage tree removal permits, 760 trees, including 266 heritage trees and 494 non-heritage trees, would be removed for construction of the Proposed Project on the main Project Site. Eight heritage trees and 16 non-heritage trees would remain in place.

On Hamilton Avenue Parcels North and South, there are currently 141 trees, including 18 that qualify as heritage trees under the City's Heritage Tree Ordinance. The street trees along the south side of Hamilton Avenue were not surveyed and are not included in the total number of trees. The 18 heritage trees comprise two species: 13 coast redwoods and five coast live oaks. The most numerous tree species on Hamilton Avenue Parcels North and South are Chinese pistache (*Pistacia chinensis*) (32 trees, including 16 City street trees) and red maple (*Acer rubrum*) (19 trees).[35] At Hamilton Avenue Parcels North and South, approximately 61 trees, including street trees and three heritage trees, would be removed to accommodate proposed changes; new landscaping would be provided along street frontages.

Per Menlo Park Municipal Code Section 13.24, Heritage Trees, permits from the City's Director of Public Works, or his or her designee, and payment of a fee are required for the removal of any tree that meets the definition of *heritage tree*. The Proposed Project would comply with the City's Heritage Tree Ordinance by obtaining a permit from the City to remove protected trees and paying any applicable fee. The Proposed Project would provide approximately 822 replacement trees on the main Project Site for the heritage trees; therefore, a greater number of trees would be planted than removed. The replacement trees would be required to meet the minimum valuation requirements for replacement trees. Impacts related to conflicts with local policies or ordinances that protect heritage trees would be ***less than significant***.

Municipal Code Chapters 16.43.140(6) and 16.45.130(6), Bird Safe Design. The Proposed Project would also be subject to Sections 16.43.140(6) (with respect to the O District) and 16.45.130(6) (with respect to the RMU District) of the Menlo Park Municipal Code, which requires bird-friendly designs for new buildings. Development of the Proposed Project would result in the replacement of existing multi-story buildings with new multi-story buildings on the main Project Site. The new buildings would incorporate glazing in their façades. However, glass windows and building façades can result in injury or mortality for birds because of collisions. Birds do not perceive glass as an obstruction the way humans do. Therefore, they may collide with glass when sky or vegetation is reflected (i.e., if they see a glass as sky or a vegetated area); when transparent windows allow them to perceive an unobstructed flight path, (e.g., at corners); and when the combination of transparent glass and interior vegetation (e.g., in planted atria) results in attempts by birds to fly through glass.

As discussed above in Impact BIO-5, the Proposed Project would comply with the majority City bird-safe design requirements provided in Menlo Park Municipal Code Sections 16.43.140(6) and 16.45.130(6), which include appropriate measures to reduce bird collisions. A project may receive a waiver from the requirements with submittal of a site-specific evaluation from a qualified biologist and review and approval by the Planning Commission. Waivers are requested for the Proposed Project only where strict adherence to the City's bird-safe design requirements would not be necessary to reduce impacts to less-than-significant levels under CEQA and would not substantively reduce bird collision risks beyond

[34] Ibid.

[35] SBCA Tree Consulting. 2021. *Tree Survey.* April 1.

alternative City measures, as described in the *Willow Village Master Plan Bird-Safe Design Assessment* prepared by H.T. Harvey & Associates. These tailored alternative bird-safe design measures, which address collision risks at Project buildings, are derived from the City's bird-safe design requirements, with appropriate waivers.

Compliance with the bird-friendly design requirements of the Menlo Park Municipal Code, with appropriate waivers, would reduce the number of bird collisions with proposed buildings. However, because of the unique design of the atrium, bird-friendly Project features and compliance with City bird-safe design requirements would not reduce collision risks enough to avoid significant impacts under CEQA. Therefore, the impacts would be potentially significant. However, the atrium would comply with the City's bird-safe design requirements through bird-friendly glazing restrictions, occupancy sensors, and the appropriate placement of buildings. As to requirements pertaining to glass skyways or walkways, free-standing (see-through) glass walls and handrails, and transparent building corners, as well as requirements pertaining to transparent glass at the rooflines of buildings, the Project proposes implementation of certain alternative City measures to ensure that the Proposed Project meets the intent of bird-safe building designs and addresses high-risk collision hazards.

The proposed alternative measures to the requirements include:

- All glazed features of the atrium with clear sight lines between vegetation on either side of the features (e.g., at glazed corners) shall be 100 percent treated with a bird-safe glazing treatment. Transparent building corners shall be treated at all locations where it is possible to see through to the other side of the visitors center.
- If free-standing glass railings are included in the Project design in exterior areas adjacent to the atrium (e.g., at the Elevated Park), all glazing on the free-standing glass railings shall be 100 percent treated with a bird-safe glazing treatment. Specifically, all glazing on the free-standing glass railings in exterior areas adjacent to the atrium shall have a Threat Factor less than or equal to 15. This Threat Factor is relatively low (and the effectiveness of the bird-safe treatment correspondingly high) because of the relatively high risk associated with bird collisions at free-standing glass railings.
- All transparent glass at the rooflines of the atrium adjacent to roof decks (i.e., the Elevated Park) shall be 100 percent treated with a bird-safe glazing treatment. The only untreated glazing on the atrium shall be on the vertical façade beneath the Elevated Park, which would not create a collision hazard because of landscape vegetation on roofs.

These alternative measures would reduce bird collisions at locations where bird collisions would be most likely to occur and would meet the objective of City requirements.

Through compliance with the bird-safe design requirements of Menlo Park Municipal Code Sections 16.43.140(6) and 16.45.130(6), from which no waiver is requested; implementation of alternative measures in lieu of the two requirements described above; and Mitigation Measure BIO-5.2, Project impacts due to bird collisions at the atrium would be ***less than significant with mitigation***.

Compliance with General Plan Policy OSC1.3, Sensitive Habitats. City General Plan Policy OSC1.3, Sensitive Habitats, requires new development on or near sensitive habitats to (1) provide a baseline assessment prepared by qualified biologists and specify requirements relative to the baseline assessments, (2) consult with appropriate regulatory and resource agencies, (3) incorporate appropriate avoidance and minimization measures, and (4) obtain necessary permits/authorizations. Furthermore, Mitigation Measure BIO-1 of the ConnectMenlo EIR specifies that the required biological resources assessment must address a number of specific requirements. As discussed throughout this

section, the Master Plan BRA[36] and the Tunnel BRA[37] have been prepared by H.T. Harvey & Associates for the Proposed Project and peer reviewed by ICF. The existing setting, Project analysis, and mitigation measures outlined in the BRAs are incorporated throughout this section.

The following summarizes the Proposed Project's compliance with the requirements of City General Plan Policy OSC1.3 and ConnectMenlo EIR Mitigation Measure BIO-1:

- A baseline biological resources report is required to provide a determination regarding whether any sensitive biological resources, including jurisdictional wetlands and waters, essential habitat for special-status species, and sensitive natural communities, are present on the Project Site or any adjacent undeveloped lands that could be affected by the Proposed Project, including lands on the Refuge. In compliance with this requirement, the Master Plan BRA and Tunnel BRA, which have been summarized throughout this section, describe the biotic habitat types present in the Study Area. The BRAs also discuss the potential for the habitats to support special-status plants and animals and analyze the potential for special-status species to occur on the Study Area or close enough to be affected by Project activities. The BRAs analyze the potential impacts on special-status species. No plant or animal species listed as threatened or endangered by the USFWS or CDFW are expected to occur within the Study Area. Furthermore, no species designated as a species of special concern is expected to breed in the Study Area.

  The BRAs analyze the presence of sensitive habitats in the Project Vicinity and the potential for the Proposed Project to result in impacts on such habitats. No habitats under the jurisdiction of the USFWS, CDFW, USACE, or RWQCB were determined to be present on the Project Site. However, the 0.07 acre of isolated forested wetland (and an additional 0.13-acre area where the canopy of the willows extends outside the 0.07-acre forested wetland footprint within which the willows are rooted) and the 0.07 acre of herbaceous seasonal wetlands immediately north and northeast of the Project Site could be affected by construction. Implementation of Mitigation Measures BIO-2.1 and BIO-3.1 through BIO-3.3 would reduce impacts on sensitive/jurisdictional habitats to less-than-significant levels.

- The baseline biological resources report is required to incorporate guidance from relevant regional conservation plans related to determining the potential presence or absence of sensitive biological resources. As described above, the BRAs analyzed the potential for special-status plant or animal species to occur on the Project Site. This analysis incorporates information from the Refuge Comprehensive Conservation Plan and Environmental Assessment (U.S. Fish and Wildlife Service 2012), which includes a discussion of all the special-status species potentially occurring on the Refuge.

- The baseline biological resources report is required to include an evaluation of the potential effects of the Proposed Project on sensitive biological resources. The Proposed Project's potential to result in significant impacts on sensitive biological resources was analyzed above. Based on the analysis, it was determined that the Proposed Project would not result in significant impacts on special-status plant or animal species. The Proposed Project could result in impacts on sensitive habitats under the jurisdiction of USACE and the RWQCB—specifically, the small areas of isolated forested wetland (0.07 acre plus an additional 0.13-acre area where the canopy of willows extends outside the 0.07-acre forested wetland footprint within which the willows are rooted) as well as the herbaceous seasonal

[36] H.T. Harvey & Associates. 2021. *Willow Village Master Plan Biological Resources Report*. Los Gatos, CA. Prepared for Peninsula Innovation Partners, Menlo Park, CA. December 21. Unpublished.

[37] H.T. Harvey & Associates. 2021. *Willow Village Tunnel and North Ramp Biological Resources Assessment.* Los Gatos, CA. Prepared for Signature Development Group, Oakland, CA. July 2. Unpublished.

wetlands (0.07 acre) immediately north and northeast of the site. Implementation of Mitigation Measures BIO-3.1 through BIO-3.3 would reduce impacts on sensitive/jurisdictional habitats to less-than-significant levels.

- The baseline biological resources report is required to include avoidance, minimization, and mitigation measures for adverse impacts. Mitigation Measures BIO-3.1 through BIO-3.3 are necessary to reduce impacts to less-than-significant levels; otherwise, no mitigation measures are necessary to avoid significant impacts related to bird safety. Nevertheless, all native bird species are protected from direct take by federal and state statutes. Therefore, recommended avoidance and minimization measures are provided to ensure that Project activities comply with the MBTA and California Fish and Game Code.
- Per ConnectMenlo Mitigation Measure BIO-1 of the ConnectMenlo EIR, if sensitive biological resources are determined to be present on the Project Site or any adjacent parcel containing natural habitat, coordination with the appropriate regulatory and resource agencies must occur. The Proposed Project could result in impacts on sensitive habitats under the jurisdiction of USACE and RWQCB—specifically, the small areas of isolated forested wetland (0.07 acre plus an additional 0.13-acre area where the canopy of willows extends outside the 0.07-acre forested wetland footprint within which the willows are rooted) and the herbaceous seasonal wetlands (0.07 acre) immediately north and northeast of the site. As discussed in Mitigation Measure BIO-3.1, the Proposed Project would avoid and minimize impacts on these features to the extent feasible. If all direct impacts can be avoided so that no clearing of wetland vegetation or fill within the wetlands occurs, no regulatory permitting related to these features will be necessary, even if the habitats are jurisdictional. However, if these habitats are jurisdictional and will be affected by vegetation clearing or fill, the Project Sponsor shall obtain the necessary Section 404/401 permits from USACE and the RWQCB. The Proposed Project would not result in impacts on plant or animal species listed as threatened or endangered by USFWS or CDFW; therefore, coordination with regulatory agencies regarding impacts on special-status species is not warranted.
- Per ConnectMenlo Mitigation Measure BIO-1, where jurisdictional waters or federally or state-listed special-status species would be affected by the Proposed Project, appropriate authorizations shall be obtained by the Project Sponsor. As described above, the Project Sponsor shall obtain any necessary Section 404/401 permits from USACE and RWQCB if the offsite isolated forested wetland and/or herbaceous seasonal wetlands would be affected by vegetation clearing or fill. In addition, the Proposed Project would be required to comply with Mitigation Measures BIO-3.1, BIO-3.2, and BIO-3.3 to reduce impacts on wetlands. The Proposed Project would not result in impacts on plant or animal species listed as threatened or endangered by USFWS or CDFW. The Proposed Project would comply with the City's Heritage Tree Ordinance by obtaining a permit from the City to remove protected trees and paying any applicable fee.

Provided that the Proposed Project incorporates the mitigation measures described in this EIR, the Proposed Project would not conflict with City General Plan Policy OSC1.3. The Master Plan BRA and the Tunnel BRA represent compliance with ConnectMenlo EIR Mitigation Measure BIO-1 by providing all information required by that mitigation measure for a biological resources assessment. Therefore, impacts would be ***less than significant with mitigation***.

Cumulative Impacts

Impact C-BIO-1: Cumulative Biological Resources Impacts. Cumulative development would not result in a significant cumulative impact on biological resources, and the Proposed Project would not be a cumulatively considerable contributor to such a cumulative impact. (LTS/M)

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the potential for cumulative impacts that could result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update in combination with other past, present, and probable future projects in Impact BIO-7 (pages 4.3-28 and 4.3-29). The ConnectMenlo EIR found that potential impacts from proposed development on biological resources tend to be site specific. The overall cumulative effect depends on the degree to which significant vegetation and wildlife resources are protected on a particular site. To some degree, cumulative development contributes to an incremental reduction in the amount of wildlife habitat, particularly for birds and larger mammals. New development in the region could result in further conversion of natural habitats to urban and suburban conditions, thereby limiting the existing habitat values of the surrounding area. However, the ConnectMenlo EIR determined that biological assessments for future projects involving specific development on or near sensitive habitats, as required under ConnectMenlo EIR Mitigation Measure BIO-1 and compliance with City General Plan policies and zoning regulations, would ensure that important biological resources would be identified, protected, and properly managed and prevent any significant adverse development-related impacts, including development of the remaining undeveloped lands in the planning area and surrounding incorporated and unincorporated lands. Therefore, implementation of Mitigation Measure BIO-1 would reduce cumulative impacts to less than significant.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative biological resources impacts with the Proposed Project considers the degree to which significant vegetation and wildlife resources would be protected at the Project Site and further considers the ConnectMenlo planning area, surrounding incorporated and unincorporated lands, and the region.

As stated above, the ConnectMenlo EIR considers cumulative impacts to biological resources to be less than significant with implementation of ConnectMenlo EIR Mitigation Measure BIO-1. This mitigation measure has been implemented for the Proposed Project through preparation of the Master Plan BRA and Tunnel BRA by H.T. Harvey & Associates, as discussed throughout this section. The Master Plan BRA and Tunnel BRA, as well as the Bird-Safe Design Assessment, all prepared by H.T. Harvey & Associates, outline mitigation measures to reduce Project impacts on biological resources. Mitigation Measures BIO-2.1, BIO-3.1 through BIO-3.3, and BIO-5.1 though BIO-5.3 would mitigate impacts on sensitive regulated habitats, minimize impacts on nesting birds, and reduce bird collisions. In addition, the City General Plan contains conservation measures that would benefit biological resources as well as measures to avoid, minimize, or mitigate impacts on such resources. All other projects within the Bayfront Area of Menlo Park would also be required to implement City General Plan measures and ConnectMenlo EIR Mitigation Measure BIO-1.

The Proposed Project would not result in a substantial change in the ConnectMenlo project and would not cause new or substantially more severe significant biological resources impacts than those analyzed in the ConnectMenlo EIR. Therefore, consistent with the conclusions in the ConnectMenlo EIR, with respect to biological resources, the Proposed Project in combination with past, present, and reasonably foreseeable future projects would result in cumulative impacts that would be ***less than significant with mitigation***. No further mitigation measures would be required.

3.10 Geology and Soils

This section describes the geologic and seismic setting of the Project Site, including regional and local geology, soils, and groundwater, as well as the regulatory framework relevant to the Willow Village Master Plan Project (Proposed Project). The potential environmental effects of the Proposed Project related to geology and soils are also described. The impacts examined include risks related to geologic hazards, such as earthquakes, landslides, liquefaction, and expansive soils, as well as impacts on the environment related to erosion and sedimentation. This section identifies project-level and cumulative environmental impacts and explains how compliance with existing applicable regulations and General Plan and M-2 Area Zoning Update (ConnectMenlo) Environmental Impact Report (EIR) mitigation measures would reduce or avoid the identified impacts. Two geotechnical feasibility investigations were prepared for the Project Site.[1,2] The information and conclusions from these documents are incorporated into this section. Additional information was obtained from government agency websites and publications.

No Project-specific issues were identified in response to the Notice of Preparation (Appendix 1).

Existing Conditions

Environmental Setting

Regional Setting

Geology

The Project Site is situated on the San Francisco Peninsula, which separates San Francisco Bay (Bay) from the Pacific Ocean. The San Francisco Peninsula is a ridge of rocks and sediments in the Santa Cruz Mountains portion of the Coast Ranges geomorphic province,[3] which forms a rugged barrier between the Pacific Coast and inland California.[4] The relatively flat-lying plain is bounded by the Santa Cruz Mountains to the west and the Bay to the east.

The Coast Ranges geomorphic province stretches from the Oregon border to nearly Point Conception in California. In the San Francisco Bay Area, most of the Coast Ranges developed on a basement of tectonically mixed Cretaceous- and Jurassic-age (i.e., 70- to 200-million-year-old) rocks of the Franciscan Complex. Locally, younger sedimentary and volcanic units cap these basement rocks. Still younger surficial deposits that reflect geologic conditions from the last million years or so cover most of the Coast Ranges.

---

1 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

2 Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California.* (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

3 Geomorphic provinces are naturally defined geologic regions that display a distinct landscape or landform.

4 California Geological Survey. 2002. *California Geomorphic Provinces*. California Department of Conservation. (California Geological Survey Note 36.) Available: https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-36.pdf. Accessed: March 19, 2021.

Movement on the many splays of the San Andreas fault system has produced the dominant northwest-oriented structural and topographic trend seen throughout the Coast Ranges today. This trend reflects the boundary between two of Earth's major tectonic plates, the North American plate to the east and the Pacific plate to the west. The San Andreas fault system, as well as its associated major branches, is about 40 miles wide in the Bay Area, extending from the San Gregorio fault near the coast to the Coast Ranges-Central Valley blind thrust at the western edge of the Great Central Valley. The San Andreas fault is the dominant structure in the system, spanning nearly the length of California and capable of producing high-magnitude earthquakes. Many subparallel or branch faults within the San Andreas system are equally active and nearly as capable of generating large earthquakes. Right-lateral movement dominates the activity on these faults, but an increasingly large amount of thrust faulting resulting from compression across the system is now being identified as well.

Faults and Earthquake Magnitude

The faults that are considered capable of generating significant earthquakes are generally associated with well-defined areas of crustal movement, which trend northwesterly. Table 3.10-1 presents the large regional faults near the Project Site (see also Figure 3.10-1, Active Faults in the Project Area) as well as their maximum credible earthquake magnitude, expressed in moment magnitude (MM) (described in more detail below under *Earthquake Magnitude*).

Table 3.10-1. Regional Faults within 15 Miles of the Project Site, Distance from Project Site, and Maximum Credible Earthquake Magnitude

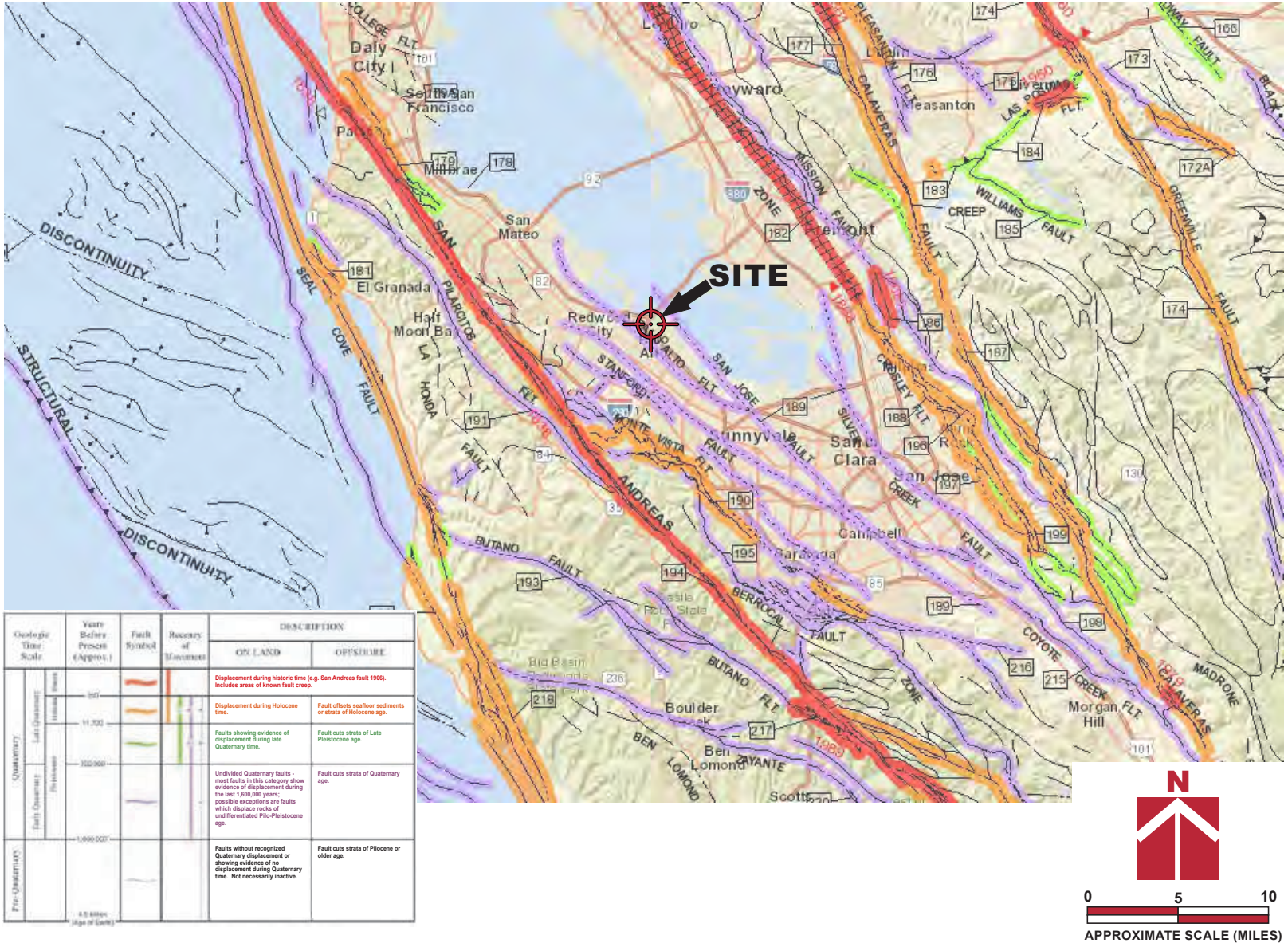
Fault[a]	Distance (miles)[a]	Maximum Credible Earthquake Magnitude (MM)
Monte Vista-Shannon	6.1	6.2[b]
San Andreas (1906)	7.3	7.0–7.9[b]
Hayward (total length)	11.5	7.2[b, c]
Hayward (southeast extension)	13.9	Not available

Sources:
[a.] Cornerstone Earth Group, 2020
[b.] Mualchin, 1996
[c.] Anderson et al., 1982

Seismicity

The San Francisco Bay Area region is one of the most seismically active areas in the country. Although seismologists cannot predict earthquake events, the U.S. Geological Survey's Working Group on California Earthquake Probabilities[5] assesses the likelihood of earthquakes occurring in various regions of California. The estimated frequency of earthquakes around magnitude 6.7 is approximately one per 6.3 years within California and approximately one per 29 years within the Bay Area region. The likelihood that California will experience a magnitude 8 earthquake or larger in the next 30 years is about 7 percent. The likelihood that the San Francisco Bay Area will experience a magnitude 8 earthquake or larger in the next 30 years is about 4 percent.

[5] Working Group on California Earthquake Probabilities. 2015. *UCERF3: A New Earthquake Forecast for California's Complex Fault System.* U.S. Geological Survey, Southern California Earthquake Center, California Geological Survey, California Earthquake Authority. (USGS fs2015-3009.) Available: https://pubs.usgs.gov/fs/2015/3009/pdf/fs2015-3009.pdf. Accessed: March 19, 2021.



Geologic Time Scale	Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION: ONLAND	DESCRIPTION: OFFSHORE
Quaternary: Late Quaternary: Holocene				Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
Quaternary: Late Quaternary: Holocene	11,700			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
Quaternary: Late Quaternary: Pleistocene	132,000			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
Quaternary: Late Quaternary: Pleistocene	1,600,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Pilo-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary	4.5 billion (Age of Earth)			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.

Base by California Geological Survey - 2010 Fault Activity Map of California (Jennings and Bryant, 2010)

ICF Graphics ... 00040.18 (4-8-2021) JC

Figure 3.10-1
Active Faults in the Project Area

Earthquake Magnitude

The classification of earthquakes is based on the amount of energy released, as measured by the Richter scale and the MM scale. Each whole magnitude number on these logarithmic scales represents a tenfold increase in the wave amplitude (earthquake size) generated by an earthquake as well as a 3.16-fold increase in energy released. Therefore, a magnitude 6.3 earthquake is 10 times larger than a magnitude 5.3 earthquake and releases 3.16 times more energy. The Working Group on California Earthquake Probabilities estimates that there is an 72 percent probability for one more MM 6.7 earthquakes or greater occurring in the Bay Area between 2015 and 2045.

Earthquake Intensity and Ground Shaking

The intensity of seismic shaking (ground shaking) or strong ground motion during an earthquake depends on the distance and direction between a particular area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the area. The Modified Mercalli Intensity scale is used to describe the intensity of an earthquake.[6] The scale relates an earthquake to its effects on humans, nature, and human-made structures using a scale of I through XII, with I denoting a weak earthquake and XII an earthquake that causes almost complete destruction. Table 3.10-2 provides abbreviated definitions for the scale ratings. This scale is not employed by engineers when designing seismically resistant structures. The safety standards to which structures must be designed are set forth in the California Building Standards Code and take into account numerous factors and criteria. However, the Modified Mercalli Intensity scale is useful in describing earthquake effects for the general public and can serve to interpret earthquake magnitude qualitatively.

Earthquakes occurring on faults that traverse Menlo Park and adjacent jurisdictions would probably generate the strongest ground motions. An earthquake along the entire San Andreas fault (closest approach to the Project Site is 7.3 miles) is considered capable of generating an MM 7.8 earthquake (similar to the 1906 San Francisco earthquake). An earthquake of this magnitude would generate strong to very strong ground shaking (Modified Mercalli Intensity VIII or IX) at the Project Site.[7] Ground shaking of this intensity could result in damage to buildings and trigger ground failures, such as liquefaction, potentially resulting in foundation damage, disruption of utilities, and roadway damage. The Association of Bay Area Governments (ABAG) projects that the overall ground shaking expected in Menlo Park from earthquake faults in the Bay Area region would be strong to very strong (Modified Mercalli Intensity VIII or IX).[8]

Hydrogeology

The Project Site is near the boundary between major units of two alluvial deposits, as defined by the California Department of Water Resources: the San Francisquito Cone and the Niles Cone. San Francisquito Cone deposits are derived from the Santa Cruz Mountains to the southwest; Niles Cone

[6] U.S. Geological Survey. 1989. *The Severity of an Earthquake*. Available: https://pubs.usgs.gov/gip/earthq4/severitygip.html. Accessed: March 19, 2021. Last Revised: November 30, 2016.

[7] Metropolitan Transportation Commission and Association of Bay Area Governments. n.d. *MTC/ABAG Hazard Viewer Map.* Earthquake Shaking Scenario: San Andreas Fault (all northern segments). Last updated: 2012.Available: https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8. Accessed: March 19, 2021.

[8] Association of Bay Area Governments. 2021. *Probabilistic Seismic Hazard Assessment*. March 31, 2021. Available: https://mtc.maps.arcgis.com/apps/webappviewer/index.html?id=4a6f3f1259df42eab29b35dfcd086fc8. Accessed: September 16, 2021.

Table 3.10-2. Modified Mercalli Intensity Scale

Scale Rating	Description
I	Not felt, except by very few under especially favorable conditions.
II	Felt by persons at rest, especially on upper floors. Delicately suspended objects may swing.
III	Felt quite noticeably by persons while indoors, especially on the upper floors of buildings. Many people do not recognize the event as an earthquake. Standing motor cars may rock slightly. Vibration similar to the passing of a truck.
IV	Felt indoors by many; felt outdoors by few during the day. At night, some are awakened. Dishes, windows, doors disturbed; walls make cracking sounds. Sensation like that of a heavy truck striking a building. Standing motor cars rocked noticeably.
V	Felt by nearly everyone; many are awakened. Some dishes and windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Felt by all, with many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Damage negligible in buildings of good design and construction; slight to moderate damage in well-built ordinary structures. Considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Damage slight in specially designed structures; considerable damage in ordinary buildings, with partial collapse. Damage great in poorly built structures. Chimneys, factory stacks, columns, monuments, walls may fall. Heavy furniture is overturned.
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed along with foundations. Rails bent.
XI	Few, if any, masonry structures remain standing. Bridges destroyed. Rails bent greatly.
XII	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Source: U.S. Geological Survey, 1989

deposits are derived from the Diablo Range along the northeast boundary of the Bay.[9] The unconsolidated materials in both units consist of four hydrogeologic zones: shallow aquifer, aquitard, deep aquifer, and the sediments below the deep aquifer. The shallow aquifer zone ranges in depth from 5 to approximately 100 feet below the ground surface (bgs). The shallow aquifer zone consists of silt and clay with low permeability that has interbedded with high-permeability, coarse-grained channel deposits.

The Project Site lies within the San Mateo Plain Groundwater Basin[10]—specifically, in the South San Mateo Plain Groundwater Subbasin.[11] The upper aquifer is encountered at depths of approximately 120 feet bgs, and the deep aquifer is encountered at 200 to 400 feet bgs.

[9] Regional Water Quality Control Board, San Francisco Bay Region. 2003. *A Comprehensive Groundwater Protection Evaluation for the South San Francisco Bay Basins.* Available: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/groundwater/southbayreport.pdf. Accessed: March 19, 2021.

[10] County of San Mateo Office of Sustainability. 2021. *Groundwater*. Available: https://www.smcsustainability.org/energy-water/groundwater/. Accessed: September 16, 2021.

[11] Regional Water Quality Control Board, San Francisco Bay Region. 2003. *A Comprehensive Groundwater Protection Evaluation for the South San Francisco Bay Basins.* Available: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/groundwater/southbayreport.pdf. Accessed: March 19, 2021.

Project Site

Site Geology

The main Project Site,[12] Hamilton Avenue Parcels North and South,[13] and Willow Road Tunnel[14] are in an area adjacent to the Bay where Holocene-age (11,000 years or less before present [BP]) alluvial fan deposits account for the majority of Quaternary sediment deposited in this area (see Figure 3.10-2, Geologic Units Present at the Project Site). According to mapping, the main Project Site is underlain by fine-grained alluvium of Holocene age (Qaf).[15] This alluvial sediment was shed from the northwest-trending Santa Cruz Mountains. Hamilton Avenue Parcels North and South are underlain by fine-grained Quaternary alluvium of Holocene age— specifically, alluvial fan deposits, fine facies (Qhff).[16] Willow Road Tunnel is underlain by artificial fill, most likely associated with construction of State Route 84 and Willow Road. The artificial fill is underlain by Holocene-age basin deposits and Bay Mud, according to geologic mapping.[17] However, exploration to 120 feet bgs did not encounter Bay Mud.[18]

Site Surface and Subsurface Conditions

Pavement at the main Project Site generally consists of 3 to 12 inches of asphalt concrete over 4 to 12 inches of aggregate base.[19] Below the pavement, some subsurface explorations encountered undocumented fill, consisting of very stiff, sandy fat clays; very stiff to hard sandy lean clays; and loose to medium-dense clayey sands. Variable amounts of gravel were also encountered within the fill, extending to depths of about 11.5 feet below the existing grades. Stiff to hard surficial clays were generally encountered within the western portion of the main Project Site; these highly to very highly expansive clays extended to depths of 3 to 8 feet. The surficial soils in the eastern portion generally consisted of stiff to very stiff lean clays with variable amounts of sand.

Surface conditions at Hamilton Avenue Parcels North and South generally obscure soils because the parcels are extensively developed.[20] Based on site reconnaissance, artificial fills at the parcels are assumed to be non-engineered and can contain imported, man-made materials such as gravel, landscaping

[12] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

[13] Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

[14] ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

[15] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

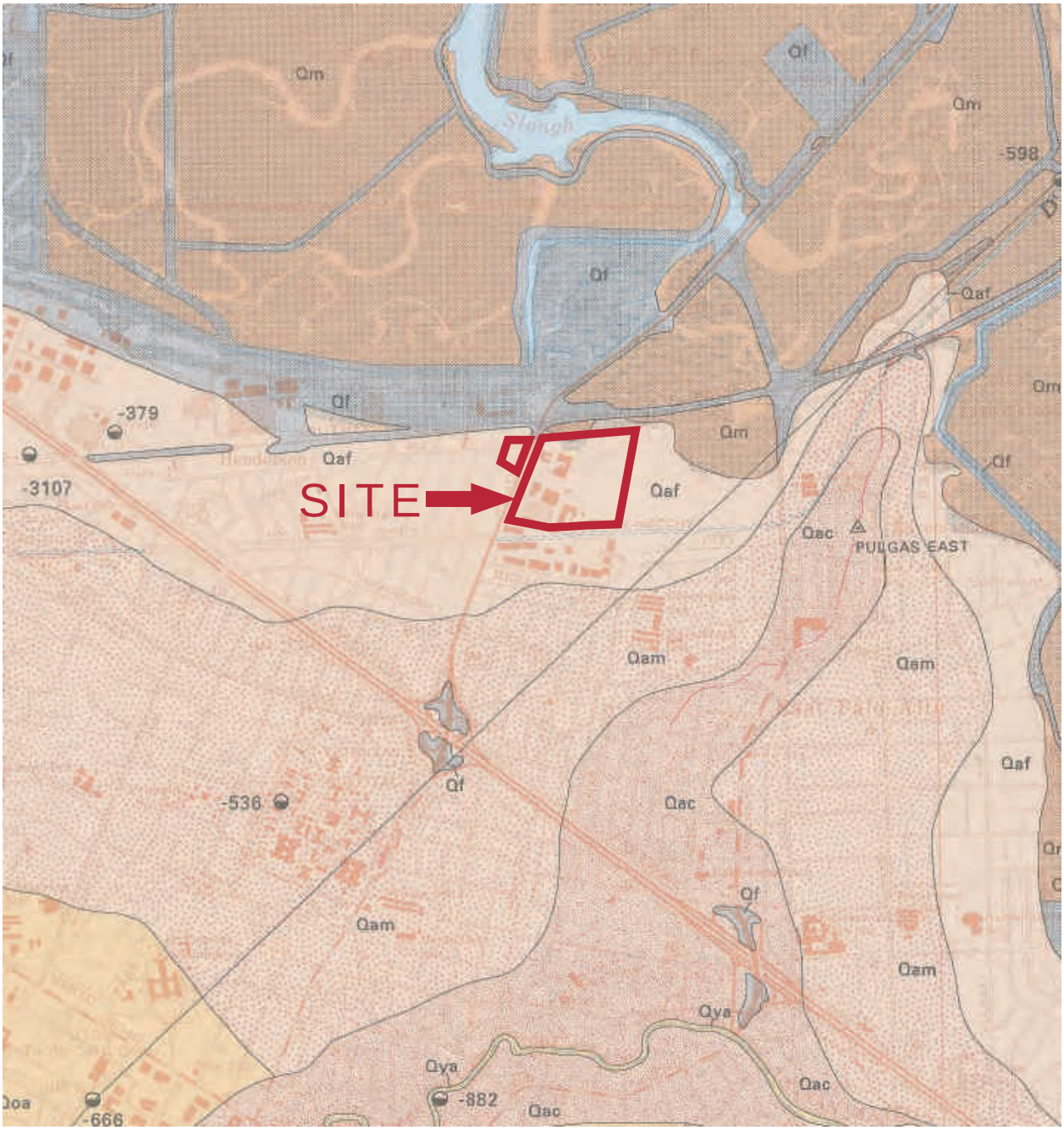
[16] Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

[17] ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

[18] Ibid.

[19] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

[20] Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.



Geologic Units

Qf	Artificial Fill (Holocene)
Qaf	Fine-grained Alluvium (Holocene)
Qam	Medium-grained alluvium (Holocene)
Qac	Coarse-grained alluvium (Holocene)
Qm	Bay Mud

Base by Earl H. Pampeyan, dated 1993, Palo Alto and Part of Redwood Point 7½′ Quadrangles.

Explanation

Contact- dashed where approximate, dotted where concealed

N

0 2000 4000

APPROXIMATE SCALE (FEET)

ICF Graphics ... 00040.18 (5-27-2021) JC

Figure 3.10-2
Geologic Units Present at the Project Site

bark, and other materials. The thickness of the artificial fill is unknown but, based on observations of ground conditions around the site, probably less than 4 feet. Subsurface boring investigations at the Meta Platforms, Inc. (Meta), Campus, located approximately 300 feet north of Hamilton Avenue Parcel North, indicate that the subsurface profile beneath the surficial fill very likely consists of a layer of fat clays underlain by lean clays and interbedded sands. The fat clays at Hamilton Avenue Parcels North and South are expected to be in a stiff to hard and highly plastic.

Surface conditions at the Willow Road Tunnel site include 3 to 3.5 inches of asphalt over 8 to 12 inches of aggregate base material at the parking lot.[21] The northern end of the proposed tunnel alignment is currently occupied by a landscaped area. Field exploration indicates that the site is underlain by artificial fill, gravels, sands, silts and clays, and highly organic soils.[22] According to the boring logs, artificial fill occurs at 5 to 15 feet bgs.

Site Topography

The main Project Site is nearly flat, with grades ranging from about 6 to 11 feet North American Vertical Datum 1988 (NAVD 88).[23] Likewise, Hamilton Avenue Parcels North and South are nearly flat, with grades ranging from about 6 to 12 feet NAVD 88.[24,25,26] The Willow Road Tunnel site is also nearly flat.

Surface Fault Rupture

No known surface expression of fault traces cross the main Project Site,[27] Hamilton Avenue Parcels North and South,[28] or the Willow Road Tunnel site.[29] None of the sites lies in an Alquist-Priolo Earthquake Fault Zone, nor is either adjacent to any known active fault.

[21] ENGEO. 2021. *Geotechnical Data Report Addendum, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) December 16. Prepared for Meta, Menlo Park, CA. San José, CA.

[22] ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

[23] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

[24] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871–899 Hamilton Avenue, Menlo Park, California*. (Project Number 254-11-21.) June 10. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

[25] Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. (Project Number 254-11-15.) April 23. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

[26] Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. (Project Number 254-45-1.) October 13. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

[27] Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

[28] Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California.* (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

[29] ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

Ground Shaking

Moderate to severe (i.e., design-level) earthquakes could cause strong ground shaking at the main Project Site, Hamilton Avenue Parcels North and South, and Willow Road Tunnel site.[30] A peak ground acceleration (PGA) of 0.537g[31] was estimated for the main Project Site,[32] which corresponds to severe intensity (i.e., Modified Mercalli Intensity VIII).[33] Strong ground shaking can be anticipated at Hamilton Avenue Parcels North and South and the Willow Road Tunnel site as well.[34,35]

Liquefaction

Liquefaction occurs when saturated soils lose cohesion, strength, and stiffness with applied shaking, such as that from an earthquake. The lack of cohesion causes solid soil to behave like a liquid, resulting in ground failure. When a load such as a structure is placed on ground that is subject to liquefaction, seismically related ground failure can result in the structure sinking and soil being displaced. Seismically related ground failure can take on many forms, including flow failures, lateral spreading, lowering of the ground surface, ground settlement, loss of bearing strength, ground fissures, and sand boils. Liquefaction within subsurface layers, which can occur during ground shaking associated with an earthquake, can also result in ground settlement.

The main Project Site, Hamilton Avenue Parcels North and South, and Willow Road Tunnel site are within a state-designated liquefaction zone.[36,37] Site-specific investigation supported this conclusion; several layers could experience liquefaction, resulting in 0.25 to 2 inches of post-liquefaction settlement at the main Project Site.[38] Conditions are anticipated to be similar at Hamilton Avenue Parcels North and South and the Willow Road Tunnel site because of proximity to the main Project Site.

---

30 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

31 "g" is the standard acceleration due to Earth's gravity. Peak ground acceleration is expressed in fractions of g as a decimal or percentage.

32 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* (Project Number 254-11-7.) May 27.

33 U.S. Geological Survey. n.d. *ShakeMap Scientific Background*. Available: https://earthquake.usgs.gov/data/shakemap/background.php. Accessed: March 19, 2021.

34 Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

35 ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

36 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

37 California Geological Survey. 2006. *Earthquake Zones of Required Investigation*. Palo Alto Quadrangle. Available: https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/. Accessed: March 19, 2021.

38 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

Ground Rupture

Ground rupture can result from seismically induced liquefaction. Ground rupture occurs during seismic movement when the cap of non-liquefiable material overlying the liquefiable material is not adequate. Seismic ground shaking causes the liquefied sediments to break through the overlying non-liquefiable layer.[39] Significant ground deformation and settlement can result.

Site-specific investigation at the main Project Site identified several areas where the overlying non-liquefiable cap may be inadequate with respect to preventing liquefaction-induced ground rupture.[40] There is also potential for liquefaction-induced ground rupture at Hamilton Avenue Parcels North and South and the Willow Road Tunnel site because the sites are also subject to liquefaction.[41]

Lateral Spreading

Lateral spreading or lurching typically occurs as a form of horizontal displacement of relatively flat-lying material toward an open face such as an excavation, channel, or body of water. Generally, this movement is due to a failure along a weak plane and often associated with liquefaction. At the main Project Site, Hamilton Avenue Parcels North and South, and Willow Road Tunnel site, the liquefaction risk is high (see *Liquefaction*, above). However, because there are no significant steep open faces within 200 feet of the sites, the potential for lateral spreading to affect the sites is low.[42,43]

Landslide

Landslides occur when the stability of a slope changes from a stable to an unstable condition. The stability of a slope is affected by slope inclination, material type, moisture content, orientation of layering, and vegetative cover. In general, steeper slopes are less stable and therefore more susceptible to landslides than more gently inclined ones.

As discussed above under *Site Topography*, the main Project Site, Hamilton Avenue Parcels North and South, and the Willow Road Tunnel site are in an area that is nearly flat. Furthermore, the sites are not in an area that has been designated by the State of California as being subject to landslide.[44] Therefore, the risk of landslide at the Project Site is low.

---

39 Ibid.

40 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

41 California Geological Survey. 2006. *Earthquake Zones of Required Investigation*. Palo Alto Quadrangle. Available: https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/. Accessed: March 19, 2021.

42 Ibid.

43 Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

44 California Geological Survey. 2006. *Earthquake Zones of Required Investigation. Palo Alto Quadrangle*. Available: https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/. Accessed: March 19, 2021.

Soils at the Project Site

Soils at the Project Site are Urban Land, Urban Land-Orthents, cut-and-fill complex, 0 to 5 percent slopes, and Urban Land-Orthents, reclaimed complex, 0 to 2 percent slopes.[45] No native soils are present at the ground surface on the Project Site. Artificial fill was up to 11.5 feet in depth at the main Project Site, approximately 4 feet in depth at Hamilton Avenue Parcels North and South, and 5 to 15 feet in depth at the Willow Road Tunnel site.[46,47,48]

Compressible Surface Soils and Fills Leading to Settlement

Near-surface, compressible saturated clays are present locally and may be present at the main Project Site and Hamilton Avenue Parcels North and South.[49,50] Both short-term immediate compression settlement and long-term consolidation settlement could occur at the Project Site. The site-specific investigation for the main Project Site found that it would be feasible to support the proposed structures using either shallow foundations (e.g., spread footings, reinforced concrete mats, foundations over ground improvements) or deep foundations (e.g., driven or auger-cast piles).[51] No information is available regarding this issue at the Willow Road Tunnel site; however, because of its proximity to the other sites, the same conditions can be assumed.

Expansive Soils

Soils that contain a high clay content may shrink or expand under varying moisture conditions, resulting in structural damage to roads, foundations, and infrastructure. The main Project Site, Hamilton Avenue Parcels North and South, and Willow Road Tunnel Site are underlain by artificial fill and soils that are moderately to very highly expansive.[52,53]

---

45 Natural Resources Conservation Service. 2021. *Web Soil Survey*. Custom Soil Report. Available: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed: April 8, 2021.

46 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

47 Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California.* (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

48 ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

49 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

50 Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California.* (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

51 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

52 Ibid.

53 Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California.* (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

Groundwater

Groundwater was encountered during boring at depths ranging from about 8 to 16 feet bgs at the main Project Site, corresponding to elevations of 2 to -6 feet NAVD 88;[54] between 8 and 10 feet bgs at Hamilton Avenue Parcels North and South; and between 7 and 14 feet bgs at the Willow Tunnel site (2.5 to -3.4 feet NAVD 88).[55,56,57] High groundwater depths were estimated to be 5 feet bgs at the main Project Site,[58] 10 feet bgs at Hamilton Avenue Parcels North and South,[59] and 7 feet bgs at the Willow Road Tunnel site, based on maps of historic groundwater depths.[60] Fluctuations in groundwater levels may be due to variations in rainfall, irrigation practices, and other factors.

Paleontological Resources

Paleontological sensitivity is an indicator of the likelihood of a geologic unit to yield fossils, as defined and discussed below under *Methods for Analysis*. Unlike archaeological sites, which are narrowly defined, paleontological sites are defined by the entire extent (both areal and stratigraphic) of a geologic unit or formation. Once a unit is identified as containing vertebrate fossils, or other rare fossils, the entire unit is a paleontological site.[61] For this reason, the paleontological sensitivity of geologic units is described and analyzed broadly (referenced herein as the "study area") and not limited to jurisdictional boundaries.

The paleontological sensitivity of the geologic units exposed at the ground surface at the Project Site or underlying the Project Site is listed in Table 3.10-3 and shown in Figure 3.10-2. Following the table is a description of the geologic units exposed at the ground surface in the study area with the potential to contain fossils. Paleontological sensitivity is described further below.

---

54 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

55 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871–899 Hamilton Avenue, Menlo Park, California.* (Project Number 254-11-21.) June 10. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

56 Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. (Project Number 254-11-15.) April 23. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

57 ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

58 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

59 Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

60 ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

61 Society of Vertebrate Paleontology. 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources.* Available: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf. April 8, 2021.

Table 3.10-3. Paleontological Sensitivity of Geological Units at or Underlying the Main Project Site, Hamilton Avenue Parcels North and South, and Willow Road Tunnel Site

Symbol	Geologic Unit	Epoch	Paleontological Sensitivity	Notes
Af	Artificial fill	Historic	None	
Qaf	Fine-grained alluvium	Holocene (and potentially Pleistocene)[a]	High[a]	In most areas, unit is most likely too young to yield fossils.[b] However, recent research suggests that the Quaternary alluvium of the adjacent Santa Clara Valley, generally mapped as Holocene age, may be more paleontologically sensitive than previously recognized.[a] Furthermore, this geologic unit is most likely underlain by older Pleistocene-aged alluvium (Qoa), which has the potential to contain significant fossils.
Qhff	Alluvial fan deposits, fine facies	Holocene (and potentially Pleistocene)[a]	High[a]	In most areas, unit is most likely too young to yield fossils.[b] However, recent research suggests that the Quaternary alluvium of the adjacent Santa Clara Valley, generally mapped as Holocene age, may be more paleontologically sensitive than previously recognized.[a] Furthermore, this geologic unit is most likely underlain by older Pleistocene-aged alluvium (Qoa), which has the potential to contain significant fossils.
Qhbm	Bay mud	Holocene	Low	This unit is too young to yield fossils.
Qhfp	Floodplain deposits	Holocene	High[a]	In most areas, this unit is most likely too young to yield fossils.[b] However, recent research suggests that the Quaternary alluvium of the adjacent Santa Clara Valley, generally mapped as Holocene age, may be more paleontologically sensitive than previously recognized.[a] Furthermore, this geologic unit is most likely underlain by older Pleistocene-aged alluvium (Qoa), which has the potential to contain significant fossils.
Qoa	Older alluvium	Pleistocene	High[c]	Not exposed at the ground surface at the main Project Site, Hamilton Avenue Parcels North and South, or Willow Road Tunnel site.

Sources: Society of Vertebrate Paleontology 2010; Cornerstone Earth Group 2020a, 2020b, Maguire and Holroyd 2016.
Notes:
[a] Maguire and Holroyd, 2016.
[b] Geologic units younger than 5,000 years old are generally not considered old enough to contain fossils (Wagner et al., 1991).
[c] UCMP, 2021.

Quaternary Fine-Grained Alluvium (Qaf), Alluvial Fan Deposits, Fine Facies (Qhff), and Floodplain Deposits (Qhfp)

Quaternary fine-grained alluvium (Qaf) consists of unconsolidated, poorly sorted, plastic organic clay and silty clay in poorly drained interfluvial basins, usually at the margins of tidal marshlands.[62] This geologic unit contains modern vertebrate fossils.

Quaternary alluvial fan deposits, fine facies (Qhff), and floodplain deposits (Qhfp) consist of clay and silt depots with interbedded lobes of coarser alluvium.[63] These fine-grained alluvial fan and floodplain overbank deposits lie on very gently sloping portions of the alluvial fan or valley floor. Although these Holocene-aged deposits are generally considered too young to yield significant fossils, Pleistocene vertebrate fossils have been found from multiple localities across the adjacent Santa Clara Valley, including Palo Alto,[64] and farther north in San Mateo County. All of these fossil localities occur in units that have been mapped as surficial alluvial Holocene deposits. Radiocarbon dating of the mapped Holocene sediments where the Pleistocene remains were found shows Pleistocene age for two of these finds (11 and 30 feet below the modern ground surface); for the others, no dating was performed. Some of these finds may have washed down from the mountains and been deposited in Holocene waterways, but the two radiocarbon-dated finds most likely originated where they were found. These occurrences demonstrate that older sediments and fossils (greater than 10,000 years BP) occur at or very near the surface in these areas, particularly because the amount, association, and orientation of the fossils from these localities indicate that the sediments in which they occur have not been reworked through geologic or artificial processes. Accordingly, Pleistocene alluvium may be more widespread and shallower in the Santa Clara Valley and San Mateo County than was previously thought, and Pleistocene fossil resources are very likely present in this area in units mapped as Holocene alluvium. Documented vertebrate fossils include extinct species of mammoth, bear, horse, bison, and camel.

Because of the fossil discoveries in mapped Holocene sediments in adjacent Santa Clara County, Quaternary fine-grained alluvium (Qaf), alluvial fan deposits, fine facies (Qhff), and floodplain deposits (Qhfp) of Holocene age are considered to have high paleontological sensitivity.

Pleistocene Older Alluvium (Qoa)

Holocene-era geologic units at the main Project Site, Hamilton Avenue Parcels North and South, and Willow Road Tunnel site are very likely underlain by older late Pleistocene-aged alluvium (Qoa).[65] This older Pleistocene-aged alluvium is not exposed at the ground surface at the main Project Site,[66]

---

62 Pampeyan, E.H. 1993. *Geologic Map of the Palo Alto and Part of the Redwood Point 7.5-minute Quadrangles, San Mateo and Santa Clara Counties, California.* (IMAP 2371.) U.S. Geological Survey. Available: https://pubs.er.usgs.gov/publication/i2371. Accessed: May 7, 2021.

63 Witter, R.C., K.L. Knudsen, J.M. Sowers, C.M. Wentworth, R.D. Koehler, and C.E., Randolph. 2006. *Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California* and *Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California, Part 3: Description of Mapping and Liquefaction Interpretation.* U.S. Geological Survey in cooperation with the California Geological Survey. (Open-File Report 2006-1037.) Available: https://pubs.usgs.gov/of/2006/1037/. Accessed: May 7, 2021.

64 Maguire, K.C., and P.A. Holroyd. 2016. Pleistocene Vertebrates of Silicon Valley (Santa Clara County, California). In *PaleoBios* 33:1–14, July 22, 2016. Available: https://escholarship.org/uc/item/3k43832x. Accessed: April 8, 2021.

65 Pampeyan, E.H. 1993. *Geologic Map of the Palo Alto and Part of the Redwood Point 7.5-minute Quadrangles, San Mateo and Santa Clara Counties, California*. (IMAP 2371.) U.S. Geological Survey. Available: https://pubs.er.usgs.gov/publication/i2371. Accessed: May 7, 2021.

66 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

Hamilton Avenue Parcels North and South (Figure 3.10-2) or at the Willow Road Tunnel site.[67] The geologic unit consists of weathered, unconsolidated to moderately consolidated gravel, sand, and silt.[68] This unit consists largely of alluvial fan deposits. Vertebrate fossils have been retrieved from Pleistocene-aged sediments in San Mateo County.[69] These include fossils from the genus *Camelops* (camel) and *Equus* (horse).

Quaternary older alluvium (Qoa) of Pleistocene age is considered to have high paleontological sensitivity.

Regulatory Setting

Federal

National Earthquake Hazards Reduction Program

Federal laws codified in the United States Code Title 42, Chapter 86, were enacted to reduce risks to life and property from earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. Implementation of these requirements is regulated, monitored, and enforced at the state and local level. Key regulations and standards are summarized below.

State

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (Public Resources Code [PRC] Section 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy[70] across the traces of active faults and strictly regulates construction in corridors along active faults (earthquake fault zones). It also establishes criteria for identifying active faults, giving legal weight to terms such as *active*, and establishes a process for reviewing building proposals for areas in and adjacent to earthquake fault zones.

Under the Alquist-Priolo Act, faults are zoned and construction along or across them is strictly regulated if they are "sufficiently active" and "well defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for

[67] Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

[68] Pampeyan, E.H. 1993. *Geologic Map of the Palo Alto and Part of the Redwood Point 7.5-minute Quadrangles, San Mateo and Santa Clara Counties, California*. (IMAP 2371.) U.S. Geological Survey. Available: https://pubs.er.usgs.gov/publication/i2371. Accessed: May 7, 2021.

[69] University of California Museum of Paleontology. 2021. *Advanced Specimen Search: San Mateo County*. Available: https://ucmpdb.berkeley.edu/advanced.html. Accessed: May 5, 2021.

[70] Under the Alquist-Priolo Act, a structure for human occupancy is defined as one used for or intended to support or shelter any use or occupancy that is expected to have a human occupancy rate of more than 2,000 person-hours per year (California Code of Regulations, Title 14, Division 2, Section 3601[e]).

the purposes of this act as approximately the last 11,000 years). A fault is considered well defined if its trace can be clearly identified by a trained geologist as a physical feature at the ground surface or in the shallow subsurface.[71]

Seismic Hazards Mapping Act

Similar to the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is intended to reduce damage resulting from earthquakes. Although the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act. The state is charged with identifying and mapping areas that are at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped seismic hazard zones.

A primary purpose of the Seismic Hazards Mapping Act is to assist cities and counties in preparing the safety elements of their general plans and encourage land use management policies and regulations that reduce seismic hazards. The intent of this act is to protect the public from the effects of strong ground shaking, liquefaction, landslides, ground failure, or other hazards caused by earthquakes. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within seismic hazard zones until appropriate site-specific geologic or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into development plans. In addition, California Geologic Survey *Special Publication 117A*, Guidelines for Evaluating and Mitigating Seismic Hazards in California, provides guidance for evaluating earthquake-related hazards in designated zones and for recommending mitigation measures, as required by PRC Section 2695(a).[72] Maps of liquefaction hazards have been prepared for much of the San Francisco Bay Area, including the Menlo Park area.

California Building Standards Code

California Code of Regulations (CCR) Title 24, Part 2, the California Building Standards Code, provides minimum standards for building designs in the state. The current 2019 California Building Standards Code, effective January 1, 2020, is based on the 2018 International Building Code.

Each jurisdiction in California may adopt its own building code, based on the 2019 California Building Standards Code. Local codes are permitted to be more stringent than the 2019 California Building Standards Code but, at a minimum, are required to meet all state standards and enforce the regulations of the 2019 California Building Standards Code, beginning January 1, 2020. The City of Menlo Park (City) has adopted the 2019 California Building Standards Code and local amendments.

[71] California Geological Survey. 2018. Earthquake Fault Zones: A Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California. In *Special Publication 42*. Available: https://www.conservation.ca.gov/cgs/Documents/Publications/Special-Publications/SP_042.pdf. Accessed: March 8, 2021.

[72] California Geological Survey. 2008. *Guidelines for Evaluating and Mitigating Seismic Hazards in California.* (Special Publication 17A.) Available: https://www.conservation.ca.gov/cgs/Documents/Publications/Special-Publications/SP_117a.pdf. Accessed: March 8, 2021.

National Pollutant Discharge Elimination System Construction General Permit

Under the Authority of the federal Clean Water Action, Section 402 (National Pollutant Discharge Elimination System [NPDES]), the State Water Resources Control Board (State Water Board) permits all regulated activities under Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ (adopted September 2, 2009), which requires, prior to beginning any construction activities, the permit applicant to obtain coverage under the Construction General Permit by preparing and submitting a Notice of Intent to the State Water Board and preparing and implementing a Stormwater Pollution Prevention Plan (SWPPP), in accordance with Construction General Permit requirements, for all construction activities that disturb 1 acre of land or more. Construction activities that are subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least 1 acre of the total land area. The SWPPP has two major objectives, (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges and (2) to describe and ensure the implementation of best management practices (BMPs) to reduce or eliminate sediment and other pollutants in stormwater as well as non-stormwater discharges (refer to Section 3.11, *Hydrology and Water Quality*, for additional information on the Construction General Permit and the SWPPP).

California Department of Transportation

Caltrans Encroachment Permits: Guidelines and Specifications for Trenchless Technology Projects specifies guidelines for tunnel construction, including California Division of Occupational Safety and Health (Cal/OSHA) requirements; excavation; dewatering; the construction and placement of pits and shafts; grouting; and the use of materials for both structural and substructural designs and calculations.[73] The guidelines outline the project owner's responsibilities and the contractor's responsibilities. The project owner is responsible for providing a third-party, full-time inspector, if required by the California Department of Transportation (Caltrans); a full-time safety engineer; and a full-time safety representative. The contractor is responsible for submitting information prior to issuance of the Caltrans permit, including proof of experience; tunnel support-system plans, calculations, materials, methods of construction, and related technical specifications; a working schedule; contingency plan; soil stability reports; and dewatering plans.

California Code of Regulations 14, Section 15064.5

California Code of Regulations 14, Section 15064.5, sets forth criteria for determining whether a project would change the significance of a historical resource, including a resource that "has yielded, or may be likely to yield, information important in prehistory," including paleontological resources. This section also describes what constitutes an impact on historical resources, including "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings" such that its historical significance is materially impaired. If a significant adverse change in the significance of a resource would result from project implementation, the lead agency must identify and implement feasible mitigation to mitigate or avoid that significant adverse change.

[73] California Department of Transportation. 2018. *Caltrans Encroachment Permits: Guidelines and Specifications for Trenchless Technology Projects.* August. Available: https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents/trenchless-booklet-a11y.pdf. Accessed: September 16, 2021.

Local

San Mateo Countywide Water Pollution Prevention Program's C.3 Stormwater Technical Guidance

The purpose of the *C.3 Stormwater Technical Guidance* is to ensure that projects include post-construction stormwater controls to meet local municipal requirements as well as requirements in the Municipal Regional Stormwater Permit.[74] The guidance offers instructions regarding how to incorporate stormwater control/low-impact development designs into planning permit and building permit application submittals, stormwater treatment measures, requirements for hydromodification management measures, operation and maintenance requirements, and the alternative compliance provision of the Municipal Regional Stormwater Permit, which allows projects to contribute to offsite alternative compliance projects.

Menlo Park Municipal Code

The City has adopted the 2019 California Building Standards Code (Section 12.04.010[2], Menlo Park Municipal Code).

Menlo Park General Plan

The City General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2014–2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The Land Use Element contains the following policy related to geologic hazards and the Proposed Project:[75]

> **Policy LU-7.7: Hazards**. Avoid development in areas with seismic, flood, fire, and other hazards to life or property when potential impacts cannot be mitigated.

The Safety Element contains the following policies related to geologic, seismic, and soil hazards.[76]

> **Policy S1.2: Location of Public Improvements**. Avoid locating public improvements and utilities in areas with identified flood, geologic, and/or soil hazards to avoid any extraordinary maintenance and operating expenses. When the location of public improvements and utilities in such areas cannot be avoided, ensure that effective mitigation measures will be implemented.
>
> **Policy S1.3: Hazard Data and Standards**. Integrate hazard data (geotechnical, flood, fire, etc.) and risk evaluations into the development review process and maintain, develop, and adopt up-to-date standards to reduce the level of risk from natural and human-caused hazards for all land uses.
>
> **Policy S1.5: New Habitable Structures**. Require that all new habitable structures incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.

---

[74] San Mateo Countywide Water Pollution Prevention Program. 2014. *C.3 Stormwater Technical Guidance.* October. Version 4.1. Available: https://www.menlopark.org/DocumentCenter/View/10102/C3-Technical-guidance-handbook?bidId=. Accessed: September 16, 2021.

[75] City of Menlo Park. 2016. *ConnectMenlo General Plan Land Use Element*. (Adopted November 29, 2016.) Available: https://www.menlopark.org/DocumentCenter/View/15014/Land-Use-Element_adopted-112916_final_figures?bidId=. Accessed: March 8, 2021.

[76] City of Menlo Park. 2013. *City of Menlo Park General Plan Open Space/Conservation, Noise, and Safety Elements*. (Adopted May 21, 2013.) Available: https://www.menlopark.org/DocumentCenter/View/234/Open-Space-and-Conservation-Noise-and-Safety-Elements?bidId=. Accessed: March 19, 2021.

Policy S1.6: Design and Location of Utilities. Monitor appropriate location, design, construction, maintenance, and inspection standards for utility systems traversing hazard areas within the city limits. This would include evaluating and upgrading outdated systems and infrastructure, coordinating with the California Public Utilities Commission, and locating new utility systems away from potential hazard areas.

Policy S1.7: Hazard Reduction. Continue to require new development to reduce the seismic vulnerability of buildings, as well as their susceptibility to other hazards, through enforcement of the California Building Standards Code and other programs.

Policy S1.13: Geotechnical Studies. Continue to require site-specific geologic and geotechnical studies for land development or construction in areas of potential land instability, as shown on the state and/or local geologic hazard maps or identified through other means.

Policy S1.14: Potential Land Instability. Prohibit development in areas of potential land instability, as identified on state and/or local geologic hazard maps or identified through other means, unless a geologic investigation demonstrates that hazards can be mitigated to an acceptable level, as defined by the State of California.

The Open Space and Conservation Element of the City General Plan contains two policies related to paleontological resources.[77]

Policy OSC3.3: Archaeological or Paleontological Resources Protection. Protect prehistoric or historic cultural resources, either onsite or through appropriate documentation, as a condition of removal. When a development project has sufficient flexibility, require avoidance or preservation of the resources as the primary form of mitigation, unless the City identifies superior mitigation. If resources are documented, undertake coordination with descendants and/or stakeholder groups, as warranted.

Policy OSC3.4: Prehistoric or Historic Cultural Resources Found during Construction. If cultural resources, including archaeological or paleontological resources, are uncovered during grading or other onsite excavation, require construction to stop until appropriate mitigation is implemented.

City of Menlo Park Engineering Division Grading and Drainage Control Guidelines

The City published guidelines for commercial, multi-family, and subdivision grading and drainage.[78] All projects that create and/or replace 10,000 square feet or more of impervious surfaces, including roof areas and pavement, must adhere to the guidelines. The purpose of the guidelines is to limit post-development stormwater discharges to pre-development discharge levels, or less; control pollutants from stormwater runoff using San Mateo County's *C.3 Stormwater Technical Guidance* criteria; ensure that projects meet the requirements of NPDES Municipal Regional Stormwater Permit CAS612008; and ensure that the drainage design prevents erosion and vectors.

[77] Ibid.

[78] City of Menlo Park. n.d. *Commercial, Multi-Family, and Subdivision Grading and Drainage Guidelines*. Available: https://www.menlopark.org/DocumentCenter/View/10104/Commercial-Drainage-Guidelines?bidId=. Accessed: September 16, 2021.

Environmental Impacts

This section describes the impact analysis related to geology and soils for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, as necessary.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Project would have a significant effect if it would result in any of the conditions listed below.

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving (1) rupture of a known earthquake fault, as delineated on the most recent Alquist–Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (2) strong seismic ground shaking; (3) seismically related ground failure, including liquefaction; or (4) landslides.
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
- Have soils that would be incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Methods for Analysis

Geology, Soils, and Seismicity

The preliminary geotechnical investigation for the main Project Site, the geotechnical consultation for Hamilton Avenue Parcels North and South, and the geotechnical data report for the Willow Road Tunnel site describe and evaluate geologic and geotechnical conditions at the sites to support preliminary planning and conceptual-level design during the initial phases of Project planning. The geotechnical investigations prepared for the Project Site provide a summary and compilation of the available geotechnical information that was used as part of the analysis of geologic, seismic, and geotechnical issues for the EIR.

Two geotechnical feasibility investigations were conducted for the Proposed Project.[79,80] The preliminary geotechnical investigation for the main Project Site included field and laboratory programs for evaluating surficial and subsurface soils, a summary of previously completed borings and cone penetration tests, and

[79] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27.

[80] ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

a new exploratory program with borings.[81] The borings for the previously completed subsurface investigation were drilled to a depth of approximately 50 feet bgs. Cone penetration tests were advanced to depths of 50 to 120 feet bgs. Borings for the new exploratory program were drilled to a depth of approximately 15 feet bgs. In addition, borings were advanced to a depth of approximately 10 feet bgs; cone penetration tests were advanced to a depth of approximately 120 feet bgs at the Willow Road Tunnel site.[82]

The geotechnical consultation completed for Hamilton Avenue Parcels North and South included site reconnaissance, which provided a report on subsurface conditions at the nearby Meta Campus; a description of seismic, geologic, and soil hazards at the main Project Site; and preliminary identification of seismic, geologic, and soil impacts and mitigation measures.[83]

Design-level geotechnical studies would be completed during development of construction plans, in accordance with the 2019 California Building Standards Code and City building permit requirements.

Paleontological Resources

The standard procedures[84] of the Society of Vertebrate Paleontology (SVP) include guidelines for the investigation, collection, preservation, and cataloging of fossil-bearing sites, including the designation of paleontological sensitivity. The standard procedures are widely accepted among paleontologists and followed by most investigators. The procedures identify the two key phases of paleontological resource protection: (1) assessment and (2) implementation. Assessment involves identifying the potential for a project site or area to contain significant nonrenewable paleontological resources that could be damaged or destroyed by excavation or construction. Implementation involves formulating and applying measures to reduce such adverse effects.

For the assessment phase, SVP defines the level of potential as one of four sensitivity categories for sedimentary rocks: High, Undetermined, Low, or No Potential.[85]

- **High Potential.** Assigned to geologic units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered and sedimentary rock units that are suitable for the preservation of fossils (e.g., middle Holocene and older, fine-grained fluvial sandstones; fine-grained marine sandstones). Paleontological potential concerns the potential for yielding abundant fossils, a few significant fossils, or recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data.
- **Undetermined Potential.** Assigned to geologic units for which little information is available concerning their paleontological content, geologic age, and depositional environment. In cases where no subsurface data already exist, paleontological potential can sometimes be assessed by subsurface site investigations.

---

81 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27.

82 ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

83 California Geological Survey. 2006. *Earthquake Zones of Required Investigation*. Palo Alto Quadrangle. Available: https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/. Accessed: March 19, 2021.

84 Society of Vertebrate Paleontology. 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources.* Available: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf. April 8, 2021.

85 Ibid.

- **Low Potential.** Field surveys or paleontological research may determine that a geologic unit has low potential with respect to yielding significant fossils (e.g., basalt flows). Mitigation is generally not required.
- **No Potential.** Some geologic units have no potential with respect to containing significant paleontological resources, such as high-grade metamorphic rocks (e.g., gneisses and schists) and plutonic igneous rocks (e.g., granites and diorites). Mitigation is not required.

The methods used to analyze potential impacts on paleontological resources and develop mitigation for identified impacts followed the SVP's standard procedures.

- Assessment
    - Identify the geologic units that would be affected by a project, based on the project's depth of excavation—either at the ground surface or below the ground surface, defined as at least 5 feet bgs.
    - Evaluate the potential of the identified geologic units to contain significant fossils (paleontological sensitivity).
    - Identify impacts on paleontologically sensitive geologic units as a result of near-term and long-term construction and operations that involve ground disturbance.
    - Evaluate impact significance.
- Implementation
    - According to the identified degree of sensitivity, formulate and implement measures to mitigate potential impacts.

The potential of the Proposed Project to affect paleontological resources relates to ground disturbance. Geologic units at the Project Site were identified through California Geological Survey regional mapping.[86] The determination regarding the presence of paleontological resources in the units was based on procedures established by the SVP[87] and fossil finds discussed in the scientific literature.[88] After the records search, the paleontological sensitivity of the units was assessed according to the SVP standard procedures.[89]

For purposes of this analysis, an impact on unique paleontological resources and unique geologic features is considered significant. The impact would therefore require mitigation if the Proposed Project would directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature.

[86] Wagner, D.L., E.J. Bortugno, and R.D. McJunkin. 1991. *Geologic Map of the San Francisco-San José Quadrangle, California, 1:250,000.* (Regional Geologic Map Series, Map No. 5A [Geology].)

[87] Society of Vertebrate Paleontology. 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources.* Available: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf. April 8, 2021.

[88] Maguire, K.C., and P.A. Holroyd. 2016. Pleistocene Vertebrates of Silicon Valley (Santa Clara County, California). In *PaleoBios* 33:1–14, July 22, 2016. Available: https://escholarship.org/uc/item/3k43832x. Accessed: April 8, 2021.

[89] Society of Vertebrate Paleontology. 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*. Available: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines.pdf. April 8, 2021.

Summary of Analysis in the ConnectMenlo EIR

Geology, Soils, and Seismicity

The ConnectMenlo EIR analyzed the impacts listed below that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update.[90]

- Impacts related to strong seismic ground shaking, seismically related ground failure, and landslide were analyzed in the ConnectMenlo EIR as Impact GEO-1 (pages 4.5-9 to 4.5-11). It was determined that the impacts would be less than significant because future development, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies to minimize impacts related to strong seismic ground shaking; seismically related ground failure, including liquefaction; or landslide and because the City would implement General Plan programs that would require ongoing review, identification, and the maintenance of maps and regulations related to geologic and seismic hazards. No mitigation was required.
- Impacts as a result of substantial soil erosion or loss of topsoil were analyzed in the ConnectMenlo EIR as Impact GEO-2 (page 4.5-11). It was determined that the impacts would be less than significant because future development, as part of the City's project approval process, would be required to comply with existing regulatory requirements, such as those specified in the City of Menlo Park Engineering Division Grading and Drainage Control Guidelines, which would reduce impacts from erosion and the loss of topsoil to the extent practicable. No mitigation was required.
- Impacts as a result of a location on a geologic unit or soil that is unstable or could become unstable with project implementation were analyzed in the ConnectMenlo EIR as Impact GEO-3 (pages 4.5-12 to 4.5-13). It was determined that the impacts would be less than significant because future development, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies prepared to minimized impacts related to development on unstable geologic units and soils where lateral spreading, subsidence, liquefaction, or collapse could occur in the study area. In addition, the City would implement General Plan programs that would require ongoing review, identification, and the maintenance of maps and regulations related to geologic and seismic hazards. No mitigation was required.
- Impacts as a result of a location on expansive soils were analyzed in the ConnectMenlo EIR as Impact GEO-4 (page 4.5-13). It was determined that the impacts would be less than significant because future development, as part of the City's project approval process, would be required to comply with existing regulations, including General Plan policies prepared to minimized impacts related to development on expansive soil in the study area. In addition, the City would implement the General Plan programs that would require ongoing review, identification, and the maintenance of maps and regulations related to geologic and seismic hazards. No mitigation was required.
- Impacts as a result of a location on soils that would be incapable of adequately supporting the use of septic tanks or alternative wastewater systems were analyzed in the ConnectMenlo EIR as Impact GEO-5 (pages 4.5-13 to 4.5-14). It was determined that the impacts would be less than significant because development within the study area is not expected to require the use of septic tanks or alternative wastewater disposal systems. No mitigation was required.

[90] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. (June 1.) Prepared by Placeworks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 19, 2021.

Paleontological Resources

The ConnectMenlo EIR analyzed the following impacts that would result from implementation of the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update:[91]

- Impacts on unique paleontological resources or geologic features were analyzed in the ConnectMenlo EIR as Impact CULT-3 (pages 4.4-18 to 4.4-20). It was determined that the impacts would be less than significant with mitigation incorporated. Although the impacts could be potentially significant because geological formations underlying Menlo Park could contain paleontological resources, and ground-disturbing construction associated with future development allowed under the General Plan could reach depths below the ground surface at which paleontological resources could occur, implementation of ConnectMenlo Mitigation Measure CULT-3 would reduce the impact to less than significant. In the event that fossils or fossil-bearing deposits are discovered during ground-disturbing activities, Mitigation Measure CULT-3 would require excavations within a 50-foot radius of the find to be temporarily halted or diverted until a City-approved paleontologist can assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. If the find meets the criteria set forth in CEQA Guidelines Section 15064.5 and avoidance is not feasible, the paleontologist would prepare an excavation plan to mitigate the effect of construction activities on the discovery.

Impacts Not Evaluated In Detail

As explained below, the Proposed Project would result in ***no impact*** related to surface fault rupture, landslides, loss of topsoil, lateral spreading, unique geologic features, or impacts on septic systems. Therefore, these impacts are not discussed further.

Surface Fault Rupture. No faults cross the main Project Site, Hamilton Avenue Parcels North and South, or the Willow Road Tunnel site, nor are the sites within an Alquist-Priolo Earthquake Fault Zone. The risk of surface fault rupture is negligible.

Landslides. The main Project Site, Hamilton Avenue Parcels North and South, and the Willow Road Tunnel site are nearly level. The sites are not adjacent to any hillsides where seismically induced landslides or other downslope movements of rock or soil material could pose a hazard. In addition, the Proposed Project would not cause or exacerbate landslide hazards.

Loss of Topsoil. Soils at the Project Site are Urban Land, Urban Land-Orthents, cut-and-fill complex, and Urban Land-Orthents, reclaimed complex, meaning that they are not native topsoil. Removing them for construction would not result in a loss of topsoil.

Lateral Spreading. Because there are no open faces or bodies of water adjacent to the main Project Site, Hamilton Avenue Parcels North and South, or the Willow Road Tunnel site that would be conducive to lateral spreading, there would be no risk of lateral spreading.

Unique Geologic Features. Because there are no unique geologic features at the main Project Site, Hamilton Avenue Parcels North and South, or the Willow Road Tunnel site, the Proposed Project would not affect a unique geologic feature.

Impacts on Septic Systems. The Proposed Project would not include septic tanks or leach field systems. Wastewater generated at the main Project Site would be disposed of through the existing sanitary sewer system. Although wastewater would be generated at the car wash and other commercial uses at Hamilton Avenue Parcels North and South, septic tanks or alternative wastewater disposal systems would not be

[91] Ibid.

used. No wastewater would be generated at the Willow Road Tunnel site. The Proposed Project would not require soils that would be capable of supporting septic systems.

Impacts and Mitigation Measures

Impact GS-1: Strong Seismic Ground Shaking and Seismically Related Ground Failure. The Proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving (1) strong seismic ground shaking and (2) seismically related ground failure, including liquefaction. (LTS)

The Proposed Project would be located in a seismically active region. A list of faults of regional significance is provided in Table 3.10-1. Seismically induced ground shaking at the Project Site would depend on a number of factors, as follows:

- Size of the earthquake (magnitude),
- Distance from the Project Site to the fault rupture source,
- Directivity (focusing earthquake energy along a fault in the direction of a rupture), and
- Subsurface conditions.

Given the Project Site's proximity to the San Andreas fault (approximately 7.3 miles away), the Hayward fault (11.5 miles away), and other regional faults that are capable of producing a large earthquake, the potential exists for a large earthquake to induce strong to very strong ground shaking at the Project Site during the life of the Proposed Project. In addition, the Project Site is within a state-designated liquefaction zone.

As evidenced by the level of development throughout the Bay Area, successful building construction is possible in a seismically active zone and can be readily accomplished, even where seismic hazards are known to exist. The risks to public safety from seismic hazards can be mitigated to the extent required by law through proper designs and construction methods. The City monitors design and construction methods and enforces applicable laws through the building permit process. In addition, the City, along with other Bay Area jurisdictions, participates in a coordinated planning and emergency response program and has its own Emergency Operation Plan to respond to natural disasters.

The Proposed Project would be designed and constructed to meet standards set forth by the California Building Standards Code, in accordance with the Menlo Park Municipal Code. These standards are intended to reduce major structural damage and loss of life in the event of an earthquake. The seismic performance goals generally expect some property damage to be incurred in a moderate to large earthquake, but the damage would be reparable and not life threatening. In addition, adherence to Caltrans requirements would ensure that the Willow Road Tunnel would have the maximum practicable protection from seismic stresses. Furthermore, Policy S1.13 of the Safety Element requires site-specific geologic or geotechnical studies for construction in areas with potential land instability; Program S-1D requires potential geologic, seismic, and soil problems to be thoroughly investigated during the earliest stages of the design process; and Program S-1H requires a seismic risk analysis and adequate construction standards to be enforced.

The Proposed Project would be required to adhere to policies that would address and/or minimize geologic hazards in accordance with the specifications of California Geological Survey *Special Publication 117*, Guidelines for Evaluating and Mitigating Seismic Hazards, and the requirements of the Seismic Hazards Mapping Act. Therefore, the Proposed Project would have a ***less-than-significant*** impact

with regard to the exposure of people or structures to seismic ground shaking or liquefaction-related hazards, consistent with the ConnectMenlo EIR. No mitigation is required.

Impact GS-2: Substantial Soil Erosion. The Proposed Project would not result in substantial soil erosion. (LTS)

Construction. As discussed above, the Project Site is nearly level, and development on hillsides would not be required. Therefore, there would be no long-term topographic changes that would affect erosion potential. However, the Proposed Project would include demolition, excavation, grading, trenching for utility installations, and construction of the Willow Road Tunnel, which could result in accelerated erosion. Excavation would generate up to approximately 407,000 cubic yards (cy) of excavated soil, of which approximately 171,000 cy of would be disposed of offsite. In addition, approximately 123,000 cy of demolition waste would be disposed of offsite at a landfill. Removal of the concrete and asphalt currently onsite would expose previously sheltered soils to the elements as well as construction activities on the site, which could accelerate erosion rates. However, as described in Section 3.11, *Hydrology and Water Quality*, all construction activities would comply with the existing NPDES Construction General Permit, which contains standards that ensure that water quality would not be degraded.

As required by the Construction General Permit requirements, standard erosion control measures and BMPs would be identified in the SWPPP and implemented during construction to reduce sedimentation in waterways and any loss of topsoil. The BMPs would also minimize erosion and runoff during construction. BMPs could include, but would not be limited to, using drainage swales or lined ditches to control stormwater flows and protecting storm drain inlets with gravel bags or catch basin inserts. The impact related to erosion during Project construction would be ***less than significant***, consistent with the ConnectMenlo EIR. No mitigation is required.

Operation. After construction, the Project Site would be developed with buildings, parking areas, roadways, bicycle and pedestrian paths, open space areas, landscaping, and hardscape. Project Site runoff would be managed by a combination of low-impact development strategies, which could include bioretention areas, flow-through planters, permeable paving, rain gardens, and/or vegetated swales. As part of an integrated approach to stormwater management, consistent with City and County of San Mateo requirements, streetscapes, parks, and open spaces would employ BMPs to treat runoff. In addition, the amount of pervious landscaped area would increase significantly compared with existing conditions. Therefore, more water would be kept onsite, thereby allowing percolation to groundwater reserves. This would result in ***less-than-significant*** impacts related to erosion during Project operation, consistent with the ConnectMenlo EIR. No mitigation is required.

Impact GS-3: Unstable Soils or Geologic Units. The Proposed Project would not be located on a geologic unit or soil that is unstable or would become unstable as a result of the Proposed Project and potentially result in subsidence, liquefaction, or collapse. (LTS)

The site-specific investigation estimated that differential settlement resulting from seismically induced liquefaction may occur, perhaps on the order of 0.25 to 2 inches. If Project structures are improperly designed and constructed, differential settlement could undermine structural foundations, potentially exposing people onsite, including both inhabitants and construction workers, to increased safety risks.

Construction activities, such as excavation, could result in soil instability and cause cut slopes to collapse. Soil collapse is also associated with subterranean voids, such as tunnels or mine shafts, or excessive loading. Soil collapse could result if utilities, pipes, or tanks that are currently extant at the Project Site are abandoned in place and not appropriately backfilled, capped, or retrenched. Furthermore, artificial fill

and intertidal deposits that underlie the Project Site are regarded as potentially weak soils that may be compressible or may exhibit other characteristics that would make them unstable (e.g., differential compaction). The site-specific investigation for the main Project Site found that it would be feasible to support the proposed structures using either shallow foundations (e.g., spread footings, reinforced concrete mats, or foundations over ground improvements) or deep foundations (e.g., driven or auger-cast piles). As discussed below, these construction techniques would ensure that the Proposed Project's structures and foundations would have the maximum practicable protection from soil failure.

Excavation would occur to a depth of approximately 20 feet bgs for utilities, 30 feet bgs for the Willow Road Tunnel, and 25 feet bgs for basement excavations. During site-specific investigation, groundwater was encountered at depths ranging from about 8 to 15 feet bgs. The presence of shallow groundwater could affect grading and underground construction and result in a wet and unstable pavement subgrade, difficult compactions, and difficult utility installations. Excavations of less than 8 feet deep below the existing grades that are backfilled the same day are likely to remain relatively dry. Dewatering and the shoring of utility trenches may be required for deeper work, such as utility installations, construction of the Willow Road Tunnel, and basement excavations. However, standard engineering practices could be used to reduce potential hazards associated with soils at the Project Site.

Preliminary geotechnical investigations concluded that development at the Project Site (i.e., both the main Project Site and Hamilton Avenue Parcels North and South) is feasible from a geotechnical perspective.[92,93] The geotechnical investigation for the Willow Road Tunnel site described conditions at the site but did not address feasibility.[94,95]

As part of the construction permitting process, the City requires completed reports from registered soil professionals to identify potentially unsuitable soil conditions. The reports must (a) identify potentially unsuitable soil conditions and (b) contain appropriate recommendations for the foundation type and design criteria, conforming to the analysis and implementation criteria in the 2019 California Building Standards Code to eliminate inappropriate soil conditions. Adherence to the soil and foundation support parameters of the 2019 California Building Standards Code, as required by City and state law, would ensure that structures and their associated trenches and foundations would have the maximum practicable protection from soil failure available under static or dynamic conditions. In addition, adherence to Caltrans requirements would ensure that the Willow Road Tunnel would have the maximum practicable protection from soil failure available under static or dynamic conditions. The Project Sponsor would be required by law to incorporate the applicable standards into the design for the Proposed Project. In view of the requirements, impacts related to unstable geologic or soil units at the Project Site are considered ***less than significant***, consistent with the ConnectMenlo EIR. No mitigation is required.

[92] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

[93] Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

[94] ENGEO. 2021. *Geotechnical Data Report, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) September 30. Prepared for Facebook, Menlo Park, CA. San José, CA.

[95] ENGEO. 2021. *Geotechnical Data Report Addendum, Willow Tunnel, Menlo Park, California*. (Project Number 17215.000.000.) December 16. Prepared for Meta, Menlo Park, CA. San José, CA.

Impact GS-4: Expansive Soils. The Proposed Project would not be located on expansive soils, creating substantial direct or indirect risks to life or property. (LTS)

Moderately to very highly expansive soils occur at the Project Site. Structures and utilities supported on expansive soil could experience cyclic seasonal heave and settlement as the soil expands and contracts through wetting and drying cycles. If structures and utilities are not properly designed, cyclic expansion and contraction could affect structural stability. Structural damage, warping, and cracking in parking areas and along roads, driveways, and sidewalks, as well as damage to the Willow Road Tunnel and utility lines, may occur if potential effects from expansive soils and imported fill are not considered during design and construction of the Proposed Project.

To reduce impacts from expansive soils, the Proposed Project would be designed and constructed to meet or exceed local standards as well as the current California Building Standards Code. Adherence to the soil and foundation support parameters of the California Building Standards Code, as required by City and state law, would ensure that structures and their associated trenches and foundations would have the maximum practicable protection from soil failure available under static or dynamic conditions. In addition, adherence to Caltrans requirements would ensure that the Willow Road Tunnel would have the maximum practicable protection from soil failure available under static or dynamic conditions. Furthermore, Safety Element Policy S1.13 requires site-specific geologic or geotechnical studies for construction in areas with potential land instability and to provide recommendations to address soil instability such as expansive soils; Program S-1D requires potential geologic, seismic, and soil problems to be thoroughly investigated during the earliest stages of the design process; and Program S-1H requires a seismic risk analysis and adequate construction standards to be enforced. The Proposed Project would adhere to all recommendations in these technical investigations. The impacts related to expansive soil units at the Project Site would be ***less than significant***, consistent with the ConnectMenlo EIR. No mitigation is required.

Impact GS-5: Paleontological Resources. The Proposed Project could destroy a unique paleontological resource or site. (LTS/M)

No known fossils, unique paleontological resources, or unique geologic features are present in the study area. However, geological formations underlying the Project Site have the potential to contain paleontological resources. Excavation would occur to a depth of approximately 20 feet bgs for utilities, 30 feet bgs for the Willow Road Tunnel, and 25 feet bgs for basement excavations. Geologic units with high paleontological sensitivity occur at these depths below the Project Site (see Table 3.10-3). Therefore, the Proposed Project has the potential to directly or indirectly destroy a unique paleontological resource or site. However, impacts on paleontological resources would depend on the depth, extent, and type of soil-disturbing activities that would occur as a result of construction as well as the paleontological sensitivity of the materials underlying the site.

Site preparation would involve earthwork, such as excavation, grading, trenching, cut-and-cover work, and potentially the installation of foundation piles, all of which would encounter artificial fill and could encounter native deposits, as described in Table 3.10-3. Activities at ground surface that disturb Quaternary fine-grained alluvium (Qaf), Quaternary alluvial fan deposits, fine facies (Qhff), and Quaternary floodplain deposits (Qhfp), as well as activities below the ground surface that disturb these geologic units and Quaternary older alluvium, could expose undisturbed deposits that contain fossils. These activities could damage or destroy fossils. This is considered a ***potentially significant*** impact.

MITIGATION MEASURE. Mitigation Measure CULT-3 from the ConnectMenlo EIR would ensure that construction personnel would follow proper notification procedures in the event that paleontological resources are uncovered during construction. In addition, Mitigation Measure PALEO-1 would ensure that construction personnel would recognize fossil materials. Implementation of ConnectMenlo Mitigation Measure CULT-3, reproduced below, and PALEO-1 would reduce potentially significant impacts on paleontological resources to ***less than significant with mitigation***, consistent with the ConnectMenlo EIR.

CULT-3: Conduct Protocol and Procedures for Encountering Paleontological Resources.

In the event that fossils or fossil-bearing deposits are discovered during ground-disturbing activities, anywhere in the City, excavations within a 50-foot radius of the find shall be temporarily halted or diverted. Ground disturbance work shall cease until a City-approved, qualified paleontologist determines whether the resource requires further study. The paleontologist shall document the discovery as needed (in accordance with Society of Vertebrate Paleontology standards [Society of Vertebrate Paleontology 1995]), evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine the procedures that would be followed before construction activities would be allowed to resume at the location of the find. If avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The excavation plan shall be submitted to the City of Menlo Park for review and approval prior to implementation, and all construction activity shall adhere to the recommendations in the excavation plan.

PALEO-1: Conduct Worker Awareness Training

Before the start of any excavation or grading activities, the construction contractor will retain a qualified paleontologist, as defined by the SVP, who is experienced in teaching non-specialists. The qualified paleontologist will train all construction personnel who are involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils that are likely to be seen during construction, and proper notification procedures should fossils be encountered. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who will evaluate the significance.

The qualified paleontologist will also make periodic visits during earthmoving in high-sensitivity sites to verify that workers are following the established procedures.

Cumulative Impacts

Impact C-GS-1: Cumulative Geologic and Soil Impacts. Cumulative development would result in a less-than-significant cumulative impact on geology, soils, and seismicity, and thus the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on geology, soils and seismicity. Cumulative development would result in a less-than-significant cumulative impact with mitigation on paleontological resources, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact. (LTS, LTS/M)

Summary of Analysis in the ConnectMenlo EIR

As stated in Section 4.4, *Cultural Resources*, and Section 4.5, *Geology, Soils, and Seismicity*, of the ConnectMenlo EIR, the geographic context for cumulative impacts related to seismic shaking, seismically induced landslides, liquefaction, expansive soils, and paleontological resources considered growth projected by ConnectMenlo within the study area in combination with impacts from projected regional growth in the immediate vicinity.

Development of past, current, and future projects within the study area and immediate vicinity have the potential to result in development-related impacts pertaining to seismic shaking, seismically induced landslides, liquefaction, expansive soils, and paleontological resources. However, new development in the area would be subject to the California Building Standards Code as well as existing general plan polices, which would, to the maximum extent practicable, reduce cumulative development-related impacts associated with seismic shaking, seismically induced landslides, liquefaction, and expansive soils.

The ConnectMenlo EIR determined that cumulative impacts on geology, soils, and seismicity would be less than significant and that implementation of ConnectMenlo would not significantly contribute to cumulative impacts related to geology, soils, and seismicity. Therefore, the ConnectMenlo EIR determined that impacts related to geology, soils, and seismicity under ConnectMenlo would be ***less than significant.***

With respect to paleontological resources, new development would be required to comply with existing federal, state, and local laws and regulations enacted to protect paleontological resources. In addition, development within the ConnectMenlo study area would be subject to general plan policies adopted to protect unrecorded paleontological resources. Mitigation Measure CULT-3 would require avoidance of paleontological resources or, if avoidance is not possible, preparation of an excavation plan to protect the resources. Impacts on paleontological resources would be ***less than significant with mitigation***.

Cumulative Impacts with the Proposed Project

Consistent with the Menlo Park EIR, the geographic context for cumulative impacts associated with geology, soils, seismicity, and paleontological resources under the Proposed Project includes development in the ConnectMenlo study area in combination with impacts from projected regional growth in the immediate vicinity.

As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the 123 Independence Drive and East Palo Alto projects.

As with the Proposed Project, the 123 Independence Drive and East Palo Alto projects, as well as other projects in the vicinity, would be required to comply with state and local building codes. With respect to paleontological resources, these additional projects would be required to comply with state and local laws and regulations, as well as existing general plan polices, that protect paleontological resources. In addition, the Proposed Project and the 123 Independence Drive project would be required to comply with ConnectMenlo EIR Mitigation Measure CULT-3, which serves to further protect paleontological resources. The Proposed Project would also comply with Mitigation Measure PALEO-1. Therefore, these additional projects would not alter the cumulative impact determination stated in the ConnectMenlo EIR, and the cumulative impact with respect to geology, soils, seismicity, and paleontological resources would remain ***less than significant***.

The Proposed Project would not result in a substantial change in the ConnectMenlo project and therefore would not be a cumulatively considerable contributor to any significant cumulative impact on geology, soils, and seismicity and would not cause new or substantially more severe significant impacts related to geology, soils, seismicity, or paleontological resources than those analyzed in the ConnectMenlo EIR. Therefore, consistent with the conclusions in the ConnectMenlo EIR, the Proposed Project would result in a ***less-than-significant cumulative impact*** with respect to geology, soils, and seismicity. The impact with respect to paleontological resources would be ***less than significant with mitigation***. No additional mitigation measures would be required.

3.11 Hydrology and Water Quality

This section describes the regulatory and environmental setting for hydrology and water quality. It also describes potential impacts on hydrology and water quality that would result from implementation of the Willow Village Master Plan Project (Proposed Project) as well as mitigation measures to reduce the impacts. Additional information on the Proposed Project's potential impacts related to stormwater is provided in the hydrology and hydraulic report prepared by Sherwood Design Engineers[1] and in the stormwater management compliance memorandum.[2] The Proposed Project's potential impacts on the water supply are discussed in Section 3.15, *Utilities and Service Systems*.

Issues identified in response to the Notice of Preparation (Appendix 1) were considered in preparing this analysis. The applicable issues that were identified pertain to the impacts of sea-level rise (SLR), sustainability, and flood resilience.

Existing Conditions

Environmental Setting

Surface Water

Regional

The Project Site is within the San Mateo Creek-Frontal San Francisco Bay Estuaries watershed, which is within the larger San Francisco Bay (Bay) watershed. The San Mateo Creek-Frontal San Francisco Bay Estuaries watershed encompasses approximately 73 square miles. Tidal mudflats and marshes in the Bay, the Don Edwards Bay National Wildlife Refuge (Refuge), Ravenswood Slough, and the former salt ponds (some of which are within the Refuge) are across Bayfront Expressway/State Route 84 (Bayfront Expressway) and to the north. The Project Site is less than 1 mile inland from the Refuge, approximately 1.5 miles south of Lower San Francisco Bay, and approximately 1 mile west of South San Francisco Bay.

Major surface waters in the vicinity of the Proposed Project include Atherton Channel (also known as Atherton Creek) to the west, Flood Slough to the northwest, Ravenswood Slough to the north, San Francisquito Creek to the southeast, Lower San Francisco Bay to the north, and South San Francisco Bay to the east. Atherton Channel, approximately 2 miles west of the Project Site, is an alternating earth- and concrete-lined channel that carries flows from the upper reaches of Atherton Creek to Flood Slough. Flood Slough is one of several sloughs that run through the salt ponds and salt marshes north of Bayfront Expressway; the slough drains into Lower San Francisco Bay. Levees are located throughout the salt ponds. San Francisquito Creek, approximately 1.3 miles south of the Project Site, is a natural channel that flows into the Bay and serves as a boundary between San Mateo and Santa Clara Counties. Ravenswood Slough, a wetland feature located less than 1 mile north of the Project Site, flows into the Bay (Figure 3.11-1, Hydrologic Features in the Project Area). The main Project Site is bound to the south by the Hetch Hetchy right-of-way. Bay fill and historic saltwater or brackish water marshes underlie the area surrounding the Project Site, which was filled in the 1960s to create more land for development.

[1] Sherwood Design Engineers. 2021. *Hydrology and Hydraulic Report for Willow Village, Menlo Park, California*. September 20.

[2] Sherwood Design Engineers. 2021. *Willow Village Project Stormwater Management Compliance Memorandum*. March 9.

Figure 3.11-1
Hydrologic Features in the Project Area

\\PDCGITRDSGIS1\Projects_1\City_of_Menlo_Park\00040_18_Facebook\WillowVillage\Figures\DocsEIR\1_DEIR\01_ADEIR\EIR_WillowVillage_Fig3_11-1_HydroFeatures.mxd User: 29391 Date: 4/20/2021

Local Drainage

The main Project Site, which is made up of 18 parcels, has been subject to prior development and agricultural use. Currently, the main Project Site is developed; 87.1 percent of the land is covered with impervious surfaces. The remaining 12.9 percent consists of scattered landscaped areas. The main Project Site is generally level, with elevations ranging from approximately 6 to 11 feet North American Vertical Datum of 1988 (NAVD 88).[3] Generally, the main Project Site slopes gently from southeast to north. There are no onsite stormwater management facilities. Stormwater from the main Project Site drains to the west and discharges to an existing 66-inch storm drain at the Hamilton Avenue and Willow Road intersection. The 66-inch storm drain continues northward, increases to 78 inches, and ultimately outfalls to Ravenswood Slough via a pump station that is owned and operated by the California Department of Transportation (Caltrans). The Project Site ultimately drains to the Bay.[4,5] In addition, an existing open channel is located along the southern boundary of the main Project Site. This channel flows from west to east; it is then piped to flow from south to north along the eastern property boundary.

Hamilton Avenue Parcels North and South, combined, cover approximately 3.62 acres. The parcels are nearly flat, with grades ranging from about 6 to 12 feet NAVD 88.[6,7,8] In total, the two sites, which are developed, consist of approximately 73 percent impervious surfaces with buildings and hardscapes such as parking lots, paved paths, and drive aisles. The two parcels also consist of approximately 27 percent pervious surfaces, including decorative landscaping and flow-through planters.[9] The majority of the existing site slopes toward Hamilton Avenue. The Willow Road storm drain system is part of a regional drainage system that conveys flows from portions of Menlo Park and Atherton to the Caltrans pump station adjacent to Bayfront Expressway. Runoff from the Project Site is conveyed predominantly to a 54-inch storm drain at Hamilton Avenue and then conveyed to the 66-inch storm drain at the Hamilton Avenue and Willow Road intersection. A portion of the runoff from the south parcel is conveyed directly to the 66-inch storm drain at an upstream location at Willow Road.

In total, the current Project Site, including the main Project Site and Hamilton Avenue Parcels North and South, is made up of 86 percent impervious surfaces and 14 percent pervious surfaces. The Willow Road Tunnel site includes the Willow Road right-of-way, the Dumbarton Corridor, and the eastern edge of the West Campus site.

---

3 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

4 Sherwood Design Engineers. 2021. *Hydrology and Hydraulic Report for Willow Village, Menlo Park, California*. September 20.

5 Sherwood Design Engineers. 2021. *Stormwater Management Compliance Memorandum Willow Village Project*. March 9.

6 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871-899 Hamilton Avenue, Menlo Park, California*. (Project Number 254-11-21.) June 10. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

7 Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. (Project Number 254-11-15.) April 23. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

8 Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. (Project Number 254-45-1.) October 13. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

9 BKF Engineers. 2021. *Hydrology Report Hamilton Avenue Realignment Menlo Park California*. April 30.

Water Quality

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) requires the State Water Resources Control Board (State Water Board) or a Regional Water Quality Control Board (Regional Water Board) to adopt basin plans for the protection of water quality. The San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan) specifies region-wide and water body–specific beneficial uses and sets numeric and narrative water quality objectives for surface waters. The Basin Plan specifies beneficial uses that are applicable to Lower San Francisco Bay and could be affected by the Proposed Project, as shown in Table 3.11-1.[10] Table 3.11-2 shows the 303(d)-listed impairments for Lower San Francisco Bay, based on the 2014/2016 California Integrated Report.[11]

Water quality in a typical surface water body is influenced by processes and activities that take place within the watershed. The quality of stormwater runoff from the Project Site and surrounding development is typical of urban watersheds, areas where water quality is affected primarily by discharges from both point and nonpoint sources. These include winter storms, overland flows, exposed soil, roofs, parking lots, and streets. Water quality in the vicinity of the Project Site is directly affected by stormwater runoff from adjacent streets and properties that deliver fertilizers, pesticides, automotive and traffic-related pollutants (e.g., oil, grease, metals), sediment with attached pollutants from soil erosion, trash, and other pollutants.

In accordance with Clean Water Act (CWA) Section 303(d), the State Water Board is required to establish total maximum daily loads (TMDLs) for pollutants to gradually eliminate listed impairments and attain water quality standards. Therefore, pollutant control actions and further pollutant impact assessments are warranted and required pursuant to the Municipal Regional Permit (MRP). Although chlordane, dichlorodiphenyltrichloroethane (DDT), and dieldrin were banned in the U.S. in 1988, 1972, and 1974, respectively, levels continue to persist in the Bay. In 1994, the California Office of Environmental Health Hazard Assessment issued a fish consumption advisory for the Bay after pollutants, including dioxins, were discovered in fish. As a result, the Bay was listed as a water body that fails to meet water quality standards for dioxins. This listing requires the U.S. Environmental Protection Agency (EPA) and California's Regional Water Boards to establish and implement measures to achieve a TMDL and maintain water quality. At the time of listing, EPA committed to undertaking several multimedia studies to determine the extent of the dioxin problem in the Bay.

Lower San Francisco Bay is designated as impaired for mercury. Fish tissue collected from the Bay often contains relatively high mercury concentrations. Sources of mercury include runoff from historic mines, urban runoff, wastewater discharges, atmospheric deposition, and resuspension of historic deposits of mercury-laden sediment already in the Bay. Most of the historic mercury deposits date back to the Gold Rush of the 1800s, a time when mercury was mined throughout the Coastal Range and used in the Sierra Nevada to extract gold. The largest source of mercury is the Central Valley—specifically, rivers that carry mercury from remote regions to the Bay. The San Francisco Bay Regional Water Board amended the Basin Plan to incorporate a TMDL for mercury in the Bay and implement a plan for achieving the TMDL. The amendment became effective on November 7, 2007.

[10] San Francisco Bay Regional Water Quality Control Board. 2017. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).* Originally published January 18, 2007. Last updated May 4, 2017.

[11] State Water Resources Control Board. 2018. *2014/2016 California Integrated Report* (Clean Water Act Section 303(d) List/305(b) Report). Available: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml. Accessed: March 9, 2021.

Table 3.11-1. Beneficial Uses for Surface Waters with Potential to Be Affected by the Proposed Project

Water Body	Designated Beneficial Uses
Lower San Francisco Bay	COMM, IND, NAV, SHELL, WILD, EST, MIGR, RARE, SPWN, REC1, REC2

Source: San Francisco Bay Regional Water Quality Control Board. 2017. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*. Originally published January 18, 2007. Last updated May 4, 2017.

Key:
COMM: Commercial and Sport Fishing
IND: Industrial Service Supply
NAV: Navigation
SHELL: Shellfish Harvesting
WILD: Wildlife Habitat
EST: Estuarine Habitat
MIGR: Fish Migration
RARE: Preservation of Rare and Endangered Species
SPWN: Fish Spawning
REC1: Water Contact Recreation
REC2: Noncontact Water Recreation

Table 3.11-2. Overview of Water Quality Impairments for the Lower San Francisco Bay

Listed Impairments per 2014/2016 303(d) List	Potential Sources	EPA TMDL Completion
Chlordane	Non-point source	2013[a]
DDT	Non-point source	2013[a]
Dieldrin	Non-point source	2013[a]
Dioxin compounds (including 2,3,7,8-TCDD)	Atmospheric deposition	2019[a]
Furan compounds	Atmospheric deposition	2019[a]
Invasive species	Ballast water	2019[a]
Mercury	Industrial and municipal point sources, resource extraction, atmospheric deposition, natural sources, non-point sources	02/12/2008
PCBs and dioxin-like PCBs	Unknown nonpoint sources	03/29/2010
Trash	Illegal dumping, urban runoff/storm sewers	2021[a]

[a] A TMDL was expected to be completed; however, no TMDL has been approved by EPA.
Source: State Water Resources Control Board, 2018.
EPA = U.S. Environmental Protection Agency
TMDL = total maximum daily load
DDT = dichlorodiphenyltrichloroethane
TCDD = tetrachlorodibenxodioxin
PCBs = polychlorinated biphenyls

High levels of polychlorinated biphenyls (PCBs) in fish from the Bay prompted a public advisory in the mid-1990s to limit their consumption. PCBs in the Bay are more often found in bottom sediment than in water. PCB pollution in the Bay happened decades ago; however, small amounts of PCBs continue to enter the Bay from sources that include drainage from the Central Valley, municipal and industrial wastewater, storm drains and urban stormwater runoff, and the disturbance of buried Bay sediments through dredging or erosion. The San Francisco Bay Regional Water Board adopted a clean water action plan in 2008 that established a TMDL for PCBs in the Bay. In 2010, EPA approved the TMDL for PCBs in the Bay.

According to the 2014/2016 California Integrated Report, Lower San Francisco Bay is 303(d) listed as impaired for trash, which is considered a threat to aquatic life. This threat can result in impairments for beneficial uses, including Noncontact Water Recreation (REC2), as designated for Lower San Francisco Bay. Provision C.10 of the San Francisco Bay MRP contains requirements for reductions in the trash load. Such reduction control actions must be implemented to meet the goal that calls for a 100 percent trash load reduction or no adverse impact on receiving waters from trash by July 1, 2022.[12]

Groundwater

Hydrogeology

The Project Site is within the San Mateo subbasin of the larger Santa Clara Valley groundwater basin (Department of Water Resources [DWR] Basin Number 2-9.03). The San Mateo subbasin, which encompasses approximately 75 square miles, is bounded by the Santa Cruz Mountains to the west, the Westside groundwater basin to the north, the Bay to the northeast, and San Francisquito Creek to the south. The subbasin's underlying water-bearing formations include Quaternary and Plio-Pleistocene alluvial deposits, which are composed of gravel, sand, silt, and clay. A relatively shallow aquifer overlies the confined and semi-confined aquifers near the margins of the Bay; most wells draw from deeper deposits. The direction of groundwater flow is generally toward the east and the north. The basin is composed of alluvial fan deposits formed by tributaries to the Bay that drain the basin.[13]

Recharge of the subbasin occurs through infiltration, including infiltration of precipitation on the valley floor. Little is known about the storage capacity of the subbasin; however, groundwater levels have remained relatively stable over the past 40 years because of limited groundwater pumping in the subbasin. Because of its relatively small size, the subbasin has historically responded to changes in groundwater pumping. This includes the previous overuse and lack of management prior to the 1960s that resulted in seawater intrusion and subsidence. Recent studies indicate that the subbasin is full.[14]

Groundwater at the main Project Site was observed at depths ranging from approximately 8 to 16 feet below current grades, corresponding to elevations of 2 to 6 feet (NAVD 88) at the main Project Site.[15] Historic high groundwater depths in the vicinity of the main Project Site are 5 feet below current site grades. Historic maps were used to estimate the high groundwater depth at Hamilton Avenue Parcels North and South, which is estimated to be approximately 10 feet below the ground surface (bgs).[16] Groundwater collected during geotechnical investigation of the Willow Road Tunnel site indicated

[12] San Francisco Bay Regional Water Quality Control Board. 2015. *California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit Order No. R2-2015-0049, NPDES Permit No. CAS612008*. November 19.

[13] California Department of Water Resources. 2004. *Santa Clara Valley Groundwater Basin, San Mateo Subbasin*. California's Groundwater Bulletin 118. February 27. Available: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/2_009_03_SanMateoSubbasin.pdf. Accessed: March 9, 2021.

[14] Stanford Water in the West. 2017. *San Mateo Plain Groundwater Subbasin: A Local Case Study*. April 26. Available: https://waterinthewest.stanford.edu/news-events/news-insights/san-mateo-plain-groundwater-subbasin-local-case-study. Accessed: March 10, 2021.

[15] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. (Project Number 254-11-7.) May 27. Prepared for Peninsula Innovation Partners, LLC, Menlo Park, CA. Sunnyvale, CA.

[16] Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study, Hamilton Avenue and Willow Road, Menlo Park, California*. (Project Number 254-45-2.) October 15. Prepared for Facebook, Inc., Menlo Park, CA. Sunnyvale, CA.

elevations of 7.5 to 13.5 feet below current grades, corresponding to elevations of 2.5 to -3.5 feet (NAVD 88).[17, 18] Fluctuations in groundwater levels may occur because of seasonal fluctuations, variations in rainfall, underground drainage patterns, or other factors.[19, 20]

Groundwater Quality

In general, groundwater quality in the Santa Clara Valley groundwater basin is good. Throughout most of the basin, groundwater is suitable for most urban and agricultural uses, with the exception of a few local impairments. The primary constituents of concern are total dissolved solids (TDS), nitrates, boron, and organic compounds. Near the Bay margin, including the San Mateo subbasin, historic groundwater overdraft has created areas of saltwater intrusion where groundwater salinity is elevated because of contact with seawater that infiltrates subsurface aquifers. Groundwater tends to be hard (i.e., high mineral content), with high concentrations of iron and manganese.[21,22] Nitrates/nitrogen groundwater concentrations in the San Mateo subbasin were also in excess of maximum contaminant levels established by the California Department of Health Services and EPA.[23] Although many wells in the subbasin, particularly shallow wells that are prone to contamination, have concentrations of TDS, iron, and manganese that are above the secondary maximum contaminant levels, or drinking water standards, these concentrations have generally been stable over time, indicating that water quality is not degrading further.[24]

Designated beneficial uses identified for the Santa Clara Valley groundwater basin are as follows:[25]

- Municipal and Domestic Supply (MUN)
- Industrial Process Supply (PROC)
- Industrial Service Supply (IND)
- Agricultural Supply (AGR

Although the municipal and domestic supply is a beneficial use for the Santa Clara Valley groundwater basin, groundwater beneath the Project Site itself is not considered to be a source of drinking water, according to the San Francisco Bay Regional Water Board, because of elevated salinity.[26]

---

17 Groundwater measurements collected at the time of exploration may not represent stabilized conditions.

18 ENGEO, Inc. 2021. *Willow Tunnel Menlo Park, California Geotechnical Data Report*. (Project Number 17215.000.000). September 30.

19 Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update Willow Village.* June 20.

20 ENGEO, Inc. 2021. *Willow Tunnel Menlo Park, California Geotechnical Data Report*. (Project Number 17215.000.000). September 30.

21 California Department of Water Resources. 2015. *California's Groundwater Update 2013. A Compilation of Enhanced Content for California Water Plan Update 2013 San Francisco Bay Hydrologic Region*. April. Available: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/Statewide-Reports/GWU2013_Ch4_SanFranciscoBay_Final.pdf. Accessed: March 10, 2021.

22 U.S. Geological Survey and the California State Water Resources Control Board. 2013. *Groundwater Quality in the San Francisco Bay Groundwater Basins, California Fact Sheet 2012–3111*. March. Available: https://pubs.usgs.gov/fs/2012/3111/pdf/fs20123111.pdf. Accessed: March 10, 2021.

23 Groundwater Exchange. 2018. *Santa Clara Valley – San Mateo Plain*. Available: https://groundwaterexchange.org/basin/san-mateo/. Accessed: March 10, 2021.

24 Stanford Water in the West. 2017. *San Mateo Plain Groundwater Subbasin: A Local Case Study*. April 26. Available: https://waterinthewest.stanford.edu/news-events/news-insights/san-mateo-plain-groundwater-subbasin-local-case-study. Accessed: March 10, 2021.

25 San Francisco Bay Regional Water Quality Control Board. 2017. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).* Originally published January 18, 2007. Last updated May 4, 2017.

26 City of Menlo Park. 2012. *Menlo Park Facebook Campus Project Draft Environmental Impact Report*. Prepared by Atkins. April.

Groundwater objectives consist primarily of narrative objectives, combined with a limited number of numerical objectives. The primary groundwater objective is the maintenance of existing high-quality groundwater. At a minimum, groundwater should not contain concentrations of bacteria, chemical constituents, radioactivity, or substances that produce taste and odor in excess of objectives unless naturally occurring background concentrations are greater.

Groundwater contamination can be the result of historical industrial activities or soil contamination. It can also originate from underground storage tank releases of hazardous materials. The main Project Site was developed as a helicopter testing and manufacturing facility in 1948. In 1992, a concrete sump, a source of contamination at the former plating shop, was removed. Soils surrounding the sump were excavated, and a dual-phase soil vapor extraction (SVE) was put into operation, along with a groundwater extraction system. The SVE system successfully reduced elevated volatile organic compound (VOC) concentrations in vadose zone soils near the concrete sump.[27] VOC concentrations in groundwater were also reduced. Between 1990 and 1999, periodic groundwater monitoring was performed at the main Project Site.

The San Francisco Bay Regional Water Board has been developing policy, through the basin planning process, to address various situations when groundwater clean-up levels cannot be attained. Residual contaminants remain in soil and groundwater at the main Project Site. In addition, VOCs were detected in soil and groundwater at concentrations that prohibit groundwater pumping.[28] Deed restrictions prohibit the pumping of groundwater, except for remediation purposes. Other hazards and contaminants of concern are also present on the main Project Site, as discussed in detail in Section 3.12, *Hazards and Hazardous Materials*. Groundwater contamination and risks can be managed through deed restrictions, monitoring, and a contingency plan for remediation.

At the Belle Haven Retail Center on Hamilton Avenue Parcel North, groundwater levels range from 8 to 10 feet bgs. The Phase I Environmental Site Assessment found no issues related to groundwater.[29] At the Jack in the Box on Hamilton Avenue Parcel North, groundwater was tested and monitored for contaminants after the 1986 removal of an underground storage tank for gasoline. Once contaminants were no longer detected, the case was closed. The Department of Environmental Health issued a "No Further Action" letter, and the monitoring wells were destroyed in 1994.[30] At the Chevron gas station on Hamilton Avenue Parcel South, groundwater samples were taken beneath the dispenser and analyzed. The level of contamination in the groundwater was low and did not exceed screening criteria.[31] The Willow Road Tunnel site is on the eastern portion of a former 82-acre property that was owned and operated by Raychem. Known contaminants of concern in soil, soil vapor, and groundwater include polychlorinated byphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and total petroleum hydrocarbons.[32] Between 2000 and 2007, several interim remedial measures were completed. The work included decommissioning and demolishing former

[27] Ibid.

[28] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment Menlo Science and Technology Park Project Number 254-11-22*. August 16.

[29] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center 871-899 Hamilton Avenue, Menlo Park, California*. June 16.

[30] Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. April 23.

[31] Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. October 13.

[32] Cornerstone Earth Group. 2021. *Environmental Summary, Willow Tunnel Construction Zone, Menlo Park, California.* (Proposal No. 245-11-20.) June 28.

buildings, removing aboveground chemical storage tanks and waste storage tanks, excavating and disposing of contaminated soil, and capping PCB-affected soil that remained in place. A Site Management Plan (SMP) was prepared in March 2015 that describes required protocols for management of residual contaminants that remain in soil, soil vapor, and groundwater at the site. More information is provided in Section 3.12, *Hazards and Hazardous Materials,* of this EIR.

Flooding

As shown in Figure 3.11-2, FEMA Flood Zones within the Project Area, the majority of the Project Site (90 percent) is within the Federal Emergency Management Agency (FEMA) 100-year floodplain and subject to tidal flooding from the Bay (Zone AE). The base flood elevation (BFE) in the floodplain is 11 feet.[33] Some areas of the Project Site are mapped as being within Flood Zone X, which is an area with a moderate flood risk and between the limits of the 100-year and 500-year floodplain. Areas within the 100-year flood-hazard area are subject to a 100-year flood, which means that, in any given year, the risk of flooding in the designated area is 1 percent. Areas within the 500-year flood-hazard area are subject to a 500-year flood, which means that, in any given year, the risk of flooding is 0.2 percent.

A tsunami is a series of ocean waves caused by displacement of a large volume of water, typically as a result of an undersea earthquake or landslide. At the shoreline, tsunami waves may range from a few inches to more than 30 feet. As depicted on the Tsunami Inundation Map for Emergency Planning prepared by the California Governor's Office of Emergency Services (Cal OES) and California Geological Survey, some areas in the city adjacent to the Bay are within a tsunami inundation area. However, the Project Site is not within such an area.[34]

Seiches occur in an enclosed or partially enclosed body of water, such as a lake or reservoir. The Bay is a large, open body of water with no immediate risk of seiche. No other larger bodies of water are near the Project Site. There would be minimal to no risk of inundation from a seiche event in the vicinity of the Project Site.

Sea-Level Rise

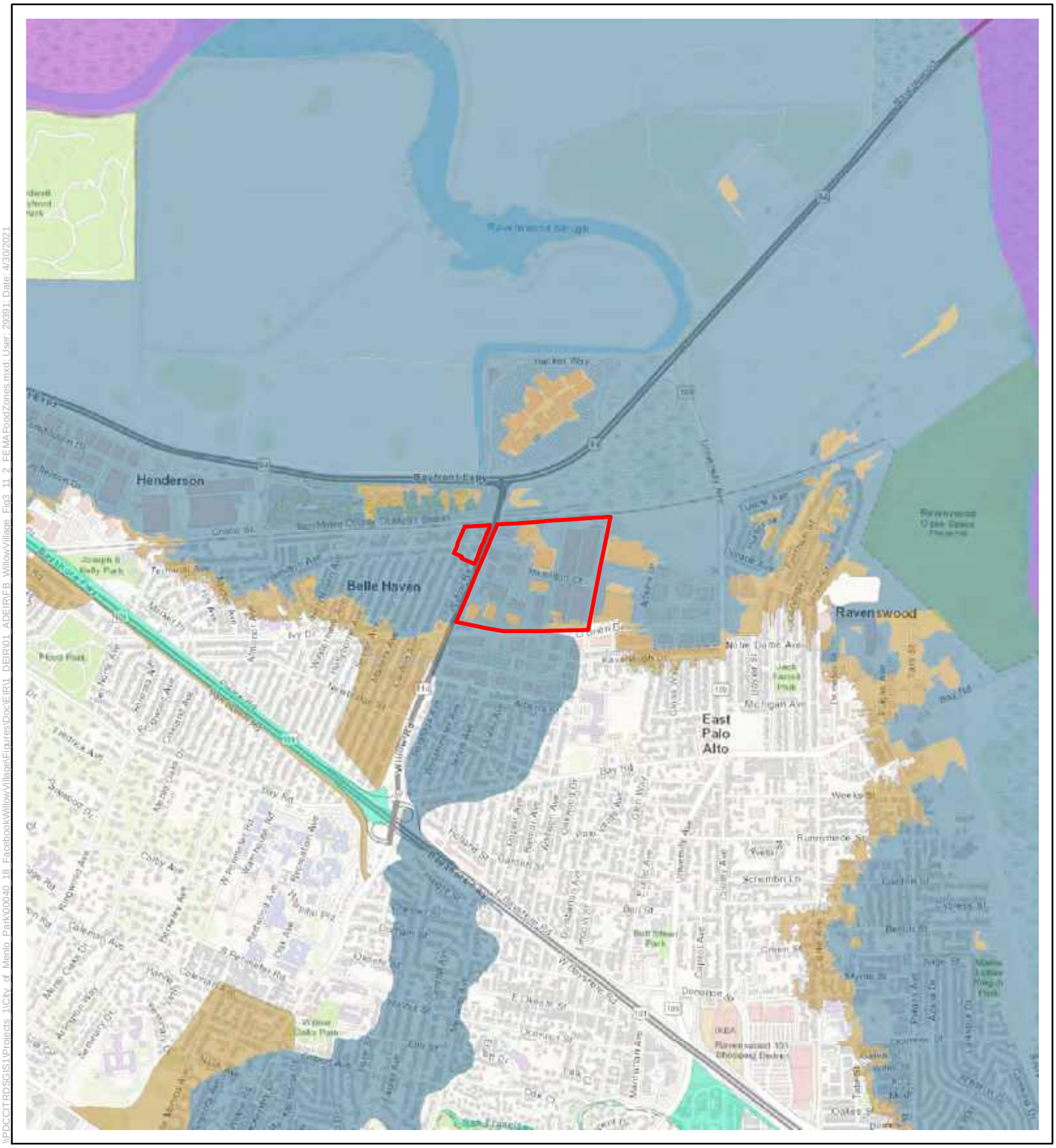
Projected SLR, an effect of climate change, is expected to increase the number of areas that experience coastal flooding along the Bay in the future. Coastal and low-lying areas, such as the Project Site, are particularly vulnerable to future SLR. More specifically, SLR is a concern for the future, particularly in combination with storm events and coastal flooding. A scenario with 100-year high tides, taking into account SLR over a 50- or 100-year horizon, would substantially increase the risk of flooding in the vicinity for the Project Site.[35]

Projections regarding the extent of SLR go from low-risk scenarios up to high-risk scenarios. According to the mid-century (2050) high-risk scenario, 24 inches of SLR would inundate areas in the northeast portion of the main Project Site. Portions of Hamilton Avenue Parcels North and South are in low-lying areas but

[33] Federal Emergency Management Agency. 2019. *National Flood Hazard Layer Viewer.* Panel 307 of 510. FIRM 06081C0306F. April 5. Available: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed: March 10, 2021.

[34] State of California. 2021. *Tsunami Hazard Area Map, San Mateo County*. Produced by the California Geological Survey, the California Governor's Office of Emergency Services, and AECOM. Mapped at multiple scales.

[35] California Natural Resource Agency. 2018. *State of California Sea-Level Rise Guidance 2018 Update*. Available: https://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf. Accessed: March 10, 2021.



Project Boundary

FEMA Flood Zones

500-year Floodplain

100-year Floodplain

Zone A

Zone AE

Zone VE

0 0.25 0.5 Miles

1:24,000

N

Figure 3.11-2
FEMA Flood Zones within the Project Area

\\PDCGITRDSGIS1\Projects_1\City_of_Menlo_Park\00040_18_Facebook\WillowVillage\Figures\Doc\EIR\1_DEIR\01_ADEIR\EB_WillowVillage_Fig3_11_2_FEMAFloodZones.mxd: User: 2030: Date: 4/30/2021

would not be flooded under the mid-century high-risk scenario. With the end-of-century (2100) high-risk scenario (i.e., 36 inches of SLR), the flooding would expand westward and inundate Hamilton Avenue Parcels North and South. The 48-inch SLR scenario would expand the inundated areas, although the expansion would not be expected to result in more flooding than that from the 36-inch SLR scenario. The scenarios used to evaluate flood inundation levels, including maximum inundation levels, at the Project Site are shown in Table 3.11-3.

Table 3.11-3. Sea-Level Rise Scenarios and Inundation Depths for the Project Site

SLR Projection	Year (scenario)	Main Project Site Inundated	Hamilton Avenue Parcels Inundated[a]	Maximum Inundation
24 inches	2050 (high scenario)	Partially	No	1 foot
36 inches	2100 (most likely SLR scenario)	Partially	Partially	2 feet
48 inches	2100 (upper 85% confidence scenario)	Partially	Yes	3 feet

Source: Sherwood Design Engineers. 2021. Sea-Level Rise Memorandum for Willow Village.
[a.] Includes the Willow Road Tunnel site

Regulatory Setting

Federal

Clean Water Act

The federal CWA was enacted with the primary purpose of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. The CWA directs states to establish water quality standards for all waters of the United States and review and update such standards on a triennial basis.

EPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) program (discussed below), to the State Water Board and the Regional Water Boards. The State Water Board establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The Regional Water Boards develop and implement water quality control plans (i.e., basin plans) that identify the beneficial uses of surface water and groundwater, water quality characteristics, and water quality problems.

Section 303(d) and Total Maximum Daily Loads. The CWA contains two strategies for managing water quality. One is a technology-based approach that includes requirements for maintaining a minimum level of pollutant management, using the best available technology (BAT). The other is a water quality–based approach that relies on evaluating the condition of surface waters and setting limitations on the amount of pollution that surface waters can be exposed to without adversely affecting the beneficial uses of those waters. Section 303(d) of the CWA bridges the two strategies. Section 303(d) requires states to make a list of waters that fail to attain the water quality standards after BAT limits are implemented. For the waters on this list, and where the EPA administrator deems appropriate, the states are required to develop TMDLs. TMDLs are established at the level necessary to implement the applicable water quality standards.

The CWA does not expressly require implementation of TMDLs. However, federal regulations require an implementation plan to be developed along with TMDLs. Furthermore, Sections 303(d) and 303(e) of the CWA, along with their implementing regulations, require approved TMDLs to be incorporated into basin plans. EPA has established regulations (40 Code of Federal Regulations 122) that require NPDES permits to be revised and consistent with any approved TMDL. A mercury TMDL has been established for the Bay and approved by the State Water Board (Resolution 2007-0045). TMDLs for the other constituents that contribute to impairment were scheduled to be established between 2013 and 2021 but have not been approved by the EPA.

Section 404 Dredge/Fill Permitting. The discharge of dredged or fill material into waters of the United States is subject to permitting specified under Section 404 (Discharges of Dredged or Fill Material) of the CWA, which regulates the placement of fill materials in waters of the United States. Section 404 permits are administered by the U.S. Army Corps of Engineers (USACE).

Section 401 Water Quality Certification. Section 401 of the CWA requires an applicant for a federal permit to conduct an activity that may result in a discharge of a pollutant to obtain a Water Quality Certification (or waiver). A Water Quality Certification requires the evaluation of water quality considerations associated with dredging or the placement of fill materials into waters of the United States. Water Quality Certifications are issued by one of the nine geographically separated Regional Water Boards in California. Under the CWA, a Regional Water Board must issue or waive a Section 401 Water Quality Certification for a project to be permitted under CWA Section 404.

Section 402—National Pollutant Discharge Elimination System. The 1972 amendments to the federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA, devoted to stormwater permitting (Section 402[p]). EPA has granted the State of California (i.e., the State Water Board and Regional Water Boards) primacy in administering and enforcing the provisions of the CWA and NPDES. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States.

NPDES General Permit for Construction Activities. Most construction activities that disturb 1 acre of land or more are required to obtain coverage under the NPDES General Permit for Construction Activities (Construction General Permit). The State Water Board has issued a statewide Construction General Permit (Order No. 2009-0009-DWQ, NPDES No. CAR000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ), adopted September 2, 2009. Activities subject to the Construction General Permit include clearing, grading, or ground disturbance, such as stockpiling or excavation that affects at least 1 acre of the total land area. The Construction General Permit requires the applicant to file a Notice of Intent to discharge stormwater and prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities, along with a demonstration of compliance with relevant local ordinances and regulations and an overview of the best management practices (BMPs) that would be implemented to prevent soil erosion and discharges of other construction-related pollutants that could contaminate nearby water resources. Permittees are further required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

NPDES General Municipal Stormwater Permit. CWA Section 402 mandates permits for municipal stormwater discharges, which are regulated under the NPDES General Permit for Municipal Separate Storm Sewer Systems (MS4s). MS4 permits require cities and counties to develop and implement programs and measures to reduce the discharge of pollutants in stormwater to the maximum extent possible, including BMPs, control techniques, system design and engineering methods, and other

measures, as appropriate. As part of permit compliance, permit holders create stormwater management plans for their respective locations. These plans outline requirements for municipal operations, industrial and commercial businesses, construction sites, and planning and land development. The requirements may include multiple measures to control pollutants in stormwater discharges. During implementation of specific projects, applicants are required to follow the guidance contained in the stormwater management plans, as defined by the permit holder. The discharge of stormwater runoff from the MS4 in San Mateo County is permitted under the San Francisco Bay MRP (Order No. R2-2015-0049; NPDES Permit No. CAS612008), which is discussed below.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) is responsible for determining flood elevations and floodplain boundaries. Such determinations are based on USACE studies. FEMA is also responsible for distributing Flood Insurance Rate Maps (FIRMs), which are used as part of the National Flood Insurance Program. The maps identify the locations of Special Flood Hazard Areas (SFHAs), including the 100-year floodplain. FEMA allows non-residential development in the floodplain; however, construction activities are restricted within flood hazard areas, depending on the potential for flooding within each area.

Historically, Menlo Park was not considered flood prone; however, studies completed in the 1980s revised this assessment. FEMA conducted a flood insurance study that designated areas north of State Route (SR) 82 as SFHAs, making flood insurance mandatory for properties within the SFHAs and optional for those in other areas. The City of Menlo Park (City) performs floodplain management activities, above and beyond the minimum requirements for the National Flood Insurance Program. Participating in this program allows the City to earn discounted flood insurance rates for all community members. By following the guidelines set forth by FEMA, the community earns a community rating system (CRS) credit. As the community earns a higher CRS credit, the community is eligible for greater flood insurance discounts. Menlo Park's current CRS is 8, effective October 1, 2020. Future planned levee projects, which would change the BFE or remove portions of Menlo Park from the flood zone, would also reduce residents' insurance premiums. FEMA requires communities to address tidal flooding (from San Francisco Bay) and residual flooding (from interior sources like creeks) issues to remove the flood-prone designation from the FIRM. In response, the City adopted a flood ordinance that meets federal standards for regulating development and improving properties in SFHAs.

The Project Site, including the main Project Site, Hamilton Avenue Parcels North and South, and the Willow Road Tunnel site, are adjacent to the Bay, near Willow Road, and in FIRM Panel 307 of 510 of map number 06081C0307F, dated April 5, 2019. A Conditional Letter of Map Revision (CLOMR) and/or Letters of Map Revision (LOMR) will be processed with FEMA to remove the flood hazard designation for each parcel. CLOMRs will document that parcels, as designed, will be built above the BFE. LOMRs will document that the parcel has been constructed above the BFE, as certified by a post-construction site survey.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is established and implemented by the State Water Board and nine Regional Water Boards. Waters of the state are defined as "[a]ny surface water or groundwater, including saline waters within state boundaries." The definition includes natural and certain artificial or constructed facilities. In addition, waters of the state include both waters of the United States and non-federal waters of the state. The act requires a project that discharges or proposes to discharge wastes that could affect the quality of the state's water to file a waste discharge report with the appropriate Regional Water Board. The Porter-Cologne Act also requires the State Water Board or Regional Water Board to adopt a basin

plan for the protection of water quality that specifies region-wide and water body–specific beneficial uses. It also sets numeric and narrative water quality objectives for several substances and parameters in numerous surface waters in its region. The Proposed Project lies within the jurisdiction of the San Francisco Bay Regional Water Board.[36] Beneficial uses, water quality objectives, and Section 303(d)-listed impairments are described above in the *Water Quality* section.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA) is a comprehensive three-bill package that Governor Jerry Brown signed into law in September 2014. The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention only if necessary to protect the resource. The plan is intended to ensure a reliable groundwater water supply for California for years to come. The SGMA requires the formation of local Groundwater Sustainability Agencies, which are required to adopt groundwater sustainability plans (GSPs) to manage the sustainability of groundwater basins. Groundwater Sustainability Agencies for all high- and medium-priority basins, as identified by the Department of Water Resources (DWR), must adopt a GSP or submit an alternative. The SGMA also requires governments and water agencies for high- and medium-priority basins to halt operations that result in overdraft conditions and bring the basins into balance respect to pumping and recharge. GSPs for high- and medium-priority basins are to be submitted to DWR by January 31, 2022; however, GSPs for high- and medium-priority basins with critical overdraft conditions were to be submitted to DWR by January 31, 2020. The Project Site overlies the San Mateo subbasin, which is designated as a very low-priority basin and not required to comply with the SGMA. More information regarding groundwater in relation to water supply is provided in Section 4.17, *Utilities and Service Systems*, of this environmental impact report (EIR).

Local

San Francisco Bay Municipal Regional Stormwater NPDES Permit

The San Francisco Bay Regional Water Board issued the most recent MS4 Phase I San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, Permit No. CAS029718 (Order No. R2-2015-0049, NPDES Permit No. CAS612008, as amended by Order No. R2-2019-0004), on November 19, 2015. The City is a permittee under the San Francisco Bay MRP for the discharge of stormwater runoff from MS4s. The following requirements apply to all projects, regardless of size, as appropriate:

- Construction-phase BMPs
- Post-construction site design measures to maximize infiltration in pervious areas
- Post-construction source control measures to keep pollutants out of stormwater

The following requirements apply to certain projects, based on size and/or location:

- Post-construction stormwater treatment measures are required for most projects with 10,000 square feet or more of impervious surface area
- Post-construction stormwater quantity (i.e., flow peak, volume, and duration) controls are required for projects in certain locations with 1 acre or more of impervious surface area, in accordance with local hydromodification management plans[37]

[36] San Francisco Bay Regional Water Quality Control Board. 2017. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan).* Originally published January 18, 2007. Last updated in 2017.

[37] More information on hydromodification is provided below in the San Mateo Countywide Water Pollution Prevention Program section.

Provision C.3 of the San Francisco Bay MRP requires new development, as well as redevelopment, source control; site design; and stormwater treatment measures to address pollutant discharges in stormwater runoff. This goal is accomplished by low-impact development (LID) techniques, including infiltration and biotreatment. The current MRP regulates stormwater treatment for new development but recognizes that certain urban infill and high-density transit-oriented developments have some inherent environmental benefits and challenges. These types of projects, known as "Special Projects," are allowed to use specific types of non-LID treatment measures to treat a certain percentage of a site's runoff.

The Proposed Project is a new development and, therefore, considered a "regulated project" under the San Francisco Bay MRP. More specifically, the Proposed Project falls within the "other redevelopment projects" category of Provision C.3 (i.e., "any land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred"). These projects include those that create or replace 10,000 square feet or more of impervious surface area, which applies to the Proposed Project. To meet the Provision C.3 requirements, projects must include appropriate site design measures, pollutant source controls and treatment control measures.

San Mateo Countywide Water Pollution Prevention Program

The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) is a partnership among the City/County Association of Governments, each incorporated city and town in the county, and the County of San Mateo, all of which share a common NPDES permit. Each municipality in San Mateo County is responsible for implementing a stormwater program in compliance with NPDES permit requirements to prevent discharges of polluted stormwater runoff from its streets to the local storm drain system and nearby surface waters. The Proposed Project would be required to comply with the San Francisco Bay MRP Provision C.3 Stormwater Technical Guidance.

Municipalities apply the "maximum extent practicable" standard, including standard stormwater conditions of approval, to projects that receive development permits. The Provision C.3 Stormwater Technical Guidance was prepared under the SMCWPPP to help projects design appropriate post-construction stormwater controls and meet local jurisdictional requirements as well as the requirements of the San Francisco Bay MRP. The Provision C.3 and Provision C.6 Development Review Checklist is required for projects that would result in any new impervious surface area. SMCWPPP Provision C.3.g, Hydromodification Control Requirements, requires certain new development projects to manage increases in stormwater runoff flows and volumes. Permit permittees, including the City, have developed maps to show where hydromodification controls would be required. The Proposed Project is exempt from SMCWPPP Provision C.3.g because the Project Site is outside the limits of the hydromodification areas.

San Mateo County Flood Control and Sea-Level Rise Resiliency District

The San Mateo County Flood Control and Sea-Level Rise Resiliency District coordinates cross-jurisdictional collaborations to manage impending threats of flooding. The district initiates new countywide efforts to address SLR, flooding, coastal erosion, and large-scale stormwater infrastructure improvements through integrated regional planning, project implementation, and long-term maintenance. Made up of 20 incorporated cities, the City/County Association of Governments, and the County of San Mateo, the district's purpose is to create a unified agency that cost effectively implements resilient infrastructure to face flood challenges. The San Mateo County Flood Control and Sea-Level Rise Resiliency District was created by modifying the existing flood control district through state legislation (i.e., Assembly Bill 825 [2019–2020]).

Menlo Park Municipal Code

Menlo Park Municipal Code contains the following requirements related to the protection of water resources:

Title 7: Health and Sanitation, Chapter 7.35. This chapter discusses general water conservation principals and adopts water conservation as a citywide goal. Furthermore, it notes that the City should conserve the water supply for uses with the greatest public benefit, particularly domestic uses, sanitation, and fire protection. The chapter includes regulations and restrictions regarding water use and mandates the elimination of any wasteful use of water.

Title 7: Health and Sanitation, Chapter 7.42. This chapter officially adopts the San Mateo Countywide Pollution Prevention Program Stormwater Management Plan and its provisions as City policy. The purpose and intent of the chapter is to ensure the future health, safety, and general welfare of Menlo Park citizens by eliminating non-stormwater discharges to the municipal separate storm sewer; controlling discharges to municipal separate storm sewers from spills, dumping, or the disposal of materials other than stormwater; and reducing pollutants in stormwater discharges to the maximum extent practicable. The intent of the chapter is also to protect and enhance the quality of the watercourses, water bodies, and wetlands in a manner consistent with the CWA.

To meet the requirements of Stormwater Ordinance 859 (Chapter 7.42), the City requires a Grading and Drainage (G&D) Plan whenever more than 500 square feet of the surface of a lot would be affected by a building project. The goal of the G&D Plan is to manage possible sources of water pollution (source control), make sure site drainage does not affect neighboring properties (site design), and remove contaminants from the stormwater before it drains into the City street or storm drain system (treatment measures).

Title 12: Buildings and Construction, Chapter 12.42.[38] This chapter contains methods and provisions for preventing flood damage. Under the provisions of this chapter, a development permit is required before construction or development activities in a flood hazard area can begin. The standards for construction in this chapter involve anchoring, flood-resistant construction materials and methods, and elevation and flood-proofing standards.

Title 12: Buildings and Construction, Chapter 12.44. This chapter is known as the City Water Efficient Landscaping Ordinance. Landscapes must be designed for water efficiency and comply with the criteria described in the ordinance. All new construction, of applicable sizes, would complete a landscape project application and documentation package and comply with the landscape and irrigation maintenance schedule. To demonstrate that the landscape meets the ordinance's water efficiency goals, two options are provided: the planting restrictions option (e.g., no turf or high-water-use plants, at least 80 percent native plants in landscaped areas, low-water-use plants, or no-water-use plants) and the water budget calculation option.

City of Menlo Park General Plan

The City General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2014-2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The City General Plan includes goals and policies associated with hydrology and water quality.[39] The following goal within the Open Space/Conservation Element adopted to avoid or minimize environmental impacts is relevant to the Proposed Project:

[38] City of Menlo Park. n.d. *City of Menlo Park Municipal Code*. Title 12: Buildings and Construction. Chapter 12.42: Flood Damage Prevention. Passed: August 23, 2011. Available: http://www.codepublishing.com/CA/menlopark/. Accessed: August 31, 2015.

[39] City of Menlo Park. 2013. *City of Menlo Park General Plan – Open Space and Conservation, Noise, and Safety Elements.* Adopted: May 21, 2013. Available: https://www.menlopark.org/DocumentCenter/View/234/Open-Space-and-Conservation-Noise-and-Safety-Elements?bidId=. Accessed: March 10, 2021.

Goal OSC5: Ensure Healthy Air Quality and Water Quality. Enhance and preserve air quality in accord with state and regional standards and encourage coordination regarding water quality management, including management of both the water supply and wastewater treatment.

The following goal and policies from the Safety Element adopted to avoid or minimize environmental impacts are related to flood control, tsunamis, and dam safety and pertain to the Proposed Project:

Goal S1: Ensure a Safe Community. Minimize risks to life and damage to the environment and property from natural and human-caused hazards and ensure community emergency preparedness, along with a high level of public safety services and facilities.

Policy S1.21: Flood and Tsunami Hazard Planning and Mapping. Consider the threat of flooding and tsunamis in planning and management practices to minimize risks to life, the environment, and property and maintain up-to-date tsunami hazard zone maps and flood maps as new information is provided by FEMA and other regional agencies. Modify land use plans in areas where tsunamis and flooding are hazards and permit only uses that will sustain acceptable levels of damage and not endanger human lives in the event of inundation.

Policy S1.22: Flood Damage Prevention. Continue to apply standards to construction projects (i.e., both new structures and existing structures proposed for substantial improvement) in areas of special flood hazard in accordance with FEMA and the Flood Damage Prevention Ordinance. This includes the use of flood-resistant construction materials and construction methods that minimize flood damage. Locate new essential public facilities, such as City operations facilities, police and fire stations, and hospitals, outside flood zones to the extent feasible.

Policy S1.26: Erosion and Sediment Control. Continue to require the use of BMPs for erosion and sediment control measures associated with proposed development in compliance with applicable regional regulations.

Policy S1.27: RWQCB Requirements. Enforce stormwater pollution prevention practices and appropriate watershed management plans in the RWQCB general NPDES requirements, the San Mateo County Water Pollution Prevention Program, and the City's Stormwater Management Program. Revise, as necessary, City plans so they integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies.

Policy S1.28: Sea-Level Rise. Consider SLR when siting new facilities or residences in potentially affected areas.

The following goal, policy, and programs associated with hydrology and water quality from the Land Use Element adopted to avoid or minimize environmental impacts pertain to the Proposed Project:

Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

Policy LU-7.7: Hazards. Avoid development in areas with seismic, flood, fire, and other hazards to life or property when potential impacts cannot be mitigated.

Program LU-7.B: Groundwater Wells. Monitor pumping from existing and new wells to identify and prevent potential ground subsidence, salinity intrusion into shallow aquifers (particularly in the Bayfront Area), and contamination of deeper aquifers.

Program LU-7.F: Adaptation Plan. Work with emergency service providers to develop an adaptation plan, including funding mechanisms, to help prepare the community for potential adverse impacts related to climate change, such as SLR, extreme weather events, wildfire, and threats to ecosystem and species' health.

Program LU-7.G: SAFER Bay Process. Coordinate with the SAFER Bay process so that the Menlo Park community's objectives for SLR/flood protection, ecosystem protection, and recreation are adequately taken into consideration.

Program LU-7.H: Sea-Level Rise. Establish requirements, based on state SLR policy guidance for development projects of a certain minimum scale potentially affected by SLR, to ensure protection of occupants and property from flood and other potential effects.

Program LU-7.I: Green Infrastructure Plan. Develop a Green Infrastructure Plan that focuses on implementing City-wide projects to mitigate flooding and improve the quality of stormwater.

Environmental Impacts

This section describes the impact analysis related to hydrology and water quality for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, as needed.

Thresholds of Significance

In accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the Proposed Project would have a significant effect if it would result in any of the conditions listed below.

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river or the addition of impervious surfaces, in a manner that would:
    - Result in substantial erosion or siltation onsite or offsite,
    - Substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite,
    - Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or
    - Impede or redirect floodflows.
- In flood hazard, tsunami, or seiche zones, risk a release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Methods for Analysis

All elements of the Proposed Project were analyzed by comparing baseline conditions to conditions anticipated during construction and/or operation of the Proposed Project. The analysis focused on issues related to surface hydrology, groundwater supply, flood hazards, and surface water and groundwater quality. Identification and evaluation of the key construction and operational impacts considered the physical characteristics of the Project Site as well as the magnitude, intensity, location, and duration of activities.

- **Surface Water Hydrology.** The surface water hydrology impact analysis considered changes in impervious surfaces and drainage patterns. Information regarding changes in impervious surfaces, runoff quantities, and drainage patterns was provided by the hydrology and hydraulic report prepared for the Proposed Project.[40]
- **Groundwater Supply.** Potential impacts on groundwater supply were analyzed by using information from publicly available publications as well as site-specific technical reports, including the preliminary geotechnical investigation.[41] The potential impacts associated with construction dewatering and recharge capabilities were also evaluated.
- **Flood Hazards.** The impact analysis regarding flood risk relied on FEMA mapping to determine the existing flood zone as well as information from the hydrology and hydraulic report regarding changes to the drainage system and layout that may affect flood risks.
- **Surface Water and Groundwater Quality.** Impacts on surface water and groundwater quality were analyzed by using information regarding potential sources of pollution—specifically, activities such as vehicle use, building maintenance, pesticide use, trash disposal, and hazardous material storage—as well as site-specific technical reports, including the Phase I Environmental Site Assessment. The analysis considered potential Project-related sources of pollution during construction, such as sediments and building materials, and during operation, such as vehicle use, building maintenance, pesticide use, trash disposal, and the storage of hazardous materials.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the following impacts that would result from implementing the updates to the Land Use and Circulation Elements:[42]

- Impacts related to water quality were analyzed in the ConnectMenlo EIR as Impact HYDRO-1 (pages 4.8-27 to 4.8-29). It was determined that they would be less than significant through compliance with existing federal, state, and local regulations, including City General Plan goals, policies, and design standards. No mitigation measures were recommended. In addition, this topic was also analyzed in the ConnectMenlo EIR as Impact HYDRO-6 (page 4.8-35). It was determined that the impact on water quality would be less than significant through compliance with existing federal, state, and local regulations as well as City General Plan policies to minimize impacts related to water supply. No mitigation measures were recommended.

[40] Sherwood Design Engineers. 2021. *Hydrology and Hydraulic Report for Willow Village, Menlo Park, California*. September 20.

[41] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update Willow Village.* June 20.

[42] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Prepared by Placeworks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 29, 2021

- Impacts related to groundwater supply and recharge were analyzed in the ConnectMenlo EIR as Impact HYDRO-2 (pages 4.8-30 to 4.8-32). It was determined that they would be less than significant through compliance with existing federal, state, and local regulations, including City General Plan policies. No mitigation measures were recommended.
- Impacts on erosion and siltation were analyzed in the ConnectMenlo EIR as Impact HYDRO-3 (pages 4.8-32 and 4.8-33). It was determined that they would be less than significant because of regulatory requirements (e.g., BMPs, erosion control plans, SWPPPs) and compliance with Menlo Park Municipal Code and City General Plan policies. No mitigation measures were recommended. Impacts on onsite or offsite flooding were analyzed in the ConnectMenlo EIR as Impact HYDRO-4 (pages 4.8-33 and 4.8-34). It was determined that they would be less than significant through compliance with City stormwater measures from the Menlo Park Municipal Code, compliance with Provision C.3 of the MRP, and adherence to City General Plan policies. No mitigation measures were recommended.
- Impacts on stormwater drainage systems were analyzed in the ConnectMenlo EIR as Impact HYDRO-5 (page 4.8-34). It was determined that they would be less than significant because future development would be required to provide onsite infiltration for stormwater runoff, consistent with the City General Plan and Menlo Park Municipal Code. No mitigation measures were recommended. Flood hazards were analyzed in the ConnectMenlo EIR as Impact HYDRO-8 (page 4.8-38). It was determined that impacts related to flood hazards would be less than significant through compliance with federal and Menlo Park Municipal Code requirements as well as City General Plan policies. No mitigation measures were recommended. The topic of inundation by tsunami or seiche was analyzed in the ConnectMenlo EIR as Impact HYDRO-10 (pages 4.8-43 and 4.8-44). It was determined that impacts on future developments related to flooding from tsunami or seiche would be less than significant through compliance with existing regulations, including City General Plan policies. No mitigation measures were recommended.
- The ConnectMenlo EIR did not analyze whether a project would conflict with or obstruct implementation of a water quality control plan because this topic was added to CEQA Guidelines Appendix G after completion of the ConnectMenlo EIR. However, the ConnectMenlo EIR concluded that, through compliance with existing federal, state, and local regulations and implementation of the site design, source control, and treatment control measures, impacts on water quality would be less than significant.
- The ConnectMenlo EIR also did not analyze whether a project would conflict with or obstruct implementation of a sustainable groundwater management plan because this topic was added to CEQA Guidelines Appendix G after completion of the ConnectMenlo EIR. However, the ConnectMenlo EIR concluded that development under the City General Plan would result in less-than-significant impacts with respect to depleting groundwater supplies or interfering with groundwater recharge (ConnectMenlo EIR, Impact HYDRO-2).

Impacts and Mitigation Measures

Impact HY-1: Water Quality. The Proposed Project could violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality. (LTS/M)

Construction

Surface Water Quality

Project construction activities, including grading, soil and material stockpiling, and other earth-disturbing activities, could result in short-term water quality impacts from erosion and subsequent sediment transport to adjacent properties, roadways, or watercourses from storm drains. Excavation and grading activities at the main Project Site and the Willow Road Tunnel are anticipated to generate up to 407,000 cubic yards of excavated soil. Similar construction activities at Hamilton Avenue Parcels North and South are not anticipated to generate excess soil. This would require offsite disposal. Sediment transport to local drainage facilities, such as drainage inlets, culverts, and storm drains, could result in reduced stormflow capacity, resulting in localized ponding or flooding during storm events. An existing open channel is located along the southern property line of the main Project Site. To accommodate Project Site improvements, drainage flows within this offsite channel would be sent underground and the channel would be filled.

Project construction would also involve the use of motorized heavy equipment, including trucks and dozers that would require fuel, lubricating grease, and other fluids. Construction would also involve the delivery, handling, and storage of construction materials and waste (e.g., concrete debris). An accidental chemical release or spill from a vehicle or equipment could affect the quality of surface water or groundwater. Construction activities could also generate dust, litter, oil, and other pollutants that could temporarily contaminate runoff from the Project Site. All construction equipment and material would be staged onsite. Staging areas or building sites can be sources of pollution because of the use of paints, solvents, cleaning agents, and metals during construction.

The Proposed Project would generate approximately 125,000 cubic yards of debris from structure demolition (e.g., wood, metal roofing, steel) that would need to be disposed of at an offsite landfill. Approximately 101,000 cubic yards would be generated during Phase 1 and 24,000 cubic yards during Phase 2. Approximately 26,902 cubic yards of demolition debris would be generated during construction of Hamilton Avenue Parcels North and South.

All Project construction activities would be subject to existing regulatory requirements, as described above in the *Regulatory Setting*. Because land disturbance associated with the Proposed Project would affect more than 1 acre, coverage under the NPDES Construction General Permit would be required. Standards contained in the Construction General Permit, as described above, would ensure that water quality would not be degraded. As part of compliance with the Construction General Permit, standard erosion control measures and other BMPs would be identified in the SWPPP. These measures would be implemented during construction to reduce contamination and sedimentation in waterways. Because soils at the Project Site are not native topsoil, removing them for construction would not result in a loss of topsoil, as discussed in detail in Section 3.10, *Geology and Soils.* As a performance standard, the BMPs included in the SWPPP would be required to represent the best available technology that is economically achievable and the best conventional pollutant control technology for reducing pollution. Commonly practiced BMPs consist of a wide variety of measures. These are implemented to reduce pollutants in stormwater and other nonpoint-source runoff. Such measures include erosion control devices, such as silt fences, staked straw wattles, and

geofabric to prevent silt runoff to storm drains or waterways. Topsoil and backfill would be stockpiled, protected, and replaced at the conclusion of construction activities. Disturbed soil would be revegetated as soon as possible with the appropriate selection and schedule for turf, plants, and other landscaping vegetation. No disturbed surfaces would be left without erosion control measures in place during the wet season, which generally occurs between October 1 and April 30.

Project construction is expected to occur in two primary phases, which could overlap over a period of approximately 48 months (2022–2026). Therefore, some activities would occur during the wet season. Specific erosion and sediment control BMPs would be implemented for Project construction occurring during the wet season. The Project Sponsor would be required to implement BMPs to minimize the potential for large rain events to mobilize loose sediment during construction.

Construction activities must also comply with the Municipal Regional Permit. This includes filing a Notice of Intent for permit coverage under the Construction General Permit and complying with the Menlo Park Municipal Code to ensure that water quality would not be degraded. In addition to compliance with the Menlo Park Municipal Code (Title 7, Chapter 7.42) and the permit review process, the Project Sponsor would also be required to prepare and implement a G&D Plan. BMPs implemented as part of the G&D Plan would reduce the amount of stormwater runoff and prevent the entry of Project-related sediment and pollutants into the City's storm drain system and surface waters.

Project construction would be in compliance with the Construction General Permit, including development and implementation of the SWPPP, and local stormwater regulations, such as the Menlo Park Municipal Code and other related regulations. Compliance with the requirements would ensure that construction activities would not result in a violation of water quality standards or waste discharges requirements or otherwise result in water quality degradation. Project impacts on surface water quality during construction would be ***less than significant***, consistent with the ConnectMenlo EIR. No mitigation is required.

Groundwater Quality

Construction dewatering could be required in areas with shallow groundwater during excavation and trenching for foundation work and utility improvements. The main Project Site has historical soil and groundwater contamination issues (EnviroStor ID 60002595). In addition, construction of the Willow Road Tunnel would require cut-and-cover work during construction and possibly dewatering. Willow Road Tunnel would extend from the northwest corner of the main Project Site to the southeast corner of Meta's West Campus, running under Willow Road and the Dumbarton Rail Corridor. This property, at 1 Facebook Way, is listed as a voluntary cleanup site with restricted use (EnviroStor ID 60001437).[43] Restricted uses at the Willow Road Tunnel site include residential, hospital, public or private school, and day-care uses. Drilling for groundwater and the extraction of groundwater for purposes other than groundwater monitoring, site remediation, or construction dewatering are also prohibited. Any activity that may disturb an engineered cap requires written approval from the California Department of Toxic Substances Control and EPA.[44]

As discussed in Section 3.12, *Hazards and Hazardous Materials*, impacts related to groundwater contamination are considered potentially significant and require mitigation to protect human health and the environment. Coverage under the Construction General Permit typically includes dewatering activities as authorized non-stormwater discharges, provided that dischargers prove that the quality of the water is adequate and not likely to affect beneficial uses.

[43] California Department of Toxic Substances Control. 2021. *Cortese List*. Available: EnviroStor (ca.gov). Accessed March 18, 2022

[44] Cornerstone Earth Group. 2021. *Environmental Summary: Willow Tunnel Construction Zone, Menlo Park, California*. Memorandum to Mr. Brian Zubradt and Mr. Eric Harrison. June 28, 2021.

Because groundwater at the main Project Site and the Willow Road Tunnel site may be contaminated, the San Francisco Bay Regional Water Board would need to be notified if dewatering should occur. Furthermore, the contractor may be subject to dewatering requirements in addition to those outlined in the Construction General Permit, including discharge sampling, treatment, and reporting to ensure compliance with applicable construction dewatering discharge permitting. If contaminated groundwater is encountered, compliance with discharge sampling, monitoring, and reporting requirements, as well as the VOC and Fuel General Permit (Order No. R2-2018-0050), may also be required. If it is found that groundwater does not meet water quality standards, it would either be treated prior to discharge so that all applicable water quality objectives (as designated in the Basin Plan) are met or hauled offsite for treatment and disposal at an appropriate waste treatment facility that is permitted to receive such water.

Other construction activities could result in short-term groundwater quality impacts associated with the input of sediment loads or chemicals into storm drains or groundwater aquifers and exceed water quality objectives if proper minimization measures are not implemented. However, the Proposed Project would be required to comply with the Municipal Regional Permit, including filing a Notice of Intent for permit coverage under the Construction General Permit, as well as local ordinances regarding stormwater and construction site runoff. These requirements involve development and implementation of a Construction General Permit, SWPPP, and stormwater management measures specific to the Project Site and Project construction activities to minimize water quality impacts related to spills or other actions that could contaminate groundwater. BMPs would be required and incorporated into the SWPPP and other permits prior to approval of grading permits, thereby providing an acceptable level of water quality protection. More information is provided in Section 3.12, *Hazards and Hazardous Materials,* of this EIR. In addition, compliance with waste discharge requirements and dewatering regulations would ensure that dewatering activities would be monitored as required and that no violations of water quality standards or waste discharge requirements would occur. Dewatering of potentially contaminated groundwater may result in a ***potentially significant*** impact on groundwater quality.

Operation and Maintenance

Implementation of the Proposed Project would result in an increase in pervious surface area. As shown in Table 3.11-4, approximately 17.0 percent of the Project Site would be covered in pervious landscaped areas (compared to 13.7 percent under existing conditions); 83.0 percent would be covered in impervious pavement or rooftop materials (compared to 86.3 percent under existing conditions). Implementation of the Proposed Project on Hamilton Avenue Parcels North and South would result in an increase in impervious surface area compared with existing conditions. Such increases are associated with increases in runoff rates and volumes.

To address runoff associated with the increase in impervious cover on Hamilton Avenue Parcels North and South, onsite stormwater BMPs and treatment features would be implemented, as required by Provision C.3 of the MRP, to manage the increase in runoff. In addition to the reduction in impervious area on the overall Project Site, the Proposed Project would be designed in compliance with the City's stormwater requirements, including grading, drainage, and hydrology requirements. Compliance with these requirements would ensure no net increase in storm flows after Project implementation. The overall Proposed Project (i.e., at the main Project Site and Hamilton Avenue Parcels North and South) would reduce flows compared to pre-Project conditions through reductions in hardscape areas. This would decrease peak runoff flows from the main Project Site from 74.26 cubic feet per second (cfs) to 69.43 cfs during a 10-year storm and from 109.95 cfs to 97.33 cfs during a 100-year storm (see Table 3.11-5).[45]

[45] Sherwood Design Engineers. 2021. *Hydrology and Hydraulic Report for Willow Village, Menlo Park, California.* September 20.

Table 3.11-4. Existing and Proposed Impervious and Pervious Areas

	Existing Conditions		Proposed		
	Existing Area	**Percent**	**Proposed Area**	**Percent**	**Change**
Main Project Site					
Impervious Area	2,253,195 sf	87.1	2,156,817 sf	83.4	-96,378 sf
Pervious Area	332,597 sf	12.9	428,975 sf	16.6	96,378 sf
Total Area	2,585,792 sf	100	2,585,792 sf	100	0 sf
Hamilton Avenue Parcels North and South					
Impervious Area	97,089 sf	71.0	103,047 sf	75.6	5,958 sf
Pervious Area	40,265 sf	29.0	33,214 sf	24.4	-7,051 sf
Total Area	137,354 sf	100	136,261 sf	100	-1,093 sf
Project Site Total					
Impervious Area	2,350,284 sf	86.3	2,259,864 sf	83.0	-90,420 sf
Pervious Area	372,862 sf	13.7	462,189 sf	17.0	89,327 sf
Total Area	2,723,146 sf	100	2,722,053 sf	100	-1,093 sf[a]

[a] To accommodate the Proposed Project's intersection realignment at Hamilton Avenue and Willow Road, a subdivision mapping process for the parcels would include abandonment of a portion of Hamilton Avenue and an irrevocable offer of dedication and public utility easement for the realigned Hamilton Avenue. As a result, there would be a net decrease in Project square footage.

Sources: Sherwood Design Engineers. 2021. *Hydrology and Hydraulic Report for Willow Village, Menlo Park, California*. September 20.

BKF. 2021. *Chevron Parcel Grading and Drainage Plan*. March 19.

sf = square feet

Table 3.11-5. Existing and Proposed Flow Rates[a]

Storm Event	Existing Flow (cfs)	Proposed Flow (cfs)	Change in Flow (cfs)
10-year event	74.26	69.43	4.83
100-year event	109.95	97.33	12.62

Source: Sherwood Design Engineers. 2021. Hydrology and Hydraulic Report for Willow Village, Menlo Park, California. September 20.

[a] Existing and proposed flow rates are for the main Project Site only. Because the design for Hamilton Avenue Parcels North and South is still in progress, flow rates have not been determined.

cfs = cubic feet per second

Because the design for development on Hamilton Avenue Parcels North and South is still in progress, peak runoff flows during a 10-year or a 100-year storm have not yet been determined. However, the City would require development on those parcels to comply with Provision C.3 of the MRP, manage stormwater flows, and not exceed pre-development flow rates and volumes. Grading and drainage requirements would also be in place.

Because the design is still in progress, detailed stormwater BMP designs have not yet been developed. Treatment strategies may include bioretention areas, flow-through planters, pervious paving, proprietary treatment systems such as Silva Cells, and green roofs. Proposed treatment areas would receive diverted stormwater runoff from impervious surfaces associated with streets, building roofs, and level surfaces on the Project Site prior to discharge to the storm drain system. Publicly owned

streets are designed to treat road runoff by using evenly spaced bioretention basins, bioretention planters, proprietary treatment systems such as Silva Cells or connected tree wells at the back of the curb. Private streets would use the same strategies as public streets for stormwater treatment.[46] Project Site runoff would be managed through a combination of low-impact development strategies, which could include bioretention areas, flow-through planters, permeable paving, rain gardens, and/or vegetated swales. In addition, new landscaping for Hamilton Avenue Parcels North and South along the street frontages would allow stormwater to infiltrate and reduce runoff and associated water quality impairments.

Hamilton Avenue Parcels North and South are subject to the NPDES Construction General Permit, including implementation of construction BMPs and Provision C.3 requirements to manage stormwater. To fulfill the C3 requirement at Hamilton Avenue Parcels North and South, bioretention features would be introduced in the future. The bioretention features would act like a detention basin and attenuate runoff. The stormwater treatment volume was sized per the SMCWPPP C.3 volume-based method, resulting in approximately 93,000 square feet of green infrastructure for stormwater treatment.[47]

The proposed stormwater system would consist of an interconnected network of internal roof leaders, area drains, curb cuts, catch basins, swales, storm drains, and green infrastructure (Silva Cells and bio-planters) for stormwater treatment. All inlets within the main Project Site would be fitted with trash capture devices, which may include, but not be limited to, connector pipe screens and catch basin inlet filters.[48] Stormwater treatment facilities would also be located between roadways and sidewalks to separate pedestrians from vehicle traffic. Because of underlying shallow groundwater contamination, some stormwater treatment BMPs and stormwater treatment areas may need to be lined with impermeable materials.[49]

Landscaping at the Project Site would include a combination of native, drought-tolerant, and adapted species and would comply with the Menlo Park Water-Efficient Landscaping Ordinance. Natural areas would be planted with a wide variety of native species, with a focus on habitat and stormwater treatment functions. Native and adapted plants would have low irrigation demands. Pervious paving, stormwater gardens, bioretention areas, flow-through planters, and other features would be integrated into the design of streets and parks to create functional facilities and visual interest. These treatment areas would receive stormwater runoff that would be diverted from impervious surfaces associated with public and private streets within the Project Site, the roofs, and the Project Site's level surfaces. Landscape features would function as biofiltration areas, treating stormwater runoff and naturally filtering contaminants from the Project Site's stormwater runoff.

The Proposed Project would be designed and maintained in accordance with City of Menlo Park, County of San Mateo, and San Francisco Bay Regional Water Board water quality requirements, such as the San Francisco Bay MRP and SMCWPPP water quality requirements. Furthermore, it would comply with the General Construction Permit, San Francisco Bay MRP, Provision C.3, and SMCWPPP Provision C.3 Stormwater Technical Guidance. The Proposed Project would implement the SWPPP and other erosion control measures and incorporate stormwater treatment elements, such as bioretention areas and flow-

[46] Sherwood Design Engineers. 2021. *Willow Village Project Stormwater Management Compliance Memorandum*. March 9.

[47] BKF Engineers. 2021. *Hydrology Report Hamilton Avenue Realignment Menlo Park California*. April 30.

[48] Sherwood Design Engineers. 2021. *Hydrology and Hydraulic Report for Willow Village, Menlo Park, California*. September 20.

[49] Sherwood Design Engineers. 2021. *Willow Village Project Stormwater Management Compliance Memorandum*. March 9.

through planters. In addition, future development on the parcels would also be subject to Provision C.3 of the MRP and other relevant stormwater requirements. The Proposed Project would not violate any water quality standards or otherwise result in water quality degradation during operation, consistent with the ConnectMenlo EIR. Therefore, impacts on water quality during operation would be ***less than significant***. No mitigation during operation is required.

MITIGATION MEASURE. Implementation of Mitigation Measure HY-1.1 would reduce the potentially significant impact on groundwater quality during construction to a less-than-significant level by requiring groundwater monitoring and treatment during dewatering activities. Therefore, Proposed Project impacts on groundwater quality during construction would be ***less than significant with mitigation.***

HY-1.1: Implement Construction Dewatering Treatment (if necessary).

If dewatering is needed to complete the Proposed Project, and if water from dewatering is discharged to a storm drain or surface water body, dewatering treatment may be necessary if groundwater exceeding water quality standards is encountered during excavation. Because there is potential for groundwater to be contaminated with VOCs or fuel products at the Project Site, the Project Sponsor would be required to comply with the San Francisco Bay Regional Water Board's VOC and Fuel General Permit (Order No. R2-2018-0050) if groundwater exceeding water quality standards is encountered.

If dewatering requires discharges to the storm drain system or other water bodies, the water shall be pumped to a tank and tested using grab samples and sent to a certified laboratory for analysis. If it is found that the water does not meet water quality standards, it shall be treated as necessary prior to discharge so that all applicable water quality objectives (as noted in Table 3.11-2) are met or it shall be hauled offsite instead for treatment and disposed of at an appropriate waste treatment facility that is permitted to receive such water. The water treatment methods selected shall remove contaminants in the groundwater to meet discharge permit requirements while achieving local and state requirements, subject to approval by the San Francisco Bay Regional Water Board. Methods may include retaining dewatering effluent until particulate matter has settled before discharging it or using infiltration areas, filtration techniques, or other means. The contractor shall perform routine inspections of the construction area to verify that water quality control measures are properly implemented and maintained, observe the water (i.e., check for discoloration or an oily sheen), and perform other sampling and reporting activities prior to discharge. The final selection of water quality control measures shall be submitted in a report to the San Francisco Bay Regional Water Board for approval prior to construction. If the results from the groundwater laboratory do not meet water quality standards and the identified water treatment measures cannot ensure that treatment meets all standards for receiving water quality, then the water shall be hauled offsite instead for treatment and disposal at an appropriate waste treatment facility that is permitted to receive such water.

Impact HY-2: Groundwater Supply and Recharge. The Proposed Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that sustainable groundwater management of the basin would be impeded. (LTS)

Construction

The depth to groundwater on the Project Site ranges from approximately 5 to 16 feet below the current grades.[50] Dewatering and shoring within utility trenches may be required during construction at both the main Project Site and Hamilton Avenue Parcels North and South.[51] Construction of the Willow Road Tunnel would require cut-and-cover work during construction and possibly dewatering. Although groundwater extraction is not permitted at the Willow Road Tunnel site, construction dewatering is allowed at this site.[52] Dewatering would be conducted on a one-time or temporary basis during the construction phase and would not result in a loss of water that would deplete groundwater supplies. Groundwater beneath the Project Site is not used for municipal water supply purposes.

A land use covenant on the main Project Site prohibits the pumping of groundwater for reasons other than treatment (see Section 3.12, *Hazards and Hazardous Materials*). Water supplies for construction activities such as dust control, concrete mixing, or material washing would come from nearby hydrants or existing surface supplies for the site and/or be trucked to the site. Groundwater supplies would not be used during construction activities or operation. Therefore, construction of the Proposed Project would not substantially decrease groundwater supplies or impede sustainable groundwater management of the basin, consistent with the ConnectMenlo EIR. This impact would be ***less than significant***. No mitigation is required.

Operation and Maintenance

As shown in Table 3.11-4, the pervious area within the Project Site would increase upon completion of the Proposed Project. Approximately 83.0 percent of the Project Site would be covered with impervious surfaces and 17.0 percent would be covered with pervious surfaces, resulting in roughly a 3 percent decrease in impervious surface area. The Proposed Project would include new landscaping, including native and adaptive plants; pervious paving; stormwater gardens; bioretention areas; flow-through planters; and other features that would be integrated into the design of streets and parks. These treatment areas would receive stormwater runoff that would be diverted from impervious surfaces. New pervious and landscaped areas would slow surface water runoff, allowing it to percolate into the ground, thereby providing increased benefits related to groundwater infiltration and recharge. Although some of the proposed stormwater treatment areas would be lined with impermeable material because of underlying groundwater contamination, the Proposed Project overall would allow for increased infiltration.[53]

Because the Proposed Project would not increase groundwater demand or decrease the area for groundwater recharge, it would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge, consistent with the ConnectMenlo EIR. Natural groundwater recharge of the San Mateo subbasin would continue to occur, primarily through infiltration from streams. Therefore, the Proposed Project's operations-related impact on groundwater supplies and recharge would be ***less than significant.***

[50] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update Willow Village.* June 20.

[51] Ibid.

[52] Cornerstone Earth Group. 2021. *Environmental Summary: Willow Tunnel Construction Zone, Menlo Park, California*. Memorandum to Mr. Brian Zubradt and Mr. Eric Harrison. June 28, 2021.

[53] Sherwood Design Engineers. 2021. *Willow Village Project Stormwater Management Compliance Memorandum*. March 9.

Impact HY-3: Drainage and Flooding. The Proposed Project would not substantially alter the existing drainage pattern of the Project Site in a manner that would result in substantial erosion or flooding, impede or redirect floodflows, contribute runoff that would exceed the capacity of the stormwater system, or provide substantial additional sources of polluted runoff. (LTS)

Construction

During construction, stormwater drainage patterns could be temporarily altered because of site grading, site preparation, and excavation. All trees on the site would be removed for construction of the Proposed Project, including the grading required to raise the Project Site above the floodplain elevation. However, Project construction would implement BMPs, as required in the SWPPP, to minimize the potential for erosion or siltation in nearby storm drains as well as temporary changes in drainage patterns during construction. During construction, implementation of an erosion control plan would also be required to minimize construction-related erosion. Construction BMPs would capture and infiltrate small amounts of sheetflow[54] such that offsite runoff would not increase, thereby ensuring that drainage patterns would not be significantly altered. Construction activities could also generate dust, litter, oil, and other pollutants that could be conveyed into stormwater and provide additional sources of polluted runoff. As part of compliance with the Construction General Permit, stormwater BMPs would be identified in the SWPPP. These measures would be implemented during construction to reduce contamination and additional sources of pollution in runoff and manage stormwater flow rates and volumes.

Measures required by the Construction General Permit would limit site runoff during construction but would not alter stormwater drainage patterns. BMPs would be implemented to control construction site runoff, ensure proper stormwater control and treatment, and reduce the discharge of pollutants to the storm drain system. As discussed in Impact HY-1, compliance with Provision C.3 of the MRP to manage runoff during construction and operation as well as the City stormwater ordinances and policies, including grading, drainage, and hydrology requirements, in combination with the reduction in impervious area on the overall Project Site would ensure that there would be no net increase in runoff compared with pre-Project conditions. Therefore, construction of the Proposed Project would not substantially alter the existing drainage pattern of the area in a manner that would result in substantial erosion or siltation or increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite, consistent with the ConnectMenlo EIR. Project construction would not result in an exceedance of drainage system capacities, consistent with the ConnectMenlo EIR. The associated impact would be ***less than significant***. No mitigation is required.

Operation and Maintenance

The existing storm drain system drains the entire Project Site by gravity to the City main in Willow Road. As part of the Proposed Project, a private onsite storm drain system would be built at the main Project Site to convey runoff by gravity from all buildings and other areas to the existing City main. Stormwater would be collected in a network of catch basins and pipes that would be directed to the 66-inch storm drain in Willow Road at three separate locations on the main Project Site. The Proposed Project would comply with San Mateo County Provision C.3 requirements, as required by the City's NPDES municipal permit.

Project Site runoff and associated erosion would be managed through a combination of low-impact development strategies that could include bioretention areas, flow-through planters, permeable paving, rain gardens, and/or vegetated swales. No surface water features are within the Project Site; therefore,

[54] Sheetflow is an overland flow or downslope movement of water that takes the form of a thin, continuous film over relatively smooth soil or rock surfaces and is not concentrated in channels.

the course of a stream or river would not be altered. Along the southern property line of the main Project Site, an open channel directs stormwater flows to existing storm drain improvements adjacent to the eastern property line. To accommodate Project Site improvements, drainage flows within this channel would be sent underground to new onsite storm drain improvements. Although the channel would be filled both onsite and offsite, a portion of the existing open channel south of the San Francisco Public Utilities Commission Hetch Hetchy right-of-way would remain open and unfilled. In addition, the Willow Road Tunnel and north ramp profiles would be raised to allow the existing 48-inch-diameter storm drain to remain in place. This storm drain runs perpendicular to the north ramp, just north of the north portal.

On Hamilton Avenue Parcels North and South and the Willow Road Tunnel site, the Proposed Project would maintain the majority of the existing building area and ground features. The storm drain affected by grading for the future Hamilton Avenue would be redirected to the realigned roadway. The 54-inch storm drain through the existing Hamilton Avenue and across the main Project site would either be demolished or plugged and abandoned in place. The stormwater main at the future Hamilton Avenue would be upsized to 66 inches and provided as replacement at the future Hamilton Avenue. The new 66-inch storm drain would be reconnected to the storm drain at future Hamilton Avenue at Willow Road. Downstream of the new 66-inch pipe at the future Hamilton Avenue, 175 feet of existing 66-inch storm drain at Willow Road would be upsized to 84 inches because of realignment of the roadway and the existing hydraulic grade line of the storm drain system. Storm drain upgrades would be coordinated with overall site storm drain evaluation.[55]

As required by the City of Menlo Park, post-development stormwater flows would be lower than pre-development flows. As shown in Table 3.11-5, post-development flows for the main Project Site would be reduced by 4.83 cfs (6.5 percent) and 12.62 cfs (11.5 percent) for the 10-year and 100-year storms, respectively. Therefore, the post-development flow rates for both 10-year and 100-year storm events would be lower than their respective pre-development flow rates and would not contribute runoff that would exceed the capacity of the City's stormwater system. In a flood event, appropriate flood control methods would be implemented throughout the entire Project Site to manage floodflows, as needed.

As stated previously, implementation of the Proposed Project at Hamilton Avenue Parcels North and South would increase the amount of impervious surface area and could increase runoff rates and volumes compared with existing conditions. However, peak runoff flows at Hamilton Avenue Parcels North and South during a 10-year or a 100-year storm event have not yet been determined because the design for the development is still in progress. Regardless, architectural control review and compliance with building permits and the City's stormwater, hydrology, and C.3 requirements would be ensured. The City also requires no net increase in stormwater flow rates from overall Project site runoff into the City's storm drain system. Although the impervious area at Hamilton Avenue Parcels North and South would increase, design features would ensure no increase in runoff. When managing stormwater runoff within the onsite parking and circulation areas on Hamilton Avenue Parcels North and South, roads must be graded to maintain all private stormwater flows within the private drainage management areas. New landscaping along the street frontages for Hamilton Avenue Parcels North and South would allow stormwater to infiltrate, which would help manage runoff and associated pollutants. In addition, the total impervious area (Table 3.11-4) of the Project Site as a whole would decrease, resulting in decreased runoff rates and volumes. Furthermore, the impact on the 66-inch storm drain in Willow Road would decrease because the proposed flow would connect at three separate locations as opposed to the single large connection under existing conditions.[56]

[55] BKF Engineers. 2021. *Hydrology Report Hamilton Avenue Realignment Menlo Park California*. April 30.

[56] Sherwood Design Engineers. 2021. *Hydrology and Hydraulic Report for Willow Village, Menlo Park, California*. September 20.

As part of an integrated approach to stormwater management, consistent with both City and County of San Mateo requirements, streetscapes, parks, and open spaces would include BMPs to reduce and treat stormwater runoff and increase the amount of pervious landscaped area compared with existing conditions. The Project improvements on the individual parcels, as well as the design of private streets and public rights-of-way throughout the Project Site, would incorporate green infrastructure, per the requirements of the City's adopted Green Infrastructure Plan. Treatment strategies may include bioretention areas, flow-through planters, pervious paving, proprietary treatment systems such as Silva Cells, and green roofs. Proposed treatment areas would receive diverted stormwater runoff from impervious surfaces on the Project Site prior to discharge to the storm drain system. Publicly owned streets are designed to treat road runoff by using evenly spaced bioretention basins, bioretention planters, proprietary treatment systems such as Silva Cells or connected tree wells at the back of the curb. Stormwater treatment systems would be located at low points within the proposed grading scheme to facilitate surface drainage and minimize the required amount of storm drain piping. To manage stormwater runoff, private roads would be graded to maintain stormwater flows within the private drainage management area. Private streets would use the same strategies as public streets for stormwater treatment.[57]

Because more than 10,000 square feet of impervious surface area would be replaced, the Proposed Project would be a Provision C.3 regulated project and therefore required to comply with MRP Provision C.3. Stormwater treatment methods would also comply with local stormwater requirements. Stormwater treatment volumes were sized per the SMCWPPP Provision C.3 volume-based method, resulting in approximately 93,000 square feet of green infrastructure for stormwater treatment on the entire site, including rights-of-way.[58]

Existing development potential in the city and new development potential as part of ConnectMenlo would involve parcels in the Bayfront Area that have already been developed and covered with impervious surfaces. The City has stringent stormwater requirements that exceed the C.3 provisions of the MRP (i.e., post-development stormwater volumes must not exceed pre-development volumes for projects adding net new impervious surfaces, regardless of whether the projects are regulated). Therefore, the capacity of the existing or planned storm drain system would not be exceeded. In addition, implementation of LID design guidelines and engineering review of drainage calculations and development plans by the Menlo Park Public Works Department would further ensure that there would be no substantial increases in peak flow rates or runoff volumes throughout the entire Project Site.

Development consistent with the Menlo Park General Plan would not require significant expansion of existing stormwater drainage infrastructure because the majority of Proposed Project would be infill related or within existing storm drainage systems. Implementation of landscape features would provide onsite infiltration of stormwater runoff. Furthermore, the City requires no net increase in stormwater flow rates. For these reasons, the Proposed Project would not result in substantial impacts associated with exceeding stormwater drainage system capacity.

Because of past industrial activities on the main Project Site, the underlying groundwater contamination may require certain stormwater treatment areas to be lined with impermeable materials. Preliminary infiltration testing indicated that clayey deposits underlie the Project Site, with

[57] Sherwood Design Engineers. 2021. *Willow Village Project Stormwater Management Compliance Memorandum*. March 9.

[58] Ibid.

infiltration rates ranging from 0.08 to 0.17 inch per hour. Because of this low filtration rate, all stormwater treatment facilities are likely to be under-drained, resulting in poor drainage conditions, increased runoff, or potential loss of topsoil.[59]

Two offsite watersheds would be affected by the Proposed Project. The first is the upstream watershed that includes a 66-inch storm drain on the west side of the main Project Site at the intersection of Willow Road and Park Street. Downstream from the Project Site, the Willow mainline outfalls to Ravenswood Slough through a Caltrans-owned pump station. With respect to a 100-year storm, the existing storm drainage system is surcharged; it experiences ponding along the route of the drainage system. Although the offsite storm drain infrastructure is surcharged under both pre- and post-development conditions, post-development stormwater flows would remain a minimum of 12 inches below the top of the curb elevation during a 10-year storm event, as required by the City.

The second offsite watershed affected by the Proposed Project flows into the main Project Site through an open channel that drains to a 48-inch storm drain on the south and east side of the site. This stormwater ultimately outfalls offsite at the northeast side of the Project Site. The Proposed Project would fill the existing open channel at the south end of the main Project Site and replace it with 42- and 48-inch storm drains. The replaced storm drain line would connect to the 48-inch storm drain at the southeast corner of the main Project Site. Both the 10-year and 100-year storm event would be maintained within the pipes; there would be no impact on the existing 48-inch storm drain.[60]

All Project-related development would comply with the applicable federal, state, and local requirements discussed in the *Regulatory Setting,* including requirements regarding water quality, flood control, and stormwater management. Therefore, the Proposed Project would not result in changes to stormwater runoff rates or volumes that would result in the capacity of existing or planned stormwater drainage systems being exceeded, provide substantial additional sources of polluted runoff, or impede or redirect floodflows, consistent with the ConnectMenlo EIR. The impact related to stormwater runoff and capacity would be ***less than significant***. No mitigation is required.

Impact HY-4: Pollutant Release due to Project Inundation. In a flood hazard, tsunami, or seiche zones, the Proposed Project would not result in the release of pollutants due to inundation. (LTS)

The Project Site is not within a planned tsunami inundation area, as depicted on the Tsunami Inundation Map for Emergency Planning prepared by Cal OES and California Geological Survey.[61] Therefore, the Proposed Project is not subject to inundation by a tsunami. There are no reservoirs adjacent to the Project Site; therefore, the Proposed Project would not be prone to inundation by a seiche. However, the Project Site is located within the 100-year flood hazard zone, as determined by FEMA (Figure 3.11-2).[62] Therefore, the Proposed Project would be subject to inundation by a flood. The Project Site would require either LOMRs and/or CLOMR/LOMRs for all building sites.

[59] Ibid.

[60] Sherwood Design Engineers. 2021. *Hydrology and Hydraulic Report for Willow Village, Menlo Park, California*. September 20.

[61] State of California. 2021. *Tsunami Hazard Area Map, San Mateo County*. Produced by the California Geological Survey, the California Governor's Office of Emergency Services, and AECOM. Mapped at multiple scales.

[62] Federal Emergency Management Agency. 2019. *National Flood Hazard Layer Viewer.* Panel 307 of 510. FIRM 06081C0306F. April 5. Available: https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed: March 10, 2021.

During construction, stormwater BMPs would be implemented, as required by federal, county, and local policies, to minimize any degradation of water quality associated with stormwater runoff or construction-related pollutants. In addition, construction and maintenance activities would comply with local stormwater ordinances, stormwater requirements established by the MRP, and regional waste discharge requirements. Measures in the SWPPP would include a range of stormwater control BMPs (e.g., silt fences, staked straw wattles, geofabric to prevent silt runoff to storm drains or waterways).

As part of the design effort, finished floor elevations would meet City code requirements to address future issues related to SLR. Current City ordinances (e.g., Menlo Park Municipal Code Chapter 12.42.51.3b) require new development that would affect more than 2 acres within the floodplain to mitigate anticipated future SLR by ensuring that finished floor elevations are at least 24 inches above the current FEMA BFE (i.e., 11 feet). All occupiable buildings would have a minimum finished floor elevation of 13 feet (NAVD 88), consistent with the City Zoning Ordinance requirement of 2 feet above the BFE to accommodate both the FEMA base flood elevation and future SLR.[63]

Per FEMA National Flood Insurance Program Technical Bulletin 3, dry proofing/floodproofing[64] is permitted for non-residential portions of mixed-use buildings. In the case of Parcel 2 in the Residential/Shopping District, the major structure and any entrance to livable, occupied, or residential space would be raised to an of elevation 13 feet, which is the BFE (11 feet) plus 2 feet. However, because of the proximity to Willow Road, the north garage opening must connect to the existing street grades, which are a few feet below the BFE of 11 feet. Although this garage entrance and exit would not be needed for emergency egress, and the BFE of 11 feet would normally maintain flood levels around the building, with all dry-proofing measures accounted for, the entrance to the garage where floodwater would enter the drive aisle would experience flooding but only up to a high point of 11 feet. The below-grade parking area would be protected by dry floodproofing and essentially create an impermeable barrier or high point and having the garage drive at the flood zone elevation of 11 feet before the garage ramps down to the lower garage level to ensure that rising flood waters would not enter the building. This would be consistent with FEMA National Flood Insurance Program Technical Bulletin 6, which offers various measures to elevate the garage entry and stop floodwaters from entering the garage, especially when a basement is present. Although not currently proposed, dry-proofing/floodproofing measures such as mechanical storm doors could be developed during design to further protect the garage entry. All portions of the garage entry that would be expected to be inundated by the flood elevation of 11 feet would be constructed with flood-resistant materials.

Under the mid-century (2050) 24-inch SLR scenario, areas in the northeast portion of the main Project Site would be inundated. These areas would have the highest finished floor elevation (averaging 15 feet NAVD 88); therefore, no flooding within buildings would occur. Furthermore, Hamilton Avenue Parcels North and South would not be inundated under the mid-century scenario. Under the end-of-century (2100) 36-inch SLR scenario, inundation would expand to the western portion of the main Project Site, including Hamilton Avenue Parcels North and South and the Willow Road Tunnel. Proposed finished floor elevations in the western portion of the main Project Site would be 13 feet and would be flooded. The end-of-century 48-inch SLR scenario would further expand the inundated areas. In these areas, finished floor elevations would be 14 feet or above, just at or above the expected end-of-century flood elevations. These scenarios do not account for extreme SLR conditions with extreme storm surges.[65]

---

[63] Sherwood Design Engineers. 2021. *Sea-Level Rise Memorandum for Willow Village Menlo Park, California.* January 18.

[64] Dry floodproofing includes a combination of measures that make a building and attendant utilities watertight and substantially impermeable to flood water, with structural components having the capacity to resist flood loads.

[65] Ibid.

In absence of a flood event, high tides would not affect the proposed finished floor elevations. Because most of the main Project Site is above 11 feet, high tides are not likely to affect the proposed road elevations until approximately 2080 and only under the worst-case SLR scenario. The U.S. Army Corps of Engineers (USACE) has studied SLR affecting the surrounding Project area. USACE projections indicate that proposed finished floor elevations meet or exceed all SLR scenarios (low, intermediate, and high) through 2080 and meet or exceed the anticipated SLR as represented by the USACE low and intermediate SLR rates beyond the year 2100.

The existing BFE is 11 feet NAVD 88; the minimum proposed finished floor elevation would be 13 feet. At that elevation, buildings are predicted to be safe from flooding until 2065. Buildings with a finished floor elevation of 14 feet are predicted to be safe from flooding until 2080 under worst-case projections and safe from flooding through the end of the century under intermediate- and low-risk scenarios. Finished floor elevations would need to be set at 15.5 feet to protect against the 2100 worst-case projections. However, it is anticipated that the City would rely on regional protection, such as higher levees, to prevent flooding within the larger surrounding area.

To manage SLR, the Proposed Project proposes an adaptive management approach. Proposed finished floor elevations would meet or exceed existing City requirements. However, the elevations would not address all possible SLR scenarios. Regional and/or local measures would need to be established to mitigate lower-probability worst-case scenarios. The adaptive management approach for the development footprint, roads, and open space is based on the following:

- Finished floor elevations (i.e., 14.0 feet NAVD 88) would be set so that adaptations would not be necessary for even the highest estimates of SLR until 2080.
- Mean SLR could affect some Project roadways through tidal action beginning in approximately 2080. As described above under *Regulatory Setting*, the San Mateo County Flood Control and Sea-Level Rise Resiliency District initiates new countywide efforts to address SLR, flooding, and large-scale stormwater infrastructure improvements through integrated regional planning, project implementation, and long-term maintenance. It is anticipated that a combination of regional and local measures would be established to protect the surrounding area. These could include flap gates on culverts that cross Bayfront Expressway, levees, and/or flood walls.
- SLR alone is not anticipated to cause tidal influences that would affect public amenities such as parks and multi-use pathways until 2060 under the worst-case SLR scenario.
- The Project storm drain system would connect to the City storm drain in Willow Road. This storm drain flows to the Caltrans-operated Ravenswood Pump Station northeast of the Project Site along Bayfront Expressway. It is not hydraulically connected to the Bay and would not be affected by SLR unless the City and/or Caltrans system would be affected. Further studies of these systems may be required.

All operational activities would comply with the County Stormwater Management and Discharge Control Ordinance, stormwater requirements established by the MRP, and regional waste discharge requirements. Additional discussions and measures to reduce risks associated with pollutants and floodflows are provided under Impact HY-1 and Impact HY-3. Therefore, the impact related to a release of pollutants due to inundation in a flood hazard, tsunami, or seiche zone would be ***less than significant***.

Impact HY-5: Conflict or Obstruct a Water Resource Management Plan. The Proposed Project could conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (LTS/M)

Project construction and operation would be subject to existing regulatory requirements. Permittees would comply with appropriate water quality objectives, as defined in the Basin Plan. Commonly practiced BMPs would be implemented to control construction site runoff and reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff. As part of compliance with permit requirements during ground-disturbing or construction activities, the implementation of water quality control measures and BMPs would ensure that water quality standards would be achieved, including water quality objectives that protect designated beneficial uses of surface water and groundwater, as defined in the Basin Plan.

Construction runoff would be required to occur in compliance with appropriate water quality objectives for the region. The NPDES Construction General Permit requires stormwater discharges to be free of pollutants that cause or contribute to an exceedance of applicable water quality objectives or water quality standards, including designated beneficial uses. As stated in Impact HY-1, pervious paving, stormwater gardens, bioretention areas, flow-through planters, and other features would be integrated into the design of streets and parks. These stormwater treatment areas would reduce and treat stormwater runoff flows and associated pollutants. In addition, implementation of appropriate City General Plan policies would require groundwater recharge areas and groundwater resources to be protected, in accordance with the applicable sustainable groundwater management plan.

Dewatering would be conducted temporarily during the construction phase. Implementation of Mitigation Measure HY-1.1 would reduce the potentially significant impact on groundwater quality during construction to a less-than-significant level by requiring groundwater monitoring and treatment during dewatering activities. Furthermore, groundwater supplies would not be used during operation. The amount of impervious area within the Project Site would decrease upon Project completion. New landscaping, pervious paving, stormwater gardens, bioretention areas, flow-through planters, and other features would be integrated into the design of streets and parks; they would also treat runoff and allow groundwater infiltration. In addition, implementation of the appropriate City General Plan policies would require the protection of groundwater recharge areas and groundwater resources, in accordance with the applicable sustainable groundwater management plan. The Project Site overlies the San Mateo subbasin, which is designated as a very low-priority basin and not subject to the SGMA; therefore, no sustainable groundwater management plan is applicable to the Project Site. Construction and operation of the Proposed Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Construction and operational impacts associated with the Proposed Project would be ***less than significant with mitigation***.

MITIGATION MEASURE. Implementation of Mitigation Measure HY-1.1 would reduce the potentially significant impact on groundwater quality during construction to a less-than-significant level by requiring groundwater monitoring and treatment during dewatering activities. Therefore, Project impacts on groundwater quality during construction would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The impact would be ***less than significant with mitigation.***

Cumulative Impacts

Impact C-HY-1: Cumulative Hydrology and Water Quality Impacts. Cumulative development would result in a less than significant cumulative impact to hydrology and water quality, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact to hydrology and water quality. (LTS)

Summary of Analysis in the ConnectMenlo EIR

As stated in Chapter 4.8, *Hydrology and Water Quality*, of the ConnectMenlo EIR, the geographic context for the cumulative assessment of hydrology and water quality impacts encompassed the San Francisquito Creek watershed, which includes the ConnectMenlo study area. The San Francisquito watershed includes portions of both Santa Clara County and San Mateo County.

Development of past, current, and future projects within the San Francisquito watershed have the potential to alter stormwater quality, stormwater flows, drainage, impervious surfaces, and flooding. However, development projects are subject to federal, state, and local standards pertaining to water quality. As a result, there is not a cumulative impact without ConnectMenlo.

The ConnectMenlo EIR determined that, through compliance with existing state and local regulations, as well as general plan design guidelines, zoning ordinances, and other applicable City requirements, development under ConnectMenlo, in combination with other new development within the San Francisquito watershed, would not contribute to a cumulative impact with respect to stormwater quality, stormwater flows, drainage, impervious surfaces, and flooding. Furthermore, compliance with City ordinances and general plan policies, as well as numerous water quality regulations that control construction-related and operational discharges of pollutants in stormwater, would ensure that water quality would be protected. In addition, all cumulative projects within the San Francisquito watershed would be subject to similar regulations, including those implemented by the San Francisco Bay RWQCB. The ConnectMenlo EIR also concluded that new projects in the Bayfront Area would be required to elevate structures to account for SLR, and all coastal projects within the watershed would be subject to requirements by FEMA and BCDC to protect against flood levels and SLR. The ConnectMenlo EIR determined that implementation of ConnectMenlo would not contribute to a significant cumulative impact on hydrology and water quality, and the cumulative impact would be ***less than significant***.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative water quality and hydrology impacts with the Proposed Project is the San Francisquito watershed.

As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the 123 Independence Drive Project and East Palo Alto projects, which are also located within the San Francisquito watershed. As with the Proposed Project, the 123 Independence Drive project and East Palo Alto projects, as well as other projects within the watershed, would be required to comply with all applicable requirements of local water quality programs, municipal stormwater-related NPDES permits, applicable municipal code regulations, objectives in the Basin Plan, and general plan policies. Therefore, these additional projects would not alter the cumulative impact determination as stated in the ConnectMenlo EIR, and the cumulative impact with respect to water quality and hydrology would remain less than significant.

The Proposed Project would not result in a substantial change in the ConnectMenlo project, and therefore would not be a cumulatively considerable contributor to a significant cumulative hydrology and water quality impacts and would not cause new or substantially more severe significant cumulative hydrology and water quality impacts than analyzed in the ConnectMenlo EIR. The Proposed Project would be required to comply with all applicable requirements of local water quality programs, municipal stormwater-related NPDES permits, applicable municipal code regulations, objectives in the Basin Plan, and general plan policies. The Proposed Project would also be required to implement Mitigation Measure HY-1.1, given the construction dewatering and potentially contaminated groundwater at the Project Site, which would further reduce these impacts beyond compliance with regulatory requirements. Therefore, consistent with the conclusions in the ConnectMenlo EIR, the Proposed Project would result in a ***less-than-significant cumulative impact*** with respect to hydrology and water quality. No further mitigation measures would be required.

3.12 Hazards and Hazardous Materials

This section describes the hazards and hazardous materials issues associated with construction and operation of the Willow Village Master Plan Project (Proposed Project). The issues discussed below include potential exposure to hazardous materials in the soil, soil gas, and groundwater; wildland fire hazards; emergency response and evacuation plans; and aviation hazards. The *Environmental Impacts* section defines the criteria of significance and identifies potential Project impacts and mitigation measures related to hazards and hazardous materials.

The term *hazardous material* is defined in this section as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety if released into the workplace or the environment.[1]

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. The hazard-related issue that was identified during the NOP comment period pertains to toxic release sites. This issue is addressed below.

Existing Conditions

Environmental Setting

Conditions at the Project Site and offsite improvements at the Willow Road Tunnel site are discussed separately below.

Subsurface Hazardous Materials'

Project Site History and Corrective Actions

Main Project Site (Menlo Science and Technology Park)

Cornerstone performed a Phase I Environmental Site Assessment (ESA) for the main Project Site, which revealed two recognized environmental conditions (RECs),[2] four controlled recognized environmental conditions (CRECs),[3] and eight historic recognized environmental conditions (HRECs).[4] These are discussed following this site history, below.

The main Project Site was developed in 1947 by Hiller Aircraft Corporation for helicopter testing and manufacturing. Manufacturing activities took place primarily in the southwest portion of the main Project Site, with engineering and testing in the northeast portion. During manufacturing operations, volatile

[1] Abbreviated from California Health and Safety Code Section 25501.

[2] The presence or likely presence of hazardous substances or petroleum products on the site 1) due to any release to the environment, 2) under conditions indicative of a release to the environment, or 3) under conditions that pose a material threat of a future release to the environment.

[3] A recognized environmental condition that has been addressed to the satisfaction of the applicable regulatory agency with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls or restrictions.

[4] A past recognized environmental condition that has been addressed to the satisfaction of the applicable regulatory agency or has met the unrestricted use criteria established by the applicable regulatory agency without subjecting the site to required controls or restrictions.

organic compounds (VOCs) were reportedly discharged to a concrete sump located on Parcel H (990–998 Hamilton Avenue, Building H, MPK 59) in the southern portion of the main Project Site, an area where a metal plating shop was located.

From the late 1950s to the late 1960s, Lockheed Corporation leased three buildings at the main Project Site for development of the CORONA surveillance satellite program. In 1959, the main Project Site and adjacent unincorporated lands were annexed by the City of Menlo Park (City). The following year, Hiller Aircraft Corporation, along with the main Project Site, was acquired by Electric Auto-Lite Company, which was then acquired by Allied Signal, Inc. In 1964, Maryland-based Fairchild Stratos Corporation (Fairchild) purchased the main Project Site, with the intention of continuing the manufacture of helicopters. However, by 1974, Fairchild ceased making helicopters and began leasing properties to various tenants. In 1979, Lincoln Properties purchased the site and began redeveloping it as the "Lincoln Willow Business Park" (Business Park). In the following years, former Hiller buildings were demolished, and new buildings were constructed.

In 1990, a preliminary investigation detected concentrations of VOCs in soil and groundwater along the southern portion of Parcel H, the area where the former metal plating shop was located. Remedial investigations were initiated to characterize the extent of VOCs in soil and groundwater caused by the release of solvents into a subgrade concrete sump, which subsequently leaked. Trichloroethylene (TCE) was detected at concentrations of up to 23,000 micrograms per liter in the source area. Subsequent investigations were conducted to determine the extent of groundwater contamination. Samples were collected through the use of monitoring wells, hydropunches, and borehole grabs. The samples revealed that the lateral and vertical extent of the VOCs was defined and limited to the "A-zone", a water-bearing zone that extends to depths of approximately 36 feet below grade. The "B-zone" is approximately 34 to 60 feet below grade.

In the 1990s, the groundwater VOC plume extended northward from the source area to the northern boundary of the main Project Site. The plume was defined by two characteristic areas. The first area was defined as the former metal plating shop; the second area was defined as the remainder of the Business Park. The greatest concentrations were shown to be limited to the metal plating shop.[5] In 1992, the concrete sump at the former plating shop was removed. Soils surrounding the sump were excavated and a dual-phase soil vapor extraction (SVE) and groundwater extraction system was put into operation. The SVE system successfully treated the elevated VOC concentrations in the vadose zone soils near the former concrete sump;[6] VOC concentrations in groundwater also were reduced. Between 1990 and 1999, periodic groundwater monitoring was performed at the main Project Site.

In 1993, EKI Environment & Water, Inc. (EKI), an environmental engineering services firm, performed an investigation that detected oil and grease at a concentration of 410 milligrams per kilogram (mg/kg) in a soil sample taken near a transformer station on the east side of Building R (1370–1378 Willow Road, Building R, MPK 54) in the southwest portion of the main Project Site. The sample was not analyzed for polychlorinated biphenyls (PCBs), a common contaminant in transformer oil.[7]

In 1995, the San Francisco Bay Regional Water Quality Control Board (RWQCB) issued Cleanup Order No. 95.086, which stated "a limited non-attainment zone (NAZ) is appropriate for the site. Within this area, pollution concentrations may exceed relevant water quality objectives, but properly contained and

[5] Cornerstone Earth Group. 2020. *Soils Management Plan and Air Monitoring Plan Vapor Intrusion Mitigation Plan Summary Letter: Willow Village, Menlo Park, CA*. May 21.

[6] Ibid.

[7] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Menlo Science and Technology Park Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. August 16

managed…will be protective of water quality outside the NAZ as well as public health and the environment at all surface locations." The San Francisco Bay RWQCB stated that the groundwater contamination was adequately defined at the main Project Site and limited to the shallow A-zone. (VOC contamination was not detected in the B-zone.) The order stated that groundwater still contained elevated levels of VOCs but concluded that the risk could be managed by implementing deed restrictions on land uses, a long-term monitoring program, and a contingency plan if additional remediation was found to be necessary.[8]

PCBs in soil mounds at the northern boundary of Parcel E were identified during two sampling events conducted by EKI during 1994 and 1995. Fifty-six cubic yards of soil were excavated and removed. In a 1995 statement regarding the PCB-affected soil, the San Mateo County Department of Environmental Health (DEH) wrote that "[I]t appears that all soil samples were determined to be below the 1 parts per million (ppm) action level for PCBs. It is also understood that this area is zoned commercial, will be graded and paved, and that no further development will be made in this excavation area." In a 1997 letter, the San Francisco Bay RWQCB concurred with the DEH's conclusion that no further action was necessary for this site, given its current commercial land use.[9]

In January 1996, covenant and environmental restrictions (deed restrictions) were placed on the main Project Site, prohibiting the pumping of groundwater, except for remediation or as otherwise authorized by the RWQCB, and requiring preparation of a health and safety plan prior to the commencement of any subsurface activities, among other stipulations. In September, the DEH issued a letter regarding soil that had been affected by total petroleum hydrocarbons (TPHs) on Parcel F-2 (1050–1098 Hamilton Court, Building F-2) and Parcel H in the southern portion of the main Project Site, stating that the remaining soil contamination was not expected to be a significant risk to human health or the environment and that no further action was required, with the understanding that the area would be covered by asphalt.[10] The San Francisco Bay RWQCB approved termination of the SVE at the site in December 1996.[11] However, the deed restrictions remained in place.[12]

In 1998, AMB Property Corporation purchased the main Project Site from Lincoln Properties. The following year, the Proposal for the Termination of Groundwater Monitoring Program and Case Closure was submitted by EKI, which noted that VOC concentrations were below contaminant monitoring standards, concentrations detected in monitoring wells had been stable or decreasing for 4 of the past 8 years, monitoring well samples suggested that no significant VOC sources remained in the Parcel H non-attainment area, and data indicated that remedial actions had been successful. In July 1999, the San Francisco Bay RWQCB granted "no further action" status, and the network of monitoring wells was removed and destroyed.[13]

In 2007, a 15,000-gallon diesel underground storage tank (UST) and a second 15,000-gallon UST used for water storage were removed from Parcel B (1200–1240 Hamilton Court, Building B) in the southeasternmost portion of the main Project Site. The DEH issued a letter that required additional groundwater sampling downgradient from the USTs. Soil and groundwater samples were collected and

---

8 Cornerstone Earth Group. 2020. *Soils Management Plan and Air Monitoring Plan Vapor Intrusion Mitigation Plan Summary Letter: Willow Village, Menlo Park, CA*. May 21.

9 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Menlo Science and Technology Park Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. August 16.

10 Ibid.

11 Cornerstone Earth Group. 2020. *Soils Management Plan and Air Monitoring Plan Vapor Intrusion Mitigation Plan Summary Letter: Willow Village, Menlo Park, CA*. May 21.

12 Additional cleanup would be necessary at the main Project Site for residential and other non-commercial uses.

13 Ibid.

analyzed in April 2008. TPH as diesel, benzene, toluene, ethylbenzene, xylenes, and methyl tert-butyl ether (MTBE) were not detected in the soil or groundwater samples. A closure letter was not found in DEH files; however, the USTs are not listed in the leaking UST database. The sampling data indicate that no further work appears to be required.[14]

In 2015, Peninsula Innovation Partners, LLC (a subsidiary of Meta Platforms, Inc. [Meta]) purchased the main Project Site, and a Phase I ESA and soil vapor quality evaluation were completed.[15] Vapor probes detected halogenated VOCs in soil vapor above residential and commercial environmental screening levels (ESLs)[16] in some portions of the main Project Site. TPH as gasoline was also detected in soil vapor samples above residential ESLs. Benzene concentrations exceeded commercial and residential ESLs in most soil vapor samples. The 2015 ESA identified six RECs, four CRECs, and seven HRECs. In 2016, Cornerstone collected soil vapor samples from areas near the foundations of seven existing onsite buildings, concluding that affected soil vapor may still be emanating from the former metal plating shop. Indoor and outdoor air samples were also collected. Some indoor samples exceeded residential ESLs for concentrations of TCE and tetrachloroethylene (PCE). In 2017, Cornerstone performed additional indoor air quality investigations, which indicated that the residual chemicals that may be present in groundwater and soil vapor were not present at sufficient concentrations to pose a significant health risk to occupants.[17]

In 2017, a soil vapor and groundwater quality investigation conducted by Cornerstone found that VOC concentrations in groundwater exceeded the maximum containment levels for drinking water. Several soil vapor samples detected VOC concentrations that exceeded the then-current residential and commercial ESLs. That same year, Cornerstone conducted a supplemental Phase II investigation of the site that included exploratory borings and groundwater samples. Soil quality appeared similar to that in 1999 when the San Francisco Bay RWQCB provided regulatory closure. The VOC groundwater plume appeared to be localized on the site.

In 2018, Peninsula Innovation Partners, LLC, entered into a voluntary cleanup agreement that called for California Department of Toxic Substances Control (DTSC) oversight. Prior reports that documented soil, soil vapor, and groundwater studies were provided to DTSC for review, along with the Vapor Intrusion Mitigation Plan (VIMP). Cornerstone noted that "no further action" status was granted by the San Francisco Bay RWQCB in 1999 because the conditions for site investigation, remediation, and monitoring required by San Francisco Bay RWQCB Order No. 95-086 had been met. Cornerstone concluded that residual groundwater and soil contamination would be managed through protocols presented in a Soil Management Plan (SMP). Potential vapor intrusion from VOCs would be managed through the protocols presented in a VIMP. A Work Plan was provided that called for resampling groundwater at the main Project Site to reconfirm the trend of decreasing VOC concentrations in groundwater.

---

[14] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Menlo Science and Technology Park Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* August 16.

[15] Ibid.

[16] Environmental Screen Levels (ESLs) established by the San Francisco Bay Regional Water Quality Control Board (January 2019) are used to screen sites for potential human health concerns where releases of hazardous chemicals have occurred. ESLs are risk-based concentrations derived from standardized equations combining exposure information assumptions with toxicity data. Under most circumstances, the presence of a chemical at concentrations below the corresponding screening level can be assumed not to pose a significant health risk.

[17] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Menlo Science and Technology Park Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* August 16.

In 2019, Cornerstone prepared another Phase I ESA for the main Project Site[18] to update the prior 2015 ESA. After reconnaissance at the main Project Site and a review of regulatory database reports and available information, as well as previously prepared reports, Cornerstone identified the following RECs in its Phase I ESA:

- Soil, soil vapor, and groundwater at the main Project Site have been affected by past commercial/industrial uses. Localized soil, soil vapor, and groundwater contamination remains onsite. Deed restrictions have been established that specify several requirements that pertain to development.
- Affected sediments may remain in portions of the storm drain system that were not previously sampled or cleaned. Sediments within the storm drain system should be property managed during redevelopment activities.

The 2019 Phase I ESA[19] also identified the CRECs listed below. Residual contaminant concentrations associated with the CRECs remain in place at the main Project Site. The associated San Francisco Bay RWQCB and/or DEH closure letters stipulate various restrictions or are contingent upon the affected areas remaining as paved, commercial property:

- In 1990, VOCs were detected in soil and groundwater from a solvent release at a former metal plating shop used by Fairchild Hiller (Parcel H). Several associated investigations subsequently were conducted to evaluate soil and groundwater quality and remedial measures were implemented. Residual VOC concentrations remain in soil, soil vapor, and groundwater at the main Project Site.
- TPH-affected soil was previously identified on Parcel F-2 and adjacent portions of Parcel H. This TPH-affected soil remains onsite. Similar TPH concentrations were reported in soil on Parcel M (1376 and 1374 Willow Road, Building M-1 and M-2, MPK 55) in the southeast portion of the main Project Site during facility closure activities conducted in 1999 on behalf of a former tenant (Advanced Metal Components, Inc.). During sampling by Cornerstone in 2017, TPH as diesel concentrations that exceeded the San Francisco Bay RWQCB's Tier 1 ESL were identified on Parcels F-2 and H. The TPH concentrations detected in soil sampled on Parcel M did not exceed the Tier 1 ESLs.
- PCB-affected soil was previously excavated from Parcel E (1003–1005 Hamilton Court, Building E, MPK 46) in the northern portion of the main Project Site. Residual PCB-affected soil remains onsite. PCBs were detected in six of 40 samples analyzed.
- A diesel UST was removed from the onsite Menlo Industrial Pump Station in 1992. Residual concentrations of TPH as diesel reportedly remain in soil near the former UST locations. Except for a notification requirement, the DEH closure letter did not stipulate specific restrictions. It is anticipated, however, that the residual affected soil will require proper management if disturbed during future development activities. Diesel- and oil-range petroleum hydrocarbons were not detected in groundwater samples collected from nearby borings in 2017.

[18] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Menlo Science and Technology Park Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California.* August 16.

[19] Ibid.

The 2019 Phase I ESA[20] also identified the following HRECs:

- Former Hiller facilities are labeled on a 1964 facility map as "fuel storage" (at one location) and "gasoline pump underground" (at three locations). Soil and groundwater quality at these locations was evaluated by Cornerstone in 2017 (report issued in February 2018); no significant impacts were identified.
- In 1993, oil and grease were detected at a concentration of 410 mg/kg in a soil sample collected near a transformer station on the east side of Building R. This sample was not analyzed for PCBs, a common contaminant in transformer oil. Additional soil sampling near the transformer station was conducted by Cornerstone in 2018. Detected PCB concentrations in soil did not exceed residential screening criteria.
- During prior studies, sediments within storm drains at the main Project Site (parcels formerly occupied by Membrane Technologies, Raychem, and Rod-L Electronics) were identified as affected, mainly with TPH and metals. The identified affected drains and catch basins reportedly were cleaned.
- Facility closure activities conducted at former Raychem facilities at Building M-1, M-2, and G (980 Hamilton Avenue, Building G, MPK 56) involved the collection of soil and groundwater samples as well as the removal of affected soil from a sump on the east side of Building M. Significant concentrations of residual remaining contaminants do not appear to have been identified.
- Facility closure activities conducted at the former Northwood facility at Building K-1 (940 Hamilton Court, MPK 51) involved the collection of soil and groundwater samples as well as the removal of affected soil. Significant concentrations of residual remaining contaminants do not appear to have been identified.
- Facility closure activities conducted at the former Federal Express facility at Building K-2 (960 Hamilton Court, MPK 53) involved the collection of soil samples. Total recoverable petroleum hydrocarbons were reported in one soil sample. VOCs and ethylene glycol were not detected. Contaminants were not detected in samples from 16 subsequent borings, with the exception of TPH in one soil sample.
- EKI reportedly provided oversight of closure activities at Chemetal (Building H) that involved soil and groundwater sampling as well as excavation of affected soil and concrete. A 1995 DEH letter confirms that the Chemetal facility met the cleanup requirements.
- In 2007, two USTs were removed from Parcel B. These USTs are not listed in the leaking UST database. Prior sampling data as well as recent sampling by Cornerstone in 2018 indicate that no further work appears to be required.

Hamilton Avenue Parcels North and South

Hamilton Avenue Parcel North: 871–899 Hamilton Avenue (Belle Haven Retail Center)

Cornerstone performed a Phase I ESA[21] for Hamilton Avenue Parcel North, at 871–899 Hamilton Avenue (currently the Belle Haven Retail Center). The Phase I ESA revealed no RECs. No environmental liens were discovered for the site. Hamilton Avenue Parcel North previously consisted of undeveloped land that was used for hay cultivation, cattle grazing, and agricultural operations. This site was developed with residential uses in the 1940s. By 1961, the site included a contractor's storage yard and a

[20] Ibid.

[21] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871–899 Hamilton Avenue, Menlo Park, California*. June 16.

commercial building. The Lefholz Construction Company occupied the site from at least 1969 to 1971. The Menlo Park City Housing Department occupied Hamilton Avenue Parcel North from 1973 to 1977. A City Youth Service Center was located on the site from 1976 to 1980. The Big Six Domino Club was located on the site from 1988 to 1996.[22]

In 1995, a Phase I ESA with visual asbestos reconnaissance was prepared for Hamilton Avenue Parcel North. At that time, 871 Hamilton Avenue was a card club. In 1998, the San Mateo County Health Services Agency issued a business closure report for the commercial building at 871 Hamilton Avenue.[23] This commercial building, constructed in 1976, contained a hydraulic lift, which was removed in 1998 under San Mateo County oversight. The DEH issued a letter regarding the lift, stating that no further action was required. A soil sample collected below the lift to a depth of approximately 9 feet was analyzed. Total recoverable petroleum hydrocarbons were detected at an amount below the San Francisco Bay RWQCB's current Tier 1 ESL.[24] The commercial building was subsequently demolished to construct the current Belle Haven Retail Center.

In 1998, fill material was imported to the site and stockpiled. Fill samples were collected and analyzed. Xylene and total petroleum hydrocarbons as diesel (TPHd) were identified in the samples but at concentrations that did not exceed the San Francisco Bay RWQCB's Tier 1 ESLs.[25] In 1999, a Phase I ESA (Proposed Belle Haven Retail Center, 871 Hamilton Avenue) was prepared.[26] In 2002, 871 Hamilton Avenue was inspected in association with the Residential Lead-Based Paint Hazard Reduction Act of 1992. No violation occurred.[27]

Hamilton Avenue Parcel North: 1401 Willow Road (Jack in the Box Restaurant)

Cornerstone performed a Phase I ESA for Hamilton Avenue Parcel North at 1401 Willow Road (currently a Jack in the Box restaurant). This Phase I ESA revealed one HREC (discussed below).[28]

Hamilton Avenue Parcel North at 1401 Willow Road previously consisted of undeveloped land that was used for hay cultivation, cattle grazing, and agricultural operations. The site was developed in 1964 with a commercial building that was occupied by Parisian Bakery (an affiliate of Colombo Bakery). In 1986, a 2,000-gallon gasoline UST was removed from the site. Soil and groundwater tests detected total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (BTEX). A groundwater monitoring well was installed within the backfill in 1992. Soil and groundwater samples did not detect TPHg or BTEX compounds. Quarterly groundwater monitoring of the well conducted from 1992 to 1993 revealed no or very low concentrations of TPHg or BTEX. During the last two 1993 monitoring events, TPHg and BTEX were not detected in groundwater. In 1994, an additional well was installed 5 feet north of the former UST excavation. Soil and groundwater samples did not detect TPHg or BTEX. The DEH issued a "no further action" letter. The case was closed in 1994 and the monitoring wells were destroyed.[29] The building was leased to St. Chocolate, Inc., in 1987 and the Desert [*sic*] Factory in the mid-1990s. The building was demolished in 1998. The existing building, occupied by Jack

[22] Ibid.
[23] Ibid.
[24] Ibid.
[25] Ibid.
[26] Ibid.
[27] Ibid.
[28] Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. April 23.
[29] Ibid.

in the Box, was constructed in 1999. In 2016 and 2018, no violations were reported by the DEH during inspections.

No RECs were identified in the ESA. However, Cornerstone identified one HREC:

- A 2,000-gallon gasoline UST was removed from the site in 1986. Residual concentrations of petroleum hydrocarbons were detected in groundwater within the UST excavation but were not detected in most samples subsequently collected from nearby monitoring wells and soil borings. The DEH issued a "no further action" letter on August 15, 1994, indicating that no further work was required.

Hamilton Avenue Parcel South: 1399 Willow Road (Chevron Gas Station)

Cornerstone performed a Phase I ESA for Hamilton Avenue Parcel South at 1399 Willow Road (currently a Chevron gas station). The Phase I ESA revealed one REC (discussed below).[30]

Hamilton Avenue Parcel South previously consisted of undeveloped land that was used for hay cultivation, cattle grazing, and agricultural operations. The site was developed by the late 1930s with several small structures, providing church, retail, grocery, restaurant, and residential uses in the following decades. By 1991, the prior structures were removed. The site remained undeveloped until, in 1999, a permit was granted to construct the existing service station, car wash, and food market and install two gasoline USTs with capacities of 15,000 and 20,000 gallons. In 2008, soil samples were collected from native soil beneath the gasoline dispensers. TPHg, benzene, and ethylbenzene were detected at low concentrations that did not exceed residential screening criteria. However, MTBE was detected at levels that exceeded the San Francisco Bay RWQCB's Tier 1 ESLs. Further soil and groundwater samples were analyzed, and no fuel oxygenate constituents were detected. The DEH issued a 2009 letter, stating that, based on sampling results, the agency would not open the site as a Groundwater Protection Program case or require any additional investigation or remedial action.[31] In 2015, additional fuel storage system upgrade activities were completed and soil and groundwater sampling was conducted. Analysis of the samples taken from below the gasoline dispensers detected TPHg and BTEX at low concentrations that did not exceed residential screening criteria. TPHg and BTEX were not detected in excavated soil or in groundwater. Inspections conducted by DEH between 2000 and 2020 did not identify any violations.[32]

Given the double-wall construction and age of the USTs, as well as the results of prior sampling, the USTs appear to have low potential with respect to affecting the site. However, Cornerstone identified one REC:

- Soil adjacent to structures that are painted with lead-containing paint can become affected with lead as a result of the weathering and/or peeling of painted surfaces. Soil near wood-framed structures also can be affected by pesticides that were used historically to control termites. There is potential for residual lead and pesticide concentrations to remain in onsite soil resulting from prior onsite structures.

[30] Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. October 13.

[31] Ibid.

[32] Ibid.

Groundwater Quality

Main Project Site

Groundwater levels beneath the main Project Site range from 7 to 9 feet below the ground surface (bgs). As discussed in the site history, above, the main Project Site contains a groundwater VOC plume that originated from an area in the vicinity of a former metal plating shop. In the 1990s, a groundwater extraction system was put into operation and periodic groundwater monitoring was performed. In 1995, the San Francisco Bay RWQCB issued Cleanup Order No. 95-086, stating that the groundwater contamination was contained and that risks could be managed through deed restrictions, monitoring, and a contingency plan for remediation. The groundwater contamination remains onsite. Deed restrictions prohibit the pumping of groundwater, except for remediation purposes, unless authorized by the San Francisco Bay RWQCB.

Hamilton Avenue Parcels North and South

Groundwater levels beneath Hamilton Avenue Parcels North and South range from 8 to 10 feet bgs. Phase I ESAs varied in their assessment of groundwater contamination at the three included sites. At the Belle Haven Retail Center at Hamilton Avenue Parcel North, groundwater levels range from 8 to 10 feet bgs. The Phase I ESA found no issues related to groundwater.[33] At the service station at Hamilton Avenue Parcel South, groundwater samples were collected in the vicinity of the dispensers and analyzed.[34] No contaminants were detected above screening criteria.[35]

At the Jack in the Box Restaurant, groundwater was tested and monitored for contaminants after the 1986 removal of a gasoline UST.[36] TPHg, benzene, toluene, and xylenes were detected in the 1986 groundwater sample. In 1992, a monitoring well was installed. Analysis of groundwater from the well did not detect high levels TPHg or BTEX. In 1994, another monitoring well was installed and groundwater samples taken. Analysis of the samples did not detect TPHg or BTEX. The case was closed, DEH issued a "no further action" letter, and the monitoring wells were destroyed in 1994.

Soil Quality and Soil Vapor

Main Project Site

As discussed above under *Site History and Corrective Actions*, VOCs have been detected in soil underlying the main Project Site, including the location of the former metal plating shop (Parcel H) and Parcels F-2 (1050–1098 Hamilton Court, Building F-2). More than 100 exploratory borings have been advanced and soil samples analyzed since 1990, before and after remediation efforts. In November 2017 and October 2019, Cornerstone collected and analyzed 148 soil samples and found site soil quality similar to the condition reported in 1999 when the San Francisco Bay RWQCB provided regulatory closure.[37] Analysis

[33] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871–899 Hamilton Avenue, Menlo Park, California*. June 16.

[34] Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. October 13.

[35] Ibid.

[36] Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. April 23.

[37] Cornerstone Earth Group. 2019 (updated 2020). *Supplemental Phase II Investigation, Menlo Science and Technology Park, Willow Road, Hamilton Avenue and Hamilton Court, Menlo Park, California.* December 12, 2019 (updated November 11, 2020).

of soil samples detected TPH as diesel, TPH as oil, and polycyclic aromatic hydrocarbons (PAHs). No samples exceeded commercial screening levels. However, one sample revealed TPH as diesel at 1,200 mg/kg, which is equal to its commercial screening level (1,200 mg/kg), and some samples exceeded residential screening levels. However, the samples that exceed residential screening levels were collected in what appears to be fill material; deeper samples did not exceed residential screening levels of TPH or PAHs, indicating the impacts do not appear to extend beyond the fill.[38]

Based on data obtained from prior studies, low concentrations of residual contaminants remain in soil, soil vapor, and groundwater.[39] The primary cause of the contamination was the placement of solvents into a subgrade concrete sump that subsequently leaked into the soil and groundwater. Previously completed remedial actions included removing the concrete sump in 1992, excavating soils surrounding the sump, and installing an SVE and groundwater extraction system. The SVE system successfully treated VOC concentrations in soil near the former sump, and VOC concentrations in groundwater have been likewise reduced. In 1999, "no further action" status was granted by the San Francisco Bay RWQCB. However, because a change in land use from commercial to residential is planned, subsequent studies were completed to determine whether remaining contaminant levels are acceptable for residential use. The studies concluded that contaminants have continued to reduce in concentration over time and that the "no further action" status is appropriate for continued commercial use but further mitigation is needed to develop the main Project Site safely for residential use.

The following VOCs are present in groundwater and considered chemicals of concern at the main Project Site:[40]

- TCE
- PCE
- Cis-1,2 dichloroethene
- Vinyl chloride
- Benzene

Other chemicals of concern in areas of localized soil include the following contaminants:[41]

- TPH
- PCBs
- Metals such as lead
- Benzo(a)pyrene

Because of the contaminants, covenant and environmental restrictions (deed restrictions) were filed with San Mateo County in 1996 for each affected parcel.[42] The deed restrictions noted that groundwater at the site contained residual hazardous substances, which appeared to be limited to the water-bearing zone encountered between 9 and 36 feet bgs. Before dewatering, approval from appropriate agencies (e.g., DTSC, the San Francisco Bay RWQCB, and/or DEH) must be obtained.

---

38 Cornerstone Earth Group. 2020. *Soils Management Plan and Air Monitoring Plan Vapor Intrusion Mitigation Plan Summary Letter: Willow Village, Menlo Park, CA*. May 21.

39 Cornerstone Earth Group. 2021. *RAW Summary letter, Residential/Shopping District, Willow Village, Menlo Park, CA.* Proposal No. 254-11-20.

40 Ibid.

41 Ibid.

42 Ibid.

Hamilton Avenue Parcels North and South

As discussed above under *Site History and Corrective Actions*, total recoverable petroleum hydrocarbons were detected in soil underlying Hamilton Avenue Parcel North, at the location of the former commercial building at 871 Hamilton Avenue. However, the amount of contamination in the soil samples taken from beneath a hydraulic lift location at the former building was below the San Francisco Bay RWQCB's Tier 1 ESL.[43] In 1986, a 2,000-gallon gasoline UST was removed from Hamilton Avenue Parcel North at 1401 Willow Road. Petroleum hydrocarbons were not detected in most soil boring samples and the case was closed in 1994.[44]

As discussed above under *Site History and Corrective Action*, soil samples taken from below the gasoline dispensers at Hamilton Avenue Parcel South detected low concentrations of TPHg and BTEX, which did not exceed residential screening criteria.[45]

Although no soil vapor samples were taken at Hamilton Avenue Parcels North and South, no offsite spill incidents have been reported that would significantly affect soil vapor.[46,47,48]

Naturally Occurring Asbestos

Chrysotile and amphibole asbestos occur naturally in certain San Francisco Bay Area settings, most commonly in ultramafic rocks such as serpentinite.[49] Construction activities such as grading can generate asbestos-containing dust, exposure to which can result in lung cancer, mesothelioma, and asbestosis. The main Project Site is not underlain by ultramafic rock.[50] All of the sites (i.e., main Project Site, Hamilton Avenue Parcels North and South, Willow Road Tunnel site) are approximately 6.5 miles from the nearest outcrop of any rock type typically associated with naturally occurring asbestos. Therefore, the potential for naturally occurring asbestos to be present at the Project Site is low.[51]

Hazardous Building Materials

Hazardous building materials, as described in the *Regulatory Setting* section, could pose a health risk to construction workers and the public if not handled and disposed of properly. These materials include asbestos-containing building materials and lead-based paints.

---

43 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871–899 Hamilton Avenue, Menlo Park, California*. June 16.

44 Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. April 23.

45 Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. October 13.

46 Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. April 23.

47 Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. October 13.

48 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871–899 Hamilton Avenue, Menlo Park, California*. June 16.

49 Cornerstone Earth Group. 2020. *Geotechnical Consultation, Willow Village Expansion Feasibility Study*. October 15.

50 Ibid.

51 Cornerstone Earth Group. 2019. *Preliminary Geotechnical Investigation Update, Willow Village*. June 20.

Main Project Site

As shown in Table 2-1 in Chapter 2, *Project Description*, the existing buildings on the main Project Site were built prior to 1981; therefore, asbestos-containing building materials may be present in the structures. Although the Consumer Product Safety Commission banned the use of lead as an additive in paint in 1978, given the age of the building, lead-based paints may be present.[52] Lead-based paints and other hazardous materials that would be considered universal wastes during demolition activities may be present in the buildings.

Hamilton Avenue Parcels North and South

As also shown in Table 2-1 in Chapter 2, *Project Description*, all existing buildings on the Hamilton Avenue Parcels were built after 1981; therefore, it is unlikely that the building materials contain asbestos. The Consumer Product Safety Commission banned the use of lead as an additive in paint in 1978, therefore, given the age of the buildings, lead-based paint is not likely to be present.[53,54,55]

Radioactive Materials

No radioactive material has been reported as having been located on the main Project Site or Hamilton Avenue Parcels North and South.

Offsite Improvements

Willow Road Tunnel Site

Soil and groundwater contamination exist at the offsite improvement location where the Willow Road Tunnel would surface at Meta's West Campus (EnviroStor ID #60001437, 312–314 Constitution Drive). The site is a voluntary cleanup location. Contaminants of concern are 1,1-dichloroethane, arsenic, chlorobenzene, PCBs, and total chromium (1:6 ratio, CR VI:CR III).

The Willow Road Tunnel site is on the eastern portion of an 82-acre property that was owned and operated by Raychem,[56] a materials science company that developed and supplied products for aerospace, automotive, construction, electronics, electrical power, and telecommunication industries. The Willow Road Tunnel site is part of an area known as Expanded Area 6, or the ChemPlant. Area 6 previously included a hazardous waste transfer depot, an Omega wastewater treatment system, several solid waste management units, a process wastewater sump, a Thorminol heater/Dowtherm boiler, and five buildings.

Known contaminants of concern in soil, soil vapor, and groundwater include PCBs, PAHs, VOCs, and TPHs.[57] Between 2000 and 2007, several Interim Remedial Measures (IRMs) were completed. Work plans with removal action goals were submitted to and approved by DTSC. After each IRM, a completion report

[52] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Menlo Science and Technology Park, Willow Road, Hamilton Avenue, and Hamilton Court*. August 16.

[53] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment, Belle Haven Retail Center, 871–899 Hamilton Avenue, Menlo Park, California*. June 16.

[54] Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment, 1399 Willow Road, Menlo Park, California*. October 13.

[55] Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment, 1401 Willow Road, Menlo Park, California*. April 23.

[56] Cornerstone Earth Group. 2021. *Phase I Environmental Site Assessment, Willow Tunnel Construction Zone and Laydown Areas, Willow Road and Hamilton Avenue, Menlo Park, California*. Project Number 254-11-26. December 21.

[57] Ibid.

was submitted to DTSC. The work included decommissioning and demolishing former buildings, removing aboveground chemical storage tanks and waste storage tanks, excavating and disposing of contaminated soil, and capping PCB-affected soil that remained in place.

Upon completion of the IRMs, a Final Remediation Action Plan (RAP) and Remedial Design and Implementation Plan (RDIP) were subsequently prepared and approved by DTSC.[58] As required by the RAP and RDIP, approximately 43,000 tons (or 25,000 cubic yards) of impact soil were excavated and transported to permitted disposal facilities. In general, Remedial Action Levels (RALs) were achieved, but four isolated areas, conservatively estimated at 740 cubic yards of affected soil, remained. Three of four locations at which affected soil was left in place are located on or immediately adjacent to the Willow Road Tunnel site. These sites are described as Remedial Excavation No. 25, adjacent to Pacific Gas and Electric Company (PG&E) tower; Remedial Excavation No. 26, adjacent to PG&E tower; and Remedial Excavation No. 27, at water/fire line. A Soil Removal Completion Report was approved by DTSC in September 2014.

The remaining contaminated soil is not likely to pose a significant threat to human health in a commercial setting.[59] A Site Management Plan (SMP) was prepared in March 2015 that describes required protocols for management of residual contaminants in soil, soil vapor, and groundwater at the site. If soil near the three locations where affected soil was left in place at the Willow Road Tunnel site is to be disturbed, DTSC, the U.S. Environmental Protection Agency (EPA), and the environmental consultant are to be notified and worker access restricted, as required by the SMP.

Because residual chemicals remain at the site, DTSC determined that a land use covenant and agreement to restrict site uses were necessary for the protection of human health and the environment.[60] Accordingly, a Land Use Covenant (LUC) restricting use of the property, was made between TE Connectivity, of which Raychem is now a part of, and DTSC in January 2007. This LUC is binding upon all owners of the land, their heirs, successors, and assignees. This LUC, which must be incorporated by reference in all deeds and leases for any portion of the property, allows commercial and industrial uses but not residential, hospital, school, and daycare uses, as required by DTSC.[61] The 2007 LUC was amended in August 2012 to allow activities that may disturb or adversely affect the integrity of the engineered cap but only with the written approval of DTSC and EPA.

No hazardous building materials would remain at the Willow Road Tunnel site after demolition of structures with the IRMs discussed above under *Subsurface Hazardous Materials*.[62]

Other Offsite Improvements

Other offsite improvement locations include the roundabout at the Hetch Hetchy right-of-way; underground utility lines along Hamilton Avenue, Bayfront Expressway, and University Avenue; the PG&E Ravenswood substation and associated utilities lines; and various intersection improvements. All locations are within urbanized areas that have been previously disturbed. Aside from the voluntary

[58] Ibid

[59] Ibid.

[60] Ibid.

[61] Other prohibited activities include raising cattle, growing food crops, or producing agricultural products; drilling for drinking water, oil, or gas; extracting groundwater for purposes other than groundwater monitoring, site remediation, or construction dewatering; conducting any activity that would disturb the engineered cap without written approval from DTSC and EPA; and conducting any activity that would interfere with the operation and maintenance of groundwater monitoring wells without written approval from DTSC.

[62] Cornerstone Earth Group. 2021. *Environmental Summary, Willow Tunnel Construction Zone, Menlo Park, California.* Proposal No. 245-11-20. June 28.

cleanup sites at the main Project Site and the Willow Village Tunnel site, there are no federally or state-listed cleanup sites or known subsurface hazardous materials within 0.25 mile of proposed offsite improvements.[63,64]

Schools

A search for public and private schools within 0.25 mile of the main Project Site and Hamilton Avenue Parcels North and South found three schools in the area, with grades ranging from kindergarten (K) to Grade 12 (see Table 3.12-1).[65] The Mid-Peninsula High School is approximately 0.02 mile south of the main Project Site. The Open Mind School/Wund3rSCHOOL is approximately 0.07 mile south of the main Project Site. César Chávez Ravenswood Middle School is approximately 0.20 mile southeast of the main Project Site. In addition, several public and private schools are within 0.25 mile of proposed offsite improvements that could require ground disturbance;[66] these offsite improvements are considered part of the Proposed Project. Costaño Elementary School in East Palo Alto is immediately adjacent to a potential offsite PG&E line under University Avenue. Belle Haven School in Menlo Park is immediately adjacent to the intersection of Chilco Street and Hamilton Avenue, an area where underground utility line construction could occur. Beechwood School is also within 0.15 mile of this intersection.

Table 3.12-1. Schools within 0.25 Mile of Proposed Project Construction

Type	Address	Grade	Type
Within 0.25 Mile of Project Site			
Mid-Peninsula High School	1340 Willow Road (Menlo Park)	9–12	Private
Open Mind School/Wund3rSCHOOL	1215 O'Brien Drive (Menlo Park)	K–12	Private
César Chávez Ravenswood Middle School	2450 Ralmar Avenue (East Palo Alto)	6–8	Public
Within 0.25 Mile of Offsite Improvements			
Costaño Elementary School	2695 Fordham Street (East Palo Alto)	K–5	Public
Belle Haven School	415 Ivy Drive (Menlo Park)	K–5	Public
Beechwood School	50 Terminal Avenue (Menlo Park)	K–8	Private

Aviation Hazards

The nearest public use airport to the main Project Site and Hamilton Avenue Parcels North and South is Palo Alto Airport, which is 2.15 miles to the southeast. According to the Comprehensive Land Use Plan adopted by the Santa Clara County Airport Land Use Commission, the Project Site is not within the airport influence area for Palo Alto Airport.[67] In addition, no private airstrips have been mapped within 2 miles of the Project Site.

63 Department of Toxic Substances Control. 2022. *EnviroStor Database*. Available: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=Menlo+Park. Accessed on February 6, 2022.

64 State Water Resources Control Board. 2022. *GeoTracker.* Menlo Park, CA. Available: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=menlo+park. Accessed: March 16, 2022.

65 National Center for Education Statistics. 2021. *School Search Tool for Public and Private Schools*. Available: http://nces.ed.gov/ccd/schoolsearch/. Accessed: April 26, 2021.

66 Schools that may be close to proposed intersection improvements that involve surface work, such as restriping intersections or turn lanes or coordinating traffic signals, are not considered in this analysis because of the limited ground disturbance.

67 Santa Clara County Airport Land Use Commission. 2021. *Comprehensive Land Use Plan, Santa Clara County, Palo Alto Airport.* Adopted: November 19, 2008. Amended: November 16, 2016. Available: https://www.sccgov.org/sites/dpd/Commissions/ALUC/Pages/ALUC.aspx. Accessed: April 26, 2021.

Wildland Fire Hazards

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped Very High Fire Hazard Severity Zones in San Mateo County to help responsible local agencies, such as the Menlo Park Fire Protection District, identify measures to reduce the potential for loss of life, property, and resources from wildland fire. CAL FIRE has determined that there are no Very High Fire Hazard Severity Zones in the vicinity of the main Project Site or Hamilton Avenue Parcels North and South.[68]

Regulatory Setting

The proper management of hazardous materials is a common concern for all communities. Beginning in the 1970s, governments at the federal, state, and local levels became increasingly concerned about the effects of hazardous materials on human health and the environment. Numerous laws and regulations were developed to investigate and mitigate these effects. As a result, the storage, use, generation, transport, and disposal of hazardous materials are highly regulated by federal, state, and local agencies. These agencies, as well as the laws, regulations, and programs they administer, are summarized below.

Federal and State Regulations

Hazardous Materials Management. The U.S. Environmental Protection Agency (EPA) is the lead agency with responsibility for enforcing federal laws and regulations that govern hazardous materials that can affect public health or the environment. The major federal laws and regulations pertaining to the management of hazardous materials on the Project Site are the Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act (TSCA).

In 1976, RCRA was enacted to provide a general framework for EPA to regulate hazardous waste from the time it is generated until its ultimate disposal. In accordance with RCRA, facilities that generate, treat, store, or dispose of hazardous waste are required to ensure that the wastes are properly managed from "cradle to grave" by complying with the federal waste manifest system. In California, DTSC administers the RCRA program. One of the requirements for an RCRA-permitted facility is to implement a "corrective action program" and investigate and remediate any releases of hazardous wastes at the facility under the supervision of DTSC. As a result, DTSC has supervised the investigation and cleanup of contaminated soil and groundwater at the Project Site, as discussed in the *Environmental Setting*, above.

In 1976, the TSCA was enacted to provide EPA with the authority to regulate the production, importation, use, and disposal of chemicals that pose a risk to public health and the environment. The TSCA also gives EPA the authority to regulate the cleanup of sites that have been contaminated with PCBs, such as the Project Site.

Worker Health and Safety. The Occupational Health and Safety Administration (OSHA) is the federal agency with responsibility for enforcing and implementing federal laws and regulations pertaining to worker health and safety. OSHA's Hazardous Waste Operations and Emergency Response regulations

[68] California Department of Forestry and Fire Protection. 2007. *San Mateo County Fire Hazard Severity Zones in SRA*. Adopted by CAL FIRE on November 7, 2007. Available: https://osfm.fire.ca.gov/media/6802/fhszs_map41.pdf. Accessed: April 26, 2021.

require training and medical supervision for workers at hazardous waste sites.[69] Additional regulations have been developed regarding exposure to lead[70] and asbestos[71] to protect construction workers. State worker health and safety regulations related to construction activities are enforced by the California Division of Occupational Safety and Health, known as Cal/OSHA. These regulations include requirements regarding protective clothing and training and limits on exposures to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigation and abatement. These regulations equal or exceed their federal counterparts.

Hazardous Building Materials

Hazardous materials are commonly found in building materials that may be affected during demolition and renovation activities. The proper management of hazardous building materials, in accordance with various regulations, is described below.

Asbestos-Containing Building Materials. Exposure to asbestos, a state-recognized carcinogen, can result in lung cancer, mesothelioma (i.e., cancer of the linings of the lungs and abdomen), or asbestosis (i.e., a scarring of lung tissue that results in constricted breathing). Asbestos-containing building materials, such as thermal system insulation, surfacing materials, and asphalt and vinyl flooring, may be present in buildings constructed prior to 1981.[72] Therefore, workers who conduct asbestos abatement must be trained in accordance with state and federal OSHA requirements. The National Emissions Standards for Hazardous Air Pollutants (NESHAP) require the removal of potentially friable (i.e., crushable by hand) asbestos-containing building materials prior to building demolition or renovation. The Bay Area Air Quality Management District (BAAQMD) oversees the removal of regulated asbestos-containing building materials. All friable asbestos-containing building materials or non-friable asbestos-containing building materials that may be damaged must be abated prior to demolition in accordance with applicable requirements. Friable asbestos-containing building materials must be disposed of as asbestos waste at an approved facility. Non-friable asbestos-containing building materials may be disposed of as non-hazardous waste at landfills that accept such wastes.

Lead-Based Paint. Exposure to lead, a state-recognized carcinogen, can result in stomach and lung cancer and impair nervous, renal, cardiovascular, and reproductive systems. Although lead-based paint in residential structures was banned in 1978, this restriction did not apply to commercial and industrial buildings; therefore, any commercial or industrial building, regardless of construction date, could have surfaces that have been coated with lead-based paint.[73] Loose and peeling lead-based paint must be disposed of as a state and/or federal hazardous waste if the concentration of lead equals or exceeds applicable waste thresholds. State and federal OSHA regulations require a supervisor who is certified with respect to identifying existing and predictable lead hazards to oversee air monitoring and other protective measures during demolition activities in areas where lead-based paint may be present. Special protective measures and notification of Cal/OSHA are required for highly hazardous construction tasks related to lead, such as manual demolition, abrasive blasting, welding, cutting, or torch burning, where lead-based paint is present.

---

69 Code of Federal Regulations, Title 29, *Labor*, Section 1910.120, Hazardous Waste Operations and Emergency Response.

70 Code of Federal Regulations, Title 29, *Labor*, Section 1926.62, Lead.

71 Code of Federal Regulations, Title 29, *Labor*, Section 1926.1101, Asbestos.

72 California Code of Regulations, Title 8, *Industrial Relations*, Section 5208, Asbestos.

73 Department of Toxic Substances Control. 2006. *Interim Guidance Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead—Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers*. June 9 (revised). Available: https://dtsc.ca.gov/wp-content/uploads/sites/31/2018/09/Guidance_Lead_Contamination_050118.pdf. Accessed: May 9, 2021.

Universal Wastes. Universal wastes include a wide variety of hazardous wastes that are commonly produced in households and businesses. For example, universal wastes include electrical transformers, fluorescent lighting equipment, electrical switches, heating/cooling equipment, and thermostats that contain hazardous materials such as PCBs, diethylhexyl phthalate, mercury, and other metals. The disposal of these materials is regulated under the California Universal Waste Rule, which is less stringent than most other federal and state hazardous waste regulations. To manage universal waste in accordance with the streamlined requirements for the state, generators must relinquish the waste to a universal waste transporter, another universal waste handler, or a universal waste destination facility.

Naturally Occurring Asbestos

The California Air Resources Board (CARB) has adopted the Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations, which requires construction and grading projects to implement best available dust mitigation measures where naturally occurring asbestos rock is likely to be encountered. CARB defines "asbestos-containing material" as any material that has an asbestos content of 0.25 percent or greater. In accordance with Title 17 of the California Code of Regulations, Section 93105, construction projects greater than 1 acre in size must prepare and submit an Asbestos Dust Mitigation Plan to BAAQMD for review and approval. The Asbestos Dust Mitigation Plan must indicate how construction and grading operations will minimize emissions and ensure that no equipment or operation will emit visible dust across the property line. Upon completion of construction activities, disturbed surfaces must be stabilized (e.g., with vegetative cover or pavement) to prevent visible emissions of asbestos-containing dust caused by wind speeds of 10 miles per hour or more. BAAQMD must also be notified at least 14 days prior to any construction or grading in areas with naturally occurring asbestos rocks.

Hazardous Materials Release Sites

In California, EPA has granted most enforcement authority regarding federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). Under the authority of CalEPA, the State Water Resources Control Board (State Water Board) and DTSC are responsible for overseeing remediation at contaminated soil and groundwater sites. The provisions of Government Code Section 65962.5, also known as the Cortese List, require the State Water Board, DTSC, the California Department of Health Services, and the California Department of Resources Recycling and Recovery to submit information to CalEPA regarding sites that were associated with solid waste disposal, hazardous waste disposal, and/or hazardous materials releases.

Hazardous Materials Transportation

In 1990 and 1994, the Hazardous Material Transportation Act was amended to strengthen regulations for protecting life, property, and the environment from the inherent risks of transporting hazardous material. Furthermore, the U.S. Department of Transportation (USDOT) developed hazardous materials regulations regarding classification, packaging, transport, and handling as well as regulations regarding employee training and incident reporting.[74] The transport of hazardous materials is subject to both RCRA and USDOT regulations. The California Highway Patrol, the California Department of Transportation (Caltrans), and DTSC are responsible for enforcing federal and state regulations pertaining to the transport of hazardous materials. If a discharge or spill of hazardous materials occurs during transportation, the transporter is required to take appropriate immediate action to protect human health and the environment (e.g., notify local authorities and contain the spill); the transporter is also responsible for cleanup.[75]

[74] Code of Federal Regulation, Title 49, *Transportation*, Parts 171–180.

[75] California Code of Regulations, Title 22, *Social Security*, Section 66260.10 et seq.

Sources of Drinking Water

According to the State Water Board's Source of Drinking Water Policy (Resolution 88-63), all groundwater in the state is considered to be suitable, or potentially suitable, for municipal or domestic water supplies, except under the following conditions:

- Total dissolved solids (TDS) exceed 3,000 milligrams per liter, and the RWQCBs[76] do not reasonably expect the water source to supply a public water system; or
- There is contamination, either by natural processes or by human activity (unrelated to the specific pollution incident), that cannot reasonably be treated using either best management practices or the best economically achievable treatment practices; or
- The water source does not provide enough water to supply a single well that would be capable of producing an average sustained yield of 200 gallons per day.

Wildland Fire Protection

In accordance with California Public Resource Code Sections 4201–4204 and Government Code Sections 51175–51189, CAL FIRE has mapped areas of significant fire hazard according to fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones, represent risks associated with wildland fires. Fire Hazard Severity Zones mapped by CAL FIRE for state and local responsibility areas are classified as either "medium," "high," or "very high," based on fire hazards; however, the law requires only identification of Very High Fire Hazard Severity Zones in local responsibility areas. Wildland-Urban Interface Areas, as designated by local agencies, are also classified as Fire Hazard Severity Zones.

Local

Hazardous and Acutely Hazardous Emissions

BAAQMD oversees the protection of air quality in the San Francisco Bay Area Air Basin, which includes the Project Site. Hazardous and acutely hazardous emissions during construction (e.g., from demolition of buildings containing asbestos) and facility operations (e.g., from diesel generators) are subject to health risk assessment regulations and permitted conditions of operation to protect nearby sensitive receptors.

Hazardous Materials Management

In California, hazardous waste and materials handling are regulated under the Unified Program. The Unified Program consolidates the administrative requirements, permits, inspections, and enforcement activities for the following existing programs, as established by five different state agencies:

- Hazardous Waste Generator and Tiered Permitting Program (Health and Safety Code [H&SC] Chapter 6.5)
- Underground Storage Tank Program (H&SC Chapter 6.7)
- Aboveground Petroleum Storage Tank Program (H&SC Chapter 6.67)
- California Accidental Release Prevention Program (H&SC Chapter 6.95)
- Hazardous Materials Release Response Plan and Inventory Program (H&SC Chapter 6.95)
- Hazardous Material Management Plan and Hazardous Material Inventory Statement Program (California Fire Code and H&SC Chapter 1)

[76] There are nine RWQCBs that enforce the State Water Board's statewide policies.

The Unified Program requires facilities to properly manage hazardous materials and disclose information regarding such materials to minimize the risk of a hazardous materials release and improve emergency response actions in the event of a release. Although CalEPA oversees the entire program, local government agencies, known as Certified Unified Program Agencies (CUPAs), implement and enforce the elements of the Unified Program. In the city of Menlo Park, the DEH is the CUPA with responsibility for administering the Unified Program.

Emergency Response and Evacuation

In November 2021, the City adopted the local Annex to the County of San Mateo 2021 Multi-jurisdictional Local Hazard Mitigation Plan. The Hazard Mitigation Plan assesses a full range of natural disasters and the City's response through disaster planning.[77] The City developed the Emergency Operation Plan to prepare for responses to emergency situations that could result from natural disasters or technological incidents.[78] The Menlo Park Police Department (MPPD) is the city's primary agency for establishing emergency evacuation routes, which generally consist of the city's major arterial streets (US 101, Interstate 280, State Routes 82 and 84).

Menlo Park Fire Protection District, District Fire Prevention Code

The City of Menlo Park has adopted the 2019 California Fire Code, California Code of Regulations, Title 24, Part 9, except to the extent that portions of the California Fire Code may be added, deleted, modified, or amended by Section 6 (Local Amendments) of the District Fire Prevention Code. Pursuant to Title 24 of the California Code of Regulations (California Building Standards Code, or CBSC) and California Health and Safety Code Section 138369 et seq., a fire protection district may adopt a fire prevention code by reference and also establish more stringent local building standards related to fire and safety than those set forth in the CBSC.

City of Menlo Park General Plan

The following policies and programs from the City of Menlo Park Open Space, Conservation, Noise, and Safety Elements of the City General Plan, adopted May 21, 2013, that have been adopted to avoid or mitigate an environmental impact apply to the Proposed Project:

Goal S-1: Ensure a Safe Community. Minimize risks to life and damage to the environment and property from natural and human-caused hazards and ensure community emergency preparedness and a high level of public safety services and facilities.

> **Policy S1.1: Location of Future Development**. Permit development only in those areas where potential danger to the health, safety, and welfare of the residents of the community can be adequately mitigated.
>
> **Policy S1.3: Hazard Data and Standards**. Integrate hazard data (geotechnical, flood, fire, etc.) and risk evaluations into the development review process and maintain, develop, and adopt up-to-date standards to reduce the level of risk from natural and human-caused hazards for all land uses.
>
> **Policy S-1.5 New Habitable Structures.** Require that all new habitable structures incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused hazards.

[77] City of Menlo Park. 2021. *Annex to 2021 Multi-jurisdictional Local Hazard Mitigation Plan.* October.

[78] City of Menlo Park. 2014. *Emergency Operations Plan*. Available: https://www.menlopark.org/DocumentCenter/View/815/Emergency-Operations-Plan?bidId. Accessed: May 9, 2021.

Policy S1.10: Safety Review of Development Projects. Continue to require hazard mitigation, crime prevention, fire prevention, and adequate access for emergency vehicles in new development.

Policy S1.16: Hazardous Materials Regulations. Review and strengthen, if necessary, regulations for the structural design and/or uses involving hazardous materials to minimize risk to local populations. Enforce compliance with current state and local requirements for the manufacture, use, storage, transport, and disposal of hazardous materials and the designation of appropriate truck routes in Menlo Park.

Policy S1.17: Potential Exposure of New Residential Development to Hazardous Materials. Minimize risks associated with hazardous materials by assessing the exposure of new residential development and sensitive populations near existing industrial and manufacturing areas. Minimize risks associated with hazardous materials.

Policy S1.18: Potential Hazardous Materials Conditions Investigation. Continue to require developers to conduct an investigation of soils, groundwater, and buildings affected by hazardous material potentially released from prior land uses in areas historically used for commercial or industrial uses and identify and implement mitigation measures to avoid adversely affecting the environment or the health and safety of residents or new uses.

Policy S1.19: Disposal of Existing Hazardous Materials on Sites Planned for Housing. Continue to require that sites planned for housing be cleared of hazardous materials (paint, solvents, chlorine, etc.) and the hazardous materials disposed of in compliance with state and federal laws.

Program S1.J: Require Health and Safety Plan for Hazardous Materials. Require preparation of health and safety plans to protect the general public and all workers in construction areas from potentially hazardous materials. The plans shall describe the practices and procedures to protect worker health in the event of an accidental release of hazardous materials or if previously undiscovered hazardous materials are encountered during construction. The plans shall include items such as spill prevention, cleanup, and evacuation procedures and help protect the public and workers by providing procedures and contingencies to reduce exposure to hazardous materials.

Program S1.K: Track Remediation Needs for Existing Known Hazardous Soils and Other Hazardous Materials. Monitor remediation of existing known hazards, such as contaminated soils, and cleanup of leaking or abandoned underground storage tanks.

ConnectMenlo General Plan Update. The following policies of ConnectMenlo, adopted November 29, 2016, that have been adopted to avoid or mitigate environmental impacts apply to the Proposed Project:

Policy LU-2.3: Mixed-Use Design. Allow mixed-use projects with residential units if the project design addresses potential compatibility issues such as traffic, parking, light spillover, dust, odors, and the transport and use of potentially hazardous materials.

Policy LU-7.7: Hazards. Avoid development in areas with seismic, flood, fire, and other hazards to life or property when potential impacts cannot be mitigated.

Environmental Impacts

This section describes the impact analysis related to hazardous materials. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion as warranted.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect if it would result in any of the conditions listed below.

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area.
- Impair or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Methods for Analysis

As described above under *Regulatory Setting*, the use of hazardous materials is subject to numerous laws and regulations. In most cases, the laws and regulations pertaining to hazardous materials management minimize risks to human health and the environment. The impact analysis identifies areas where impacts related to the use of hazardous materials during Project construction and operation would be subject to applicable laws and regulations.

To assess the Proposed Project's potential to create a significant hazard for the public or environment related to subsurface hazardous materials, the impact analysis considers the potential pathways through which exposure to hazards could occur, based on the following reports:

- Phase I Environmental Site Assessment, Menlo Science and Technology Park, Willow Road, Hamilton Avenue, and Hamilton Court by Cornerstone (2019)
- Phase I Environmental Site Assessment, Belle Haven Retail Center, 871–899 Hamilton Avenue by Cornerstone (2019)
- Phase I Environmental Site Assessment, 1399 Willow Road by Cornerstone (2020)
- Phase I Environmental Site Assessment, 1401 Willow Road by Cornerstone (2018)
- Supplemental Phase II Investigation, Menlo Science and Technology Park, by Cornerstone (2018)
- Supplemental Phase II Investigation, 1601 Willow Road, by Cornerstone (2020)
- Environmental Summary, Willow Tunnel Construction Zone, by Cornerstone (2021)
- Phase I Environmental Site Assessment, Willow Tunnel Construction Zone and Laydown Areas (2021)

- Soil Management Plan and Air Monitoring Plan Vapor Intrusion Mitigation Plan Summary Letter by Cornerstone (2020)
- Removal Action Workplan (RAW) Summary Letter, Residential/Shopping District, Willow Village, by Cornerstone (2021)

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the impacts below that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update.[79]

- Impacts related to the routine transport, use, or disposal of hazardous materials were analyzed in the ConnectMenlo EIR as Impact HAZ-1 (pages 4.7-18 to 4.7-21) and determined to be less than significant. Future development involving the routine transport or use of hazardous materials as part of the operational phase or temporary transport or use during the construction phase would be subject to a variety of local, state, and federal regulations. Future development that would use hazardous materials or generate hazardous waste would be regulated pursuant to federal, state, regional, and local laws. In addition, City General Plan goals, policies, and programs would minimize potential hazardous materials impacts that could result from routine transport, use, and disposal. No mitigation was required.
- Impacts as a result of reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment were analyzed in the ConnectMenlo EIR as Impact HAZ-2 (pages 4.7-21 to 4.7-23). Future development under ConnectMenlo, as part of the City's approval process, would be required to comply with existing federal, state, regional, and local laws. In addition, City General Plan goals, policies, and programs would minimize potential hazardous materials impacts that could result from reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Impacts were determined to be less than significant, and no mitigation was required. However, implementation of Mitigation Measures HAZ-4a and 4b would further reduce impacts from sites with known hazardous material contamination (see discussion of Mitigation Measures HAZ-4a and 4b, below).
- Impacts related to hazardous emissions or the handling of hazardous or acutely hazardous materials near schools were analyzed in the ConnectMenlo EIR as Impact HAZ-3 (pages 4.7-23 to 4.7-24). The impacts were found to be less than significant because hazardous materials would be stored, used, and handled according to existing federal, state, and local regulations. Similarly, hazardous materials emissions would be subject to existing federal, state, and local regulations. For any future public schools that would receive state funding for acquisition or construction, DTSC's School Property Evaluation and Cleanup Division would assess, investigate, and clean up the proposed school sites. City General Plan policies and Zoning Ordinance requirements would minimize potential hazardous materials impacts that could result from storing, using, or handling hazardous materials or from generating emissions from hazardous materials. No mitigation was required, although implementation of Mitigation Measures HAZ-4a and 4-b would further reduce impacts from sites with known hazardous material contamination (see discussion of Mitigation Measures HAZ-4a and 4b, below).

[79] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Prepared by PlaceWorks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 19, 2021.

- Impacts related to a project location on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, thereby creating a significant hazard for the public or the environment, were analyzed in the ConnectMenlo EIR as Impact HAZ-4 (pages 4.7-24 to 4.7-26). The impacts would be significant because a number of hazardous materials sites in the city are listed on databases compiled pursuant to Government Code Section 65962.5. Future development would be required to comply with federal, state, regional, and local laws and regulations. City General Plan policies described for Impact HAZ-1 and HAZ-2 would minimize potential impacts. However, hazardous materials are known to be present in sites in the study area that may be redeveloped as part of ConnectMenlo, in areas where, because of past land uses, the direct contact, inhalation, or ingestion of hazardous materials could cause adverse health effects for construction workers and future site users. Implementation of ConnectMenlo Mitigation Measures HAZ-4a and HAZ-4b would reduce the impacts to less than significant. Mitigation Measure HAZ-4a requires construction at the sites with known contamination to be conducted under a project-specific Environmental Site Management Plan (ESMP) prepared in consultation with the RWQCB or DTSC, as appropriate. Mitigation Measure HAZ-4b requires, for sites with potential residual contamination in soil, gas, or groundwater and plans for redevelopment that include an overlying occupied building, a vapor intrusion assessment performed by a licensed environmental professional. If the results of the vapor intrusion assessment indicate the potential for significant vapor intrusion into an occupied building, the project must include vapor controls or source removal, as appropriate, in accordance with regulatory agency requirements.
- Impacts related to a project location within an airport land use plan or within 2 miles of a public airport or public use airport, potentially resulting in a safety hazard, were analyzed in the ConnectMenlo EIR as Impact HAZ-5 (page 4.7-27). The impacts would be less than significant because no portions of the city are within airport safety zones for Palo Alto Airport; the study area is more than 2 miles from San Francisco International Airport, San Carlos Airport, and Moffett Federal Airfield and would not have an adverse effect on aviation safety or flight patterns. No mitigation was required.
- Impacts related to interference with an adopted emergency response plan or emergency evaluation plan, or impairment of such plans, were analyzed in the ConnectMenlo EIR as Impact HAZ-7 (pages 4.7-27 to 4.7-29). The impacts would be less than significant because the development would comply with City General Plan goals, policies, and programs that require local planning and development decisions to consider impacts on the environment related to an adopted emergency response plan. No mitigation was required.
- Impacts related to exposing people or structures to a risk of loss, injury, or death involving wildfire were analyzed in the ConnectMenlo EIR as Impact HAZ-8 (pages 4.7-29 to 4.7-30). The impacts would be less than significant because future development under ConnectMenlo, as part of the City's project approval process, would be required to comply with existing regulations. Specifically, all development in the study area would be constructed pursuant to the California Building Code, California Fire Code, Menlo Park Fire Protection District Code. City General Plan policies and Menlo Park Municipal Code requirements would minimize potential impacts related to wildfire hazard. No mitigation was required.

Impacts Not Evaluated in Detail

Cortese List Sites. The Cortese List is a compilation of several different lists of hazardous material release sites that meet criteria specified in Section 65962.5 of the California Government Code. Although there are documented releases of hazardous materials on the Project Site, as discussed in further detail below, there are no hazardous materials release sites on the Project Site that meet the criteria for inclusion on

the Cortese List. Therefore, the Proposed Project would have no impact related to development on a hazardous materials release site included on the Cortese List, and this impact is not evaluated further.

Upset and Accident Conditions Involving Hazardous Materials – Naturally Occurring Asbestos. Previous geotechnical investigations performed for the Proposed Project have determined that the Project Site, including the offsite Willow Road Tunnel site, is not underlain by ultramafic rock associated with naturally occurring asbestos. The nearest outcrop of any rock type associated with naturally occurring asbestos is approximately 6.5 miles from the Project Site.[80] Therefore, the potential for encountering naturally occurring asbestos during Project construction is low, and ground disturbance would have ***no impact*** on human health.

Airport Hazards. The Project Site is approximately 2.15 miles northwest of the nearest public use airport, Palo Alto Airport. It is not within the airport influence area, and Project structures would not be considered a potential obstruction to aircraft that use Palo Alto Airport. Therefore, the Proposed Project would have no impact on the navigable airspace of an airport land use plan or areas within 2 miles of a public airport or public use airport, and this impact is not evaluated further.

Wildland Fires. There are no CAL FIRE–mapped Very High Fire Hazard Severity Zones in the vicinity of the Project Site. The Project Site is generally bounded by the currently inactive Dumbarton Rail Corridor to the north, an existing life science complex to the east (Menlo Park Labs Campus), the San Francisco Public Utilities Commission Hetch Hetchy right-of-way to the south, and Willow Road and residential uses to the west. Therefore, the Project Site is not mapped in or adjacent to a Very High Fire Hazard Severity Zone. The Proposed Project would have no impact related to wildland fire hazards. This impact is not evaluated further.

Impacts and Mitigation Measures

Impact HAZ-1: Routine Hazardous Materials Use. The Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (LTS)

Project construction activities are expected to involve the routine transport, use, and disposal of hazardous materials (e.g., motor fuels, paints, oils, and grease) that could pose a significant threat to human health or the environment if not properly managed. Although small amounts of these materials would be transported, used, and disposed of during Project construction, these materials are typically used in construction projects and are not considered acutely hazardous. Workers who handle hazardous materials are required to adhere to OSHA and Cal/OSHA health and safety requirements. In addition, in order to comply with deed restrictions filed with San Mateo County on January 23, 1996, the Project's Certified Industrial Hygienist (CIH) will prepare Health and Safety Specifications (HS Specifications), which shall meet applicable federal and Cal/OSHA requirements. The HS Specifications will provide general protocols and guidelines to general contractors about informing personnel of potential chemical hazards associated with the work activities to be performed.[81] The HS Specifications will be submitted to DTSC and DEH. Each contractor will be responsible for the health and safety of his or her own employees, and each contractor will be responsible for developing his or her own health and safety plan, incorporating, at a minimum, the protocols presented in the HS Specifications. The general

[80] Cornerstone Earth Group. 2020. *Preliminary Geotechnical Investigation Update, Willow Village, Willow Road, Hamilton Avenue, and Hamilton Court, Menlo Park, California*. May 27. Project Number 254-11-7.

[81] Cornerstone Earth Group. 2021. *RAW Summary Letter, Residential/Shopping District, Willow Village, Menlo Park, CA*. Proposal No. 254-11-20.

contractors' health and safety plan will establish health and safety protocols for his or her own personnel as well as the subcontractor's personnel in accordance with 1) federal and state OSHA standards, 2) the HS Specifications to be developed by the Project CIH, and 3) the SMP. The general contractor and his or her subcontractors will be required to implement, at the minimum, the Project CIH's HS Specifications for worker training and personal protective equipment (PPE), based on the level of expected contact with constituent of concern–affected materials associated with workers' activities.

Hazardous materials must be transported to and from the main Project Site, Hamilton Avenue Parcels North and South, the Willow Road Tunnel site, and offsite infrastructure locations in accordance with RCRA and USDOT regulations and disposed of in accordance with RCRA regulations at a facility that is permitted to accept the waste.

Because compliance with existing regulations is mandatory, and compliance with deed restrictions would require preparation of HS Specifications, as described above, Project construction is not expected to create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials.

During operation, it is anticipated that the Proposed Project would involve the use of hazardous materials that are typical in residential and commercial uses (e.g., solvents, cleaning agents, paints, petroleum fuels, propane, batteries, etc.). These would be used in small, localized amounts. As described above, routine transport, use, and disposal of hazardous materials are subject to federal and state regulations. On the local level, the DEH is the CUPA that implements regulatory programs for sites that routinely use hazardous materials to ensure safe storage, management, and disposal of such materials in accordance with the Unified Program. Because compliance with existing laws, regulations, and CUPA programs is mandatory, Project operations are not expected to create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials. As a result, impacts related to the routine transport, use, or disposal of hazardous materials during Project construction and operation would be ***less than significant***.

Impacts related to potential accidental releases of hazardous materials during routine and non-routine activities are discussed under Impact HAZ-2, below.

Impact HAZ-2: Upset and Accident Conditions Involving Hazardous Materials. The Proposed Project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (LTS/M)

Potential accident conditions resulting in the release of hazardous materials used in general construction, operation, and building demolition activities, as well as potential upset conditions involving the disturbance of contaminated groundwater, soil, and soil gas, are discussed below.

Accidental Hazardous Materials Releases during Construction and Operation

The accidental release of hazardous materials during Project construction and operation activities could pose a significant threat to human health or the environment. The use of hazardous materials would be subject to existing hazardous materials laws, regulations, and CUPA programs described above under *Regulatory Setting*. Adherence to these standards would also reduce the potential for an accidental release. In addition, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared and implemented during Project construction for coverage under the Construction General Permit, in accordance with the requirements of the State Water Board. As described in Section 3.11, *Hydrology and Water Quality*, the

SWPPP requires implementation of best management practices for hazardous materials storage and soil stockpiles, inspections, maintenance, employee training, and the containment of releases to prevent runoff to stormwater collection systems or waterways. Because compliance with existing regulations would be mandatory, accidental hazardous materials releases during construction and operation would have a ***less-than-significant impact*** on human health and the environment.

Accidental Hazardous Materials Releases during Building Demolition

The Proposed Project would include demolition of all buildings, as well as landscaping, on the main Project Site as well as demolition of development on Hamilton Avenue Parcel South and targeted demolition on Hamilton Avenue Parcel North. Demolition associated with the Proposed Project could result in the release of hazardous building materials into the environment.

The buildings at the main Project Site were built prior to 1981; therefore, asbestos-containing building materials may be present in these structures. Buildings at Hamilton Avenue Parcels North and South were constructed during the 1990s and therefore are unlikely to contain asbestos-containing building materials. Lead-based paint and other hazardous materials, which would be considered universal wastes during demolition, could be present in buildings that would be demolished under the Proposed Project. The removal of hazardous building materials prior to demolition is governed by federal as well as state laws and regulations. An asbestos survey is required by local authorities and NESHAP, which requires the removal of potentially friable asbestos-containing building materials prior to building demolition or renovation that may disturb asbestos-containing building materials. Workers who conduct abatement and demolition activities associated with hazardous building materials must be trained in accordance with state and federal OSHA requirements. Hazardous building materials removed during demolition must be transported in accordance with USDOT regulations and disposed of in accordance with RCRA regulations and/or the California Universal Waste Rule at a facility that is permitted to accept the wastes. Because compliance with existing laws and regulations would be mandatory, the Proposed Project would have a ***less-than-significant impact*** on human health and/or the environment related to asbestos-containing building materials, lead-based paint, or other common hazardous materials during building demolition.

Accidental Hazardous Materials Releases during Disturbance of Subsurface Hazardous Materials

As described below, previous investigations have identified potential contaminants of concern in groundwater, soil, and soil gas, which could have potentially significant health effects on future users of the Project Site if not property managed.

Groundwater Quality

As described in the *Environmental Setting*, Cornerstone's 2019 ESA states that VOCs detected in groundwater as a result of solvent releases from the former metal plating shop on the main Project Site remain at the site. The State Water Board found that groundwater contamination was stable and adequately confined at the main Project Site to the shallow A-zone and that the contamination risk could be managed through deed restrictions, long-term monitoring, and a contingency plan for remediation, if necessary. The groundwater underlying the main Project Site is not considered a potential source of drinking water. Water for the Proposed Project would be provided by the Menlo Park Municipal Water District. Therefore, the ingestion of contaminated groundwater is not considered as a potential exposure pathway on the Project Site for any users (e.g., construction workers, residents, commercial workers, hotel patrons, visitors). Although contaminated groundwater exists at the offsite improvement location where the Willow Road Tunnel would surface at the West Campus, groundwater underlying the Willow Road Tunnel site is not considered a potential source of drinking water. Therefore, the ingestion of

contaminated groundwater is not considered a potential exposure pathway at the Willow Road Tunnel site for construction workers.

Ground-disturbing activities associated with construction could expose construction workers to contaminated groundwater at the main Project Site and Willow Road Tunnel site. Project excavation would extend to a depth of approximately 20 feet bgs for utilities and 30 feet bgs for the Willow Road Tunnel. The depth to groundwater ranges from 7 to 10 feet bgs. Groundwater contamination remains at the main Project Site and the Willow Road Tunnel site, as discussed above under *Existing Conditions*; therefore, construction workers could come into direct contact with contaminated groundwater during Project excavation and dewatering. However, deed restrictions on the main Project Site require preparation of a Health and Safety Plan (HSP; discussed in detail below under *Soil Quality*) before subsurface activities can proceed.[82,83] Deed restrictions at the Willow Road Tunnel site require the Project Sponsor to coordinate with DTSC, the San Francisco Bay RWQCB, and/or DEH to obtain approval to proceed with dewatering prior to commencement of construction.[84] Therefore, a Phase I ESA has been prepared for the main Project Site and the Willow Road Tunnel site where the tunnel would emerge on the West Campus. The impact on construction workers and the environment at these locations would be ***less than significant***. However, groundwater contamination in the Dumbarton Rail Corridor and within the Willow Road right-of-way has not been characterized by a Phase I ESA. Therefore, the impact on construction workers and the environment at these locations would be ***potentially significant***.

Ground-disturbing activities associated with construction are unlikely to expose construction workers to contaminated groundwater at Hamilton Avenue Parcels North and South. No significant contamination has been recorded at 871–899 Hamilton Avenue or 1399 Willow Road.[85,86] The DEH issued a closure letter regarding cleanup involving a leaking underground storage tank at 1401 Willow Road.[87] The impact at this site on construction workers and the environment would be ***less than significant***.

It is unlikely that contaminated water would be encountered during Project operations at the main Project Site because of restrictions on groundwater pumping. Furthermore, groundwater contamination has been characterized at the main Project Site in a Phase I ESA. The impact on commercial workers, residents, hotel patrons, and visitors at the main Project Site would be ***less than significant***. Because contamination at Hamilton Avenue Parcels North and South has been cleaned up and the case has been closed, the impact would be ***less than significant***. In addition, users at the Willow Road Tunnel site, either where the tunnel would emerge on the West Campus or within the Dumbarton Rail Corridor, would not be exposed to contaminated groundwater because of restrictions on groundwater pumping and because the area would be paved. The impact on tunnel users would be ***less than significant***.

---

82 Cornerstone Earth Group. 2020. *Soils Management Plan and Air Monitoring Plan Vapor Intrusion Mitigation Plan Summary Letter: Willow Village, Menlo Park, CA*. May 21.

83 Cornerstone Earth Group. 2021. *RAW Summary Letter, Residential/Shopping District, Willow Village, Menlo Park, CA.* Proposal No. 254-11-20.

84 Cornerstone Earth Group. 2021. *Phase I Environmental Site Assessment, Willow Tunnel Construction Zone and Laydown Areas, Willow Road and Hamilton Avenue, Menlo Park, California.* Project Number 254-11-26. December 21.

85 Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment. Belle Haven Retail Center, 871 – 899 Hamilton Avenue, Menlo Park, California.* Project Number 254-11-21. June 10.

86 Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment. 1399 Willow Road, Menlo Park, California*. Project Number 254-54-1. October 13.

87 Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment. 1401 Willow Road, Menlo Park, California*. Project Number 254-11-15. April 23.

Soil Quality

Main Project Site. As described in the *Environmental Setting*, Cornerstone's recent soil investigations indicate that TPH and PAHs are still present in soil underlying the main Project Site. Although no samples detected concentrations that exceeded commercial screening levels, some samples exceeded residential screening levels. However, deed restrictions on the main Project Site that require preparation of a Health and Safety Plan would protect construction workers from being affected by contaminated soil. A RAW has been prepared to evaluate potential measures to facilitate planned future residential use while protecting the health of future occupants and users. The RAW will be subject to DTSC review and approval. This RAW will identify appropriate action alternatives for soil removal. These action alternatives will be documented through an SMP that will include site control procedures to control the flow of personnel and vehicles in and out of the site; vapor monitoring during the removal of underground utilities or other underground features and significant soil disturbance; protocols for the removal of affected soil, including confirmation samples from known areas where affected soil will be over-excavated or protected for subsequent removal prior to initiating mass grading; procedures to minimize dust and stormwater runoff; decontamination procedures; perimeter air quality monitoring during any activity that substantially disturbs soil; measures to reduce potential soil vapor and groundwater migration through trench backfill and utility conduits, and protocols to evaluate groundwater discharges and disposal alternatives during dewatering.

The Project Sponsor will be required to provide contractors and their subcontractors with a copy of the SMP and VIMP for construction activity that involves subsurface disturbance (e.g., mass grading, foundation construction, excavation, utility trenching). In addition, the environmental professional will prepare a report that documents compliance with the SMP within 90 days of completing associated construction activities and submit the report to DTSC. In addition, the RAW will require development and implementation of a site-specific HSP, which will provide general protocols and guidelines to general contractors. The HSP will inform construction personnel of potential chemical hazards associated with the work activities to be performed and be submitted to the DTSC, San Francisco Bay RWQCB, and DEH prior to commencement of work.

The RAW also describes a voluntary VIMP, which will identify the mitigation measures that will be implemented to eliminate potential vapor intrusion concerns at future buildings. The VIMP will assess the vapor intrusion pathway, describe the proposed vapor mitigation system, provide construction-related quality control measures to confirm that the vapor mitigation system is installed in accordance with design requirements, and describe pre-occupancy monitoring to demonstrate that the vapor mitigation system is effective in helping to prevent vapor intrusion. A Vapor Intrusion Implementation Report will be provided to DTSC. A long-term Operation, Maintenance, and Monitoring Plan will be prepared and issued to DTSC after submittal of the Vapor Intrusion Implementation Report.

With adherence to requirements of the RAW, the impact on construction workers at the main Project Site would be ***less than significant***.

It is unlikely that contaminated soil will be encountered during Project operations at the main Project Site because the RAW calls for removing contaminated soil. The impact on commercial workers, residents, hotel patrons, and visitors at the main Project Site and would be ***less than significant***.

Hamilton Avenue Parcels North and South. Ground-disturbing activities associated with construction are unlikely to expose construction workers to contaminated soil at Hamilton Avenue Parcels North and South. Contamination has not been recorded at 871–899 Hamilton Avenue or 1399 Willow Road.[88,89] The DEH has

[88] Cornerstone Earth Group. 2019. *Phase I Environmental Site Assessment. Belle Haven Retail Center, 871–899 Hamilton Avenue, Menlo Park, California*. Project Number 254-11-21. June 10.

[89] Cornerstone Earth Group. 2020. *Phase I Environmental Site Assessment. 1399 Willow Road, Menlo Park, California*. Project Number 254-54-1. October 13.

issued a closure letter regarding cleanup involving a leaking underground storage tank at 1401 Willow Road.[90] Therefore, the impact on construction workers at Hamilton Avenue Parcels North and South would be ***less than significant***.

Willow Road Tunnel Site. Contaminated soil and soil vapor exist at the offsite improvement location where the Willow Road Tunnel would surface at the West Campus. In addition, contaminated soil and soil vapor could exist at the offsite improvement location where the Willow Road Tunnel would cross under the Dumbarton Rail Corridor and Willow Road. Deed restrictions at the north entrance to the Willow Road Tunnel site require written approval from DTSC and EPA before any activities that may disturb or adversely affect the integrity of the engineered cap, such as ground disturbance during construction, may proceed. Deed restriction requirements would reduce the risk of exposure for construction workers. However, deed restrictions at the Willow Road Tunnel site do not detail restrictions on soil disturbance, should any occur. Instead, DTSC and EPA must provide written approval, which has not yet been provided. In order to provide approval, thorough characterization, as part of a Phase I ESA, of the contaminants currently in the soil at the Willow Road Tunnel site is needed. Therefore, a Phase I ESA has been prepared for the Willow Road Tunnel site where the tunnel would emerge on the West Campus (north portal); the south portal of the tunnel is covered by the Phase I ESA for the main Project Site. The impact on construction workers and the environment would be ***less than significant***. However, a Phase I ESA has not been prepared for areas within the Dumbarton Rail Corridor or within the Willow Road right-of-way at the Willow Road Tunnel site, which are under the jurisdiction of San Mateo County Transit District (SamTrans) and Caltrans, respectively. Therefore, the impact on construction workers and the environment would be ***potentially significant***.

Users at the Willow Road Tunnel site would not be exposed to contaminated soil because the area would be paved. The impact on tunnel users during Project operation would be ***less than significant***.

Soil Gas Quality

As described above in the *Environmental Setting*, an analysis of air samples taken at the main Project Site and the Willow Road Tunnel site found concentrations of VOC vapor, which, in some samples, exceeded current residential and/or commercial ESLs, with the greatest concentrations occurring in the vicinity of the VOC groundwater plume. However, with adherence to requirements of the RAW, impacts on the health of construction workers, commercial workers, residents, visitors, hotel patrons, and others from the intrusion of soil vapor into buildings on the main Project Site would be ***less than significant***.

Because soil gas contamination has been characterized through a Phase I ESA for the Willow Road Tunnel site where the tunnel would emerge on the West Campus, it was determined that impacts would be ***less than significant***. However, because contamination has not been characterized through a Phase I ESA for areas within the Dumbarton Rail Corridor and within the Willow Road right-of-way at the Willow Road Tunnel site, the impact is considered ***potentially significant***.

There is no record of soil gas contamination at Hamilton Avenue Parcels North and South, although there is a record of soil contamination; the impact would be ***less than significant***.

Summary of Findings

At the main Project Site, requirements of the RAW would be adhered to prior to and during construction under the Proposed Project; therefore, impacts would be ***less than significant***.

[90] Cornerstone Earth Group. 2018. *Phase I Environmental Site Assessment. 1401 Willow Road, Menlo Park, California*. Project Number 254-11-15. April 23.

The impact at Hamilton Avenue Parcels North and South would be ***less than significant***.

As described above, the following conditions associated with hazardous materials could be potentially significant hazards for construction personnel, future users of the Project Site, and/or the environment:

- Soil and groundwater contamination at the Willow Road Tunnel site could have a potentially significant impact on the health of construction workers.

Main Project Site. As discussed above under Impact HAZ-1, deed restrictions were filed in 1996 at the main Project Site that prohibit the pumping of groundwater and stipulate that HS Specifications must be prepared and submitted to the State Water Board prior to the commencement of any subsurface activities. HS Specifications would inform the general contractor's health and safety plans, which would provide general protocols and guidelines regarding potential chemical hazards associated with work activities at the main Project Site. To assist in compliance with the requirements, and facilitate safe redevelopment of the site, the owner (Peninsula Innovation Partners, LLC) entered into a voluntary cleanup agreement that called for DTSC oversight. In addition, DTSC required preparation of the RAW[91] before ground disturbance at the main Project Site to comply with the deed restrictions. The required RAW will evaluate potential measures proposed with site development plans, with the goal of facilitating planned future residential use while protecting the health of future occupants and users. Proposed mitigation includes development and implementation of the items discussed below.

The RAW, would include measures that call for monitoring soil contamination and soil vapor, removing contaminated soil, providing guidance to contractors, and reporting results to DTSC; providing protocols and guidelines for contractors who work with contaminated soil and groundwater; and providing guidelines for implementing a vapor management system, monitoring its performance, and reporting to DTSC on outcomes. These measures would ensure that construction workers would be protected during the construction phase, no contaminated soil would remain that could affect project users during the operation period, and soil vapor would not affect residents. Furthermore, the RAW would ensure that contaminated groundwater would not have a route that could affect project users during operation, including commercial workers, residents, hotel patrons, visitors, and other users. All components of the RAW would be approved by DTSC before construction begins at the main Project Site. Because the RAW has not yet been approved by DTSC, impacts at the main Project Site would be ***potentially significant***.

Hamilton Avenue Parcels North and South. No groundwater, soil, or soil vapor contamination has been identified at the 871–899 Hamilton Avenue site or 1399 Willow Road site. Contamination at the 1401 Willow Road has been cleaned up. The case was closed by DEH. Therefore, the impact at Hamilton Avenue Parcels North and South would be ***less than significant***.

Willow Road Tunnel Site. Deed restrictions for the Willow Road Tunnel site were filed in 2007 and amended in 2012 to prohibit certain land uses in order to protect human and environmental health from residual onsite contamination. The LUC allows, with written approval from DTSC and EPA, activities that may disturb or adversely affect the integrity of the engineered cap. Because a Phase I ESA has been prepared for the Willow Road Tunnel site and the main Project Site (north and south portals) where the tunnel would emerge, impacts on construction workers and the environment at these sites would be ***less than significant***. However, because a Phase I ESA has not been prepared for areas within the Dumbarton Rail Corridor or within the Willow Road right-of-way at the Willow Road Tunnel site, the impact on

[91] Cornerstone Earth Group. 2020. *Soils Management Plan and Air Monitoring Plan Vapor Intrusion Mitigation Plan Summary Letter: Willow Village, Menlo Park, CA*. May 21.

construction workers and the environment at this site is considered ***potentially significant***. Because the Willow Road Tunnel would be paved, during Project operation, users of the Willow Road Tunnel site would not be exposed to contaminated soil or groundwater. The impact would be ***less than significant***.

MITIGATION MEASURES. Implementation of ConnectMenlo EIR Mitigation Measure HAZ-4a and Mitigation Measure HAZ-2.1 would characterize soil contamination where the Willow Road Tunnel would go under the Dumbarton Rail Corridor and Willow Road. In addition, ConnectMenlo EIR Mitigation Measure HAZ-4a would require development and implementation of a Project-specific ESMP, which would provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during excavation and dewatering activities; describe required worker health and safety provisions for all workers who could be exposed to hazardous materials; and designate the personnel responsible for implementation of the ESMP. With implementation of ConnectMenlo EIR Mitigation Measure HAZ-4a and Mitigation Measure HAZ-2.1, the impact at the Willow Village Tunnel site within the Dumbarton Rail Corridor would be ***less than significant with mitigation***.

HAZ-4a: (ConnectMenlo EIR) Environmental Site Management Plan.

Construction of any site in the City with known contamination shall be conducted under a Project-specific Environmental Site Management Plan (ESMP) prepared in consultation with the Regional Water Quality Control Board (RWQCB) or the Department of Toxic Substances Control (DTSC), as appropriate. The purpose of the ESMP is to protect construction workers, the general public, the environment, and future site occupants from subsurface hazardous materials previously identified at the site and address the possibility of encountering unknown contamination or hazards in the subsurface. The ESMP shall summarize soil and groundwater analytical data collected on the site during past investigations; identify management options for excavated soil and groundwater, if contaminated media are encountered during deep excavations; and identify monitoring, irrigation, or wells that require proper abandonment in compliance with local, state, and federal laws, policies, and regulations.

The ESMP shall include measures for identifying, testing, and managing soil and groundwater suspected of or known to contain hazardous materials. The ESMP shall 1) provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during excavation and dewatering activities, respectively; 2) describe required worker health and safety provisions for all workers who could be exposed to hazardous materials, in accordance with state and federal worker safety regulations; and 3) designate the personnel responsible for implementation of the ESMP.

HAZ-2.1: Phase I Environmental Site Assessment for the Willow Road Tunnel under Dumbarton Rail Corridor and Willow Road.

For the offsite improvement in the area where the Willow Road Tunnel passes under the Dumbarton Rail Corridor and Willow Road, a Phase I ESA shall be performed by a licensed environmental professional. The Phase I ESA shall identify RECs at the site and indicate whether a Phase II ESA is required in order to evaluate contamination at the site.

Impact HAZ-3: Exposure to Schools. The Proposed Project would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. (LTS/M)

The handling or emission of hazardous or acutely hazardous materials near schools must consider potential health effects on children, who are considered sensitive receptors. There are three schools within 0.25 mile of the main Project Site and Hamilton Avenue Parcels North and South: Mid-Peninsula High School, the Open Mind School/Wund3rSCHOOL, and César Chávez Ravenswood Middle School. There are no schools within 0.25 mile of the Willow Road Tunnel site.

As discussed above under *Subsurface Hazardous Materials*, VOCs were detected in soil and groundwater from a release at a former metal plating shop, which was located on Parcel H at the southern portion of the main Project Site and close to Mid-Peninsula High School and the Open Mind School/Wund3rSCHOOL. As discussed above under Impact HAZ-1, deed restrictions at the main Project Site were filed in 1996 that prohibit the pumping of groundwater and stipulate that HS Specifications must be prepared and submitted to the RWQCB prior to the commencement of any subsurface activities. In addition, DTSC requires a RAW to be prepared and approved by DTSC before the commencement of construction. The RAW would include specifications for a SMP, HSP, and VIMP. The SMP would require protocols and other requirements to be implemented during the removal of contaminated soil. By controlling soil contamination and soil vapor contamination, the safety of the construction site and residential uses during Project operation would be ensured. The HSP would provide general protocols and guidelines to general contractors. These would inform construction personnel of potential chemical hazards associated with the work activities to be performed. The VIMP would provide requirements for a vapor mitigation system to minimize soil vapor emissions; any such emissions during the Project operation would be appropriate for a residential environment.

Offsite construction work could occur within 0.25 mile of Costaño Elementary School in East Palo Alto as well as the Belle Haven School and Beechwood School in Menlo Park. The upsizing and placement of utility lines within existing rights-of-way and improvements within intersections would result in temporary construction impacts. No federally or state-listed cleanup sites or known subsurface hazardous materials are identified within 0.25 mile of proposed offsite improvements in hazardous materials databases.[92,93] However, contamination has been documented at the Willow Road Tunnel site. Accordingly, offsite utility work could encounter hazardous materials or contaminated groundwater. Therefore, impacts on schools would be ***potentially significant***.

MITIGATION MEASURES. Implementation of ConnectMenlo EIR Mitigation Measure HAZ-4a and Mitigation Measure HAZ-2.1 would characterize soil contamination where the Willow Road Tunnel would go under the Dumbarton Rail Corridor and Willow Road. In addition, ConnectMenlo EIR Mitigation Measure HAZ-4a would require development and implementation of a Project-specific ESMP, which would provide procedures for evaluating, handling, storing, testing, and disposing of soil and groundwater during excavation and dewatering activities; describe required worker health and safety provisions for all workers who could be exposed to hazardous materials; and designate the personnel responsible for implementation of the ESMP. With implementation of ConnectMenlo EIR Mitigation Measure HAZ-4a and Mitigation Measure HAZ-2.1, the impact at the Willow Village Tunnel site within the Dumbarton Rail Corridor would be ***less than significant with mitigation***.

---

92 Department of Toxic Substances Control. 2022. *EnviroStor Database*. Available: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=Menlo+Park. Accessed: February 6, 2022.

93 State Water Resources Control Board. 2022. *GeoTracker*. Menlo Park, CA. Available: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=menlo+park. Accessed March 16, 2022.

HAZ-4a: (ConnectMenlo EIR) Environmental Site Management Plan.

HAZ-2.1: Phase I Environmental Site Assessment for the Willow Road Tunnel under Dumbarton Rail Corridor and Willow Road.

Impact HAZ-4: Impairment of Emergency Response or Evacuation Plans. The Proposed Project would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan. (LTS)

As discussed in Section 3.3, *Transportation*, the Proposed Project would result in a general increase in vehicle traffic in the vicinity of the Project Site. Menlo Park Fire Protection District Station 77, located at 1467 Chilco Street, is expected to serve the Project Site. The driving distance to the main Project Site from Station 77 is approximately 0.6 mile. The Proposed Project would not inhibit emergency access to the Project Site or materially affect emergency vehicle response calls from of the station. Development of the Project Site, and associated increases in vehicle, bicycle, and pedestrian travel, would not substantially affect emergency vehicle response times or access to other buildings and land uses in the area, including hospitals.

The Proposed Project would be designed and built according to local fire district standards and the CBSC. The Proposed Project would provide emergency vehicle access within the main Project Site along Willow Road via Main Street, West Street, Center Street, and Park Street; along O'Brien Drive, extending to Main Street; and from Adams Court, at the intersection with East Loop Road. Although some of the interior streets would be privately owned, an Emergency Vehicle Access Easement would be in place along the full perimeter of the Campus District and on Main Street, East Loop Road, and North Loop Road. Final Emergency Vehicle Access Easements would be subject to review and approval by the Menlo Park Fire Protection District and the City.

In November 2021, the City adopted a Local Hazard Mitigation Plan Annex.[94] As described in adopted plans, the MPPD is responsible for coordinating emergency response and evacuation procedures in the event of a major disaster. As discussed in Section 3.3, *Transportation*, the Proposed Project would have a ***less-than-significant impact*** with respect to emergency access and would not result in the impairment of emergency response or evacuation plans.

Cumulative Impacts

Impact C-HAZ-1: Cumulative Hazards and Hazardous Materials Impacts. Cumulative development would not result in a significant cumulative impact from hazards and hazardous materials, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact. (LTS/M)

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the potential for cumulative impacts that could result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update in combination with other past, present, and reasonably foreseeable future projects in Impact HAZ-9 (page 4.7-30). The ConnectMenlo EIR considered the effects of the ConnectMenlo project combined with effects of past, present, and reasonably foreseeable development on adjacent land in the cities of Palo

[94] City of Menlo Park. 2021. *Annex to 2021 Multi-jurisdictional Local Hazard Mitigation Plan*. October.

Alto, East Palo Alto, Atherton, Redwood City and Portola Valley, and unincorporated San Mateo County. The ConnectMenlo EIR determined that, through compliance with existing local, regional, state, and federal regulations and safety plans, as well as Mitigation Measures HAZ-4a and HAZ-4b, cumulative impacts associated with hazards and hazardous materials would be less than significant with mitigation.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative hazards and hazardous materials impacts with the Proposed Project includes development in the ConnectMenlo study area in combination with impacts from development on adjacent land in the cities of Palo Alto, East Palo Alto, Atherton, Redwood City, and Portola Valley as well as unincorporated San Mateo County. As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to buildout considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at 123 Independence Drive and proposed development in East Palo Alto that previously was subject to a moratorium.

As with the Proposed Project, the 123 Independence Drive project and other projects in the vicinity would be required to comply with existing local, regional, state, and federal regulations as well as safety plans. Hazardous materials would be managed in accordance with existing regulatory requirements, which would reduce the risk of hazardous materials emissions and/or accidental releases that could affect receptors outside work areas. In addition, all projects in the Bayfront area in Menlo Park with known hazardous materials would be required to comply with ConnectMenlo EIR Mitigation Measures HAZ-4a, thereby reducing impacts to less than significant.

The Proposed Project would not result in a substantial change in the ConnectMenlo project and would not cause new or substantially more severe significant impacts related to hazards and hazardous materials. Therefore, the Proposed Project would not be a cumulatively considerable contributor to a significant cumulative impact regarding hazards and hazardous materials. Consistent with the conclusions in the ConnectMenlo EIR, the cumulative impact of the Proposed Project and other past, present, and reasonably foreseeable future projects with respect to hazards and hazardous materials would be ***less than significant with mitigation***. No additional mitigation measures would be required.

3.13 Population and Housing

This section provides background information regarding existing and projected population, employment, and housing conditions in Menlo Park. In addition, it estimates changes to the city's demographics that would result from the Proposed Project. The analysis is based on population, employment, and housing data estimates published by the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), buildout assumed under the General Plan and M-2 Area Zoning Update (ConnectMenlo)[1], and demographic information from the Demographic Research Unit of the California Department of Finance (DOF), the U.S. Census Bureau, and the 2015–2023 Housing Element of the City of Menlo Park (City) General Plan. The analysis also incorporates information from the Housing Needs Analysis (HNA) for the Proposed Project prepared by Keyser Marston Associates (Appendix 3.13).[2] Although not required by the California Environmental Quality Act (CEQA), the HNA was prepared pursuant to the terms of the 2017 settlement agreement between the cities of Menlo Park and East Palo Alto (refer to Chapters 1 and 3 for additional discussion). The information in the HNA is used in this draft environmental impact report (EIR) to provide context for the evaluation of potential impacts of the Proposed Project related to population and housing as well as data for decision-makers during the entitlement process.

The purpose of this section is to characterize the potential for Proposed Project–induced population, housing, and employment changes to trigger physical environmental effects; these potential environmental impacts are examined further in other sections of this draft EIR (e.g., Sections 3.3, *Transportation*; 3.4, *Air Quality*; and 3.7, *Noise*; 3.14, *Public Services*).

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable comments concerned the sources for the population and growth projections for the EIR analysis, including the ConnectMenlo and ABAG projections; the jobs-housing balance; population-induced traffic; housing needs; the displacement of people; and general population impacts from new offices and housing.

Existing Conditions

Environmental Setting

The following discussion provides a basic foundation for understanding population and housing issues within Menlo Park as well as the Bay Area. Population and housing data for East Palo Alto, which is close to the Project Site (0.1 mile away), are included where relevant. The information presented in this section is based on data, research, and growth projections drawn from census data, the HNA prepared for the Proposed Project, and forecasts from ABAG and MTC in Plan Bay Area Projections 2040.[3]

1 City of Menlo Park. 2016. *ConnectMenlo General Plan EIR*.

2 Keyser Marston Associates. 2021. *Draft Willow Village Master Plan Project Housing Needs Assessment*. July.

3 Note that although Plan Bay Area 2050 was adopted by ABAG and MTC in October 2021, as of March 2022, ABAG projections have not been updated at a city or local jurisdiction level; therefore, projections discussed in this section use Projections 2040.

Population

Menlo Park is in the southern portion of San Mateo County and bound by San Francisco Bay to the north, East Palo Alto to the east, Palo Alto to the east and south, Woodside and Portola Valley to the southwest, and Redwood City to the west. The city encompasses approximately 19 square miles, including nearly 12 square miles of San Francisco Bay and wetlands. The city's jurisdictional population was estimated to be 34,825 as of January 1, 2021. The DOF estimates that the city currently averages approximately 2.60 persons per household (pph).[4]

Table 3.13-1 presents population estimates and projections for 2020 through 2040[5] pertaining to Menlo Park (i.e., the sphere of influence),[6] San Mateo County, and the Bay Area (i.e., Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco Counties). The data indicate that population growth in Menlo Park from 2020 to 2040 (23.3 percent) will be greater than that of the county and the Bay Area as a whole (about 15.0 and 21.9 percent, respectively).[7]

Table 3.13-1. Population Trends in Menlo Park, San Mateo County, and the Bay Area, 2020–2040

	2020	2030	2040	Growth (2020–2040)
Menlo Park	44,530	52,865	54,920	10,390 (23.3%)
San Mateo County	796,925	853,260	916,590	119,665 (15.0%)
Bay Area	7,920,230	8,689,440	9,652,950	1,732,720 (21.9%)

Source: ABAG and MTC, 2018.

[4] California Department of Finance. 2021. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011–2021 with 2010 Census Benchmark*. Available: https://www.dof.ca.gov/forecasting/demographics/estimates/e-5/. Accessed: February 2, 2022.

[5] Full buildout of the Proposed Project is expected to occur in 2026. However, consistent with full buildout of ConnectMenlo by 2040, this analysis compares the Proposed Project with the projections for 2040. In addition, the ABAG projections assume that the majority of the ConnectMenlo growth would occur between 2035 and 2040. Therefore, to account for all growth under ConnectMenlo in the ABAG projections, the horizon year of 2040 is used in this analysis.

[6] Several additional unincorporated areas adjoining the city are recognized as being within the city's sphere of influence and, therefore, included in the City General Plan. In California, *sphere of influenc*e has a legal meaning (i.e., a plan for the probable physical boundaries and service area of a local agency). Spheres of influence at California local agencies are regulated by Local Agency Formation Commissions that recognize the unincorporated communities that would be best and most likely served by the city agencies. Hence, the spheres of influence represent areas with the greatest potential for annexation by a city. In most cases, ABAG provides more detailed demographic and employment projections for a large city's sphere of influence rather than that of a small city, such as Menlo Park. Consequently, unless otherwise specifically noted, all city data represent the city sphere of influence because only limited demographic data are available for the city's incorporated area. The sphere-of-influence designation for the city includes unincorporated West Menlo Park, Stanford Weekend Acres, Menlo Oaks, as well as the Stanford Linear Accelerator Center. With the exception of the Stanford Linear Accelerator Center, these areas are zoned residential and are substantially developed. All ABAG projections in these areas of the city include the sphere of influence.

[7] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040*. November.

Housing

According to the DOF, the estimated number of housing units in the city (jurisdictional boundary) as of January 1, 2021, was 14,124, with an average household size of 2.60 pph and a vacancy rate of 7.4 percent.[8]

Table 3.13-2 presents ABAG projections for households in the Bay Area, the county, and the city between 2020 and 2040. According to ABAG, the number of households in the county is projected to grow from approximately 284,260 in 2020 to 317,965 in 2040, an increase of approximately 11.9 percent. The number of households in the city is projected to grow from approximately 15,390 in 2020[9] to 17,680 in 2040, an increase of approximately 14.9 percent. Overall, the household growth rate in the city (14.9 percent) is expected to be greater than the household growth rate for the county (11.9 percent) but less than that of the Bay Area as a whole (18.9 percent).[10]

Table 3.13-2. Household Trends in Menlo Park, San Mateo County, and the Bay Area, 2020–2040

	2020	2030	2040	Growth (2020–2040)
Menlo Park	15,390	17,265	17,680	2,290 (14.9%)
San Mateo County	284,260	302,520	317,965	33,705 (11.9%)
Bay Area	2,881,965	3,142,015	3,426,700	544,735 (18.9%)

Source: ABAG and MTC, 2018.

Housing prices in the Bay Area are among the highest in the country, and San Mateo County has several of the most expensive residential communities in the Bay Area. Menlo Park is one of the more desirable communities in the county; as a result, home prices in the city exceed county levels. The median single-family home price in Menlo Park from December 2019 through December 2020 was $2.35 million.[11] This represents an almost 50 percent increase since 2012 when the median single-family home price in Menlo Park was approximately $1.47 million.[12]

The HNA prepared for the Proposed Project (Appendix 3.13) includes data on real estate market trends for two communities in proximity to the Proposed Project: East Palo Alto and the Belle Haven neighborhood in Menlo Park. As of 2020, the median sales price in East Palo Alto ($748 per square foot) was roughly 80 percent of the county median ($980 per square foot), while the price per square foot in Belle Haven approached or exceeded the county median over the past 5 years and was $951 per square foot in 2020. Overall, median prices for single-family homes in East Palo Alto have increased by approximately 180 percent since 2000, approaching the cumulative percent increase in the county median home price of 190 percent over the same timeframe. Median prices for single-family homes in Belle Haven increased 227 percent and outpaced county prices. Some of the factors that contributed to

[8] California Department of Finance. 2021. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011–2021 with 2010 Census Benchmark.* Available: https://www.dof.ca.gov/forecasting/demographics/estimates/e-5/. Accessed: February 2, 2022.

[9] As discussed, the growth forecasts are based on ABAG Projections 2040, which were released in 2018, and not the actual number of households in the city in 2020. For sake of consistency, the analysis includes comparison of projections for 2020 with projections for 2040, rather than the actual 2020 numbers provided by DOF.

[10] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040*. November.

[11] Keyser Marston Associates, Inc. 2021. *Willow Village Master Plan Project Housing Needs Assessment*. July.

[12] City of Menlo Park. 2014*. City of Menlo Park General Plan, Housing Element*. April 14.

rising home prices over the period include strong economic growth and housing demand, limited construction of new housing, favorable interest rates and credit terms, and confidence in the Bay Area economy and housing market.[13]

Employment

The employment profile for an area provides an indication of the composition of an area's economy as well as present and future demand for employees. Employment growth is an important driver of housing demand, both regionally and locally. Employment growth over the past several years in the Bay Area and the city has most likely contributed to significant upward pressure on the housing market, as evidenced in rent and housing price increases. Approximately 95 percent of workers living in San Mateo County commute to jobs in San Mateo, Santa Clara, and San Francisco Counties, based on census data.[14]

San Mateo County is a productive economic area, led by technology, bioscience, and service industries. Approximately 66 percent of Menlo Park residents aged 16 and older were in the work force in 2020, slightly lower than the county rate (69 percent) but higher than the state rate (63 percent). Most city residents who are in the workforce are in management or business, science, or art-related occupations (69 percent), which is significantly higher than the county rate (47 percent) and the state rate (38 percent). The next most common employment categories for the city are sales and office occupations (14 percent), followed by service occupations (11 percent).[15]

San Mateo County was affected by the housing mortgage/financial crisis of late 2008 with a decrease in available jobs and employed residents. However, between 2010 and 2019, approximately 591,000 jobs were added in San Mateo, Santa Clara, and San Francisco Counties. More than half of the total job growth occurred in high-wage sectors, which are generally defined as professions where average annual employee compensation is above $100,000 (as of 2016). Over the past decade, high-wage industries posted an annual job growth rate of 4.6 percent, versus 3.4 percent for all industries. The job growth rate for the longer period from the peak of the previous boom in 2000 until 2019 is less because of the significant job losses between 2000 and 2004, which offset the more recent job growth.

The 2020 economic recession, caused by the coronavirus pandemic, eliminated a portion of the jobs added over the past decade. Although 2020 data are not available from the Quarterly Census of Employment and Wages for the entire year, the data for the first three quarters of 2020 show a significant decline in total employment in the three-county area. In the second quarter of 2020, total employment in the three-county area declined by 12 percent in all sectors and by 3 percent in high-wage sectors compared to the prior quarter. Although some jobs were recovered in the third quarter of the year, total employment remained 6 percent less than the first quarter in all sectors and 1 percent less in high-wage sectors.[16] More recent data (as of January 2022) from the U.S. Bureau of Labor Statistics show that total unemployment in San Mateo County declined by 2.2 percent between November 2020 and November 2021; the national unemployment rate declined by 2.5 percent during the same period.[17]

---

13 Keyser Marston Associates. 2021. *Willow Village Master Plan Project Housing Needs Assessment*. July.

14 Ibid.

15 Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040.* November.

16 Keyser Marston Associates. 2021. *Willow Village Master Plan Project Housing Needs Assessment*. July.

17 U.S. Department of Labor, Bureau of Labor Statistics. 2022. *San Francisco Area Economic Summary*. Available: https://www.bls.gov/regions/west/summary/blssummary_sanfrancisco.pdf. Accessed: March 16, 2022.

Plan Bay Area Projections 2040 predicts steady employment growth between 2020 and 2040 for the city, county, and Bay Area as a whole. Table 3.13-3 presents ABAG employment projections, which are used throughout the analysis presented below.

Table 3.13-3. Employment Trends in Menlo Park, San Mateo County, and the Bay Area Region, 2020–2040 (Total Number of Jobs)

	2020	2030	2040	Growth (2020–2040)
Menlo Park	36,410	37,195	42,475	6,065 (16.6%)
San Mateo County	399,415	423,005	472,340	72,770 (18.2%)
Bay Area Region	4,136,190	4,405,125	4,698,375	562,185 (13.6%)

Source: Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040.*
Note: ABAG projections for 2040 incorporate full buildout of ConnectMenlo.

As indicated in Table 3.13-3, ABAG projections for 2020 to 2040 show a steady increase in employment in the Bay Area (13.6 percent). The projections for the City of Menlo Park identify a higher employment gain (16.6 percent) compared to the Bay Area region and a lower employment gain than San Mateo County. For comparison and informational purposes, the projections for East Palo Alto show a slighter lower employment gain (12.7 percent) compared with both the county (18.2 percent) and the city (16.6 percent).

Table 3.13-4, below, compares the projected number of employed residents in the city with the projected number of jobs available in the city. According to ABAG projections, the number of employed residents in the city is currently 62.4 percent of the number of jobs in the city. In the next 20 years, the number of employed residents is expected to remain relatively constant, decreasing only slightly to 61.7 percent.[18]

Table 3.13-4. Comparison of Number of Jobs to Employed Residents in Menlo Park, 2020–2040

	2020	2040
Jobs	36,410	42,475
Employed Residents[a]	22,735	26,205
Percent of Employed Residents to Total Number of Jobs	62.4	61.7

Source: Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040.*
a. The number of jobs and employed residents is based on the city's sphere of influence, which also includes unincorporated areas of San Mateo County.

The average median income (AMI) in San Mateo County for a family of four was approximately $149,600 as of 2021. Because the city's housing prices are high, many people who work in the community cannot afford to live in the city. Consequently, people who work in the community often must commute long distances. All levels of income, including above-moderate income households, face challenges regarding affordable housing in Menlo Park as well as in the broader Bay Area. In fact, because of the high cost of housing, housing affordability challenges extend to households that earn more than 150 percent of the AMI. [19]

[18] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040*. November.

[19] Keyser Marston Associates. 2021. *Willow Village Master Plan Project Housing Needs Assessment*. July.

The difference between what the workforce and the community can pay for housing, based on household income and the prices for homes in the community, is referred to as an *affordability gap*.[20] Housing production has not kept pace with job growth in San Mateo County and adjacent counties. The ratio of jobs to housing units has steadily increased in San Mateo, Santa Clara, and San Francisco Counties since 2010 when the ratio was approximately 1.35. In 2019, the jobs/housing ratio for the three counties averaged approximately 1.75. This ratio of more jobs in the area than houses leads to longer commutes for employees living outside of the three counties and an increase in housing prices and rents for houses within the three counties. However, in 2020, the jobs-housing ratio declined as a result of job losses associated with the pandemic. [21]

According to the U.S. Census Bureau's 2015–2019 American Community Survey (ACS), 5.9 percent of those who currently work in Menlo Park also live in Menlo Park. That number has declined since the 2000 census, which showed that 7.2 percent of those who worked in Menlo Park lived in Menlo Park. This percentage is low compared with most other cities in the Bay Area and attributable to a range of factors, such as affordability constraints, which already limit a worker's ability to find housing within the city, and the large number of jobs in Menlo Park relative to the housing stock. Another contributing factor is the location and boundary configuration of the city, making many other jurisdictions within a short commute.[22]

Project Site Setting

Main Project Site/Meta Campuses. Currently, the existing Meta East and West campuses (which are Meta-owned and occupied) can accommodate approximately 17,340 seated workers (i.e., the number of physical seats in a building or on a campus), as follows:

- East Campus (not part of the Project Site): approximately 6,600 seated workers
- West Campus (not part of the Project Site): approximately 10,740 seated workers[23]

The main Project Site accommodates approximately 3,570 seated workers and is owned by a Meta affiliate. The main Project Site is on the site of the Menlo Science and Technology Park. In 2015, a Meta affiliate purchased the main Project Site and occupied several of the buildings for a variety of uses, including office space, research-and-development (R&D) space, worker amenities, and a health clinic. In total, the main Project Site currently accommodates approximately 3,570 seated workers, consisting of approximately 3,500 Meta seated workers plus approximately 70 workers from the other onsite tenants and approximately 96 building services employees.[24] In total, approximately 3,666 people work at the main Project Site.

The share of Meta employees at the company's Menlo Park campuses and leased offices who also live in Menlo Park is approximately 7.4 percent,[25] slightly higher than the overall average of 5.9 percent of Menlo Park workers who both live and work in the city. Many factors influence how people select where to live, including, but not limited to, weather, family, community and cultural factors, housing affordability, quality of schools, access to employment, and unit type.

---

[20] City of Menlo Park. 2014. *City of Menlo Park General Plan, Housing Element.* April 1.

[21] Keyser Marston Associates, Inc. 2021. *Willow Village Master Plan Project Housing Needs Assessment. July.*

[22] Ibid.

[23] Although Building 22 has received a temporary occupancy permit for a capacity of 3,000, it is not currently occupied because of COVID-19.

[24] Includes security, janitorial, and maintenance employment.

[25] Based on data provided by Meta applicable to employees at its existing Menlo Park facilities as of March 2020.

Hamilton Avenue Parcels North and South. Under existing conditions for all shifts, approximately 126 employees work at the retail/restaurant uses on Hamilton Avenue Parcel North and approximately four employees work at the service station on Hamilton Avenue Parcel South. In total, approximately 130 employees currently work at Hamilton Avenue Parcels North and South.

Regulatory Setting

State

State Housing Element Law. The Regional Housing Needs Allocation (RHNA) is a process established under the State Housing Element Law that requires cities in California to plan for future development of new housing units to meet their share of regional housing needs. Housing needs for each region in the state are determined by the State Department of Housing and Community Development and submitted to Councils of Government for allocation to local jurisdictions. ABAG is ultimately responsible for determining the share of the regional housing need to be met by each city in the Bay Area.

State Housing Element Law has established three housing affordability categories. The categories are based on the region's median income and take into account household sizes, ranging from one to six people. The three affordability categories used by ABAG in allocating regional housing needs are:

- Very Low: 0 to 50 percent of the area's median income
- Low: 51 to 80 percent of the area's median income
- Moderate: 81 to 120 percent of the area's median income

The current RHNA, adopted December 16, 2021, identifies housing needs for the 2023 to 2031 planning period. As shown in Table 3.13-5, ABAG determined that 2,946 units (defined by income category) is Menlo Park's fair share of the regional housing need for the 2023 to 2031 period.[26] The City updated its Housing Element in April 2014 and is currently in compliance with respect to designating enough appropriately zoned land to accommodate its allocated housing units for the 2014–2022 RHNA reporting period. However, with adoption of the 2023–2031 RHNA, which incorporates Plan Bay Area 2050, the City is in the process of updating the Housing Element for the current RHNA cycle. The 2023–2031 Housing Element will be submitted to the State Department of Housing and Community Development by January 2023.[27]

Sustainable Communities Strategy and Senate Bill 375. Senate Bill (SB) 375, adopted in 2008, requires preparation of a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan (RTP) for the Bay Area. Plan Bay Area, the first SCS for the region, was jointly approved in July 2013 by ABAG and the MTC. Plan Bay Area 2040, an updated SCS for the region, was jointly approved in July 2017 by ABAG and MTC. Plan Bay Area 2040 was the strategic update to the original Plan Bay Area, approved in 2013, which represented a transportation and land use/housing strategy for how the Bay

[26] Association of Bay Area Governments. 2021. *Regional Housing Need Plan for the San Francisco Bay Area: 2023–2031*. December 2021. Available: https://abag.ca.gov/sites/default/files/documents/2021-12/proposed%20Final_ RHNA_Allocation_Report_2023-2031.pdf. Accessed: March 16, 2022.

[27] City of Menlo. 2021. *Notice of Preparation of an Environmental Impact Report for Updates to the City of Menlo Park General Plan Sixth Cycle Housing Element Update, Safety Element Update, and a New Environmental Justice Element and Announcement of a Public Scoping Meeting*. Available: https://beta.menlopark.org/files/sharedassets/public/community-development/documents/projects/housing-element-update-nop.pdf. Accessed: February 8, 2022.

Table 3.13-5. ABAG Regional Housing Need Allocation for Menlo Park for 2023–2031

Income Level	Menlo Park Need	Regional Need
Very Low	740	114,442
Low	426	65,892
Moderate	496	72,712
Subtotal of Affordable Units	*1,662*	*253,046*
Above Moderate[a]	1,284	188,130
Total	**2,946**	**441,176**

Source: Association of Bay Area Governments. 2021.

a. Above Moderate: Households with incomes greater than 120 percent of county median family income. ABAG does not use the Above Moderate category. This category is included in the RHNA and the analysis below to provide decision-makers with more information regarding housing impacts for a broad spectrum of the new worker households associated with the Proposed Project.

Area will address its transportation mobility and accessibility needs, land development issues, and greenhouse gas emissions reduction requirements through 2040. Plan Bay Area 2040 builds on earlier work to develop an efficient transportation network, provide more housing choices, and grow in a financially and environmentally responsible way. SB 375 requires the RHNA to be consistent with the SCS and establishes an 8-year cycle for the RHNA. The 2014–2022 RHNA has been incorporated into Plan Bay Area and Plan Bay Area 2040.

Plan Bay Area 2050 was adopted by ABAG and MTC in October 2021. Menlo Park is included in the forecasting for South San Mateo County Atherton, Redwood City, Woodside, East Palo Alto, Portola Valley, and San Carlos are also included in the forecasting for South San Mateo County. The forecasts are designed to be realistic assessments of growth in the region through 2050. The strategies in Plan Bay Area 2050 for housing are designed to 1) protect and preserve affordable housing, 2) spur housing production for residents of all income levels, and 3) create inclusive communities.[28] Plan Bay Area 2050 estimates that, between now and 2050, the Bay Area's population will increase from nearly 8 million to more than 10 million. Plan Bay Area 2050 also forecasts significant and continuing increases in the number of housing units and jobs in South San Mateo County through 2050.[29] The 2023–2031 RHNA has been incorporated into Plan Bay Area 2050. However, as of March 2022, ABAG projections have not been updated at a city- and local jurisdiction-level; therefore, projections discussed in this section use Projections 2040.

Regional

Jobs Housing Connection Strategy Methodology for 2013–2040, Plan Bay Area. The Jobs Housing Connection Strategy was adopted by ABAG and MTC as part of Plan Bay Area in July 2013. The Jobs Housing Connection Strategy reflects the preferred land use pattern, which was selected from a series of land use alternatives and based on input from the public, cities and counties, and transportation agencies. The preferred scenario aims to concentrate growth near transit-served employment centers in

[28] Association of Bay Area Governments and Metropolitan Transportation Commission. 2021. *Plan Bay Area 2050*. Chapter 2: Housing. Available: https://www.planbayarea.org/digital-library/plan-bay-area-2050-chapter-2-housing. Accessed: March 16, 2022.

[29] Association of Bay Area Governments and Metropolitan Transportation Commission. 2021. *Plan Bay Area 2050*. Available: https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf. Accessed: March 16, 2022.

the inner Bay Area. For the SCS, the methodology used for assigning household growth to local jurisdictions considered multiple factors, including housing development capacity, base housing unit growth, vehicle miles traveled/transit service adjustments, as well as other growth factors.

Local

City of Menlo Park General Plan. All California cities and counties are required to include a Housing Element in their general plans to establish housing objectives, policies, and programs in response to community housing conditions and needs. The City updated and adopted its Housing Element on April 1, 2014, which was prepared to respond to current and near-term future housing needs in Menlo Park. The Housing Element is currently expected to be updated and finalized in 2023 to reflect the upcoming RHNA cycle.[30]

The Housing Element provides a framework for the community's longer-term approach to addressing its housing needs. It contains goals, updated information, and strategic directions (e.g., policies and implementing actions) that the City is committed to undertaking. [31]

State Housing Element Law requires the general plan of a city to have an updated Housing Element that provides for a specified number of housing units, based on an allocation of regional housing needs. The allocation process is now set to occur every 8 years, as discussed above. ABAG is responsible for the allocation in the Bay Area.

The following goals and policies within the Housing Element of the City's General Plan adopted to avoid or mitigate environmental impacts are relevant to the Proposed Project:

Goal H1: Implementation Responsibilities. Continue to build local government institutional capacity and monitor accomplishments to effectively respond to housing needs.

> **Policy H1.7: Local Funding for Affordable Housing.** Seek ways to reduce housing costs for lower-income workers and people with special needs by developing ongoing local funding resources and continuing to utilize other local, state, and federal assistance to the fullest extent possible. The City will also maintain the below-market-rate (BMR) housing program requirements for residential and nonresidential developments.

Goal H2 Existing Housing and Neighborhoods. Maintain, protect, and enhance existing housing and neighborhoods.

> **Policy H-2.5: Maintenance and Management of Quality Housing and Neighborhoods.** Encourage good management practices, rehabilitation of viable older housing, and long-term maintenance and improvement of neighborhoods.

Goal 4: New Housing. Use land efficiently to meet housing needs for a variety of income levels, implement sustainable development practices, and blend well-designed new housing into the community.

---

[30] City of Menlo. 2021. *Notice of Preparation of an Environmental Impact Report for Updates to the City of Menlo Park General Plan Sixth Cycle Housing Element Update, Safety Element Update, and a New Environmental Justice Element and Announcement of a Public Scoping Meeting*. Available: https://beta.menlopark.org/files/sharedassets/public/community-development/documents/projects/housing-element-update-nop.pdf. Accessed: February 8, 2022.

[31] City of Menlo Park. 2014. *City of Menlo Park General Plan, Housing Element*. April 1, 2014. Available: https://beta.menlopark.org/files/sharedassets/public/community-development/documents/adopted-housing-element-2015-2023_201412021857153619.pdf. Accessed: January 31, 2022.

Policy H4.3: Housing Design. Review proposed new housing in order to achieve excellence in development design through an efficient process and encourage infill development on vacant and underutilized sites that is harmonious with the character of Menlo Park residential neighborhoods. New construction in existing neighborhoods shall be designed to emphasize the preservation and improvement of the stability and character of the individual neighborhood. The City will also encourage innovative design that creates housing opportunities that are complementary to the location of the development. It is the City's intent to enhance neighborhood identity and sense of community by ensuring that all new housing will 1) have a sensitive transition with the surrounding area, 2) avoid unreasonably affecting the privacy of neighboring properties, or 3) avoid impairing access to light and air of structures on neighboring properties.

Policy H-4.4 Variety of Housing Choices. Strive to achieve a mix of housing types, densities, affordability levels and designs in response to the broad range of housing needs in Menlo Park. Specific items include:

a) The City will work with developers of non-traditional and innovative housing approaches in financing, design, construction and types of housing that meet local housing needs.

b) Housing opportunities for families with children should strive to provide necessary facilities nearby or on site.

c) The City will encourage a mix of housing types, including: owner and rental housing, single and multiple-family housing, housing close to jobs and transit, mixed use housing, work force housing, special needs housing, single-room occupancy (SRO) housing, shared living and cohousing, mobile-homes, manufactured housing, self-help or "sweat-equity" housing, cooperatives and assisted living.

d) The City will support development of affordable, alternative living arrangements such as co-housing and "shared housing" (e.g., the Human Investment Project's — HIP Housing — shared housing program).

Policy H-4.5: Density Bonuses and Other Incentives for Affordable Housing Development. Use density bonuses and other incentives to help achieve housing goals while ensuring that potential impacts are considered and mitigated. This will include affordable housing overlay zoning provisions as an alternative to State Density Bonus Law.[32]

Policy H-4.6: Mixed Use Housing. Encourage well-designed mixed-use developments (residential mixed with other uses) where residential use is appropriate to the setting and to encourage mixed-use development in proximity to transit and services, such as at shopping centers and near to the downtown to support Downtown businesses (consistent with the El Camino Real/Downtown Specific Plan).

[32] State density bonus law, Government Code Section 65915, was first enacted in 1979. The law requires local governments to provide density bonuses and other incentives to developers of affordable housing who commit to providing a certain percentage of dwelling units to persons whose incomes do not exceed specific thresholds. Cities also must provide bonuses to certain developers of senior housing and, in response to certain donations of land, the inclusion of child care centers in some developments. Essentially, state density bonus law establishes that a residential project of five or more units that provides affordable or senior housing at specific affordability levels may be eligible for a "density bonus" to allow more dwelling units than otherwise allowed on the site by the applicable general plan land use map and zoning. The density bonus may be approved only in conjunction with a development permit (i.e., tentative map, parcel map, use permit, or design review). Under state law, a jurisdiction must provide a density bonus. Concessions and incentives will be granted at the applicant's request, based on specific criteria.

Policy H-4.7: Redevelopment of Commercial Shopping Areas and Sites. Encourage the development of housing in conjunction with the redevelopment of commercial shopping areas and sites when it occurs as long as adequate space for retail services remain.

Policy H-4.8: Retention and Expansion of Multi-Family Sites at Medium and Higher Density. Strive to protect and expand the supply and availability of multi-family and mixed-use infill housing sites for housing. When possible, the City will avoid re-designating or rezoning multi-family residential land for other uses or lower densities without re-designating equivalent land for multi-family development and ensure that adequate sites remain at all times to meet the City's share of the region's housing needs.

ConnectMenlo. ConnectMenlo, which updated the Land Use Element and Circulation Element of the City General Plan, was adopted in November 2016. The following goals and policies from ConnectMenlo adopted to reduce or mitigate environmental impacts are relevant to the Proposed Project:[33]

Goal LU-2: Maintain and enhance the character, variety, and stability of Menlo Park's residential neighborhoods.

Policy LU-2.9: Compatible Uses. Promote residential uses in mixed-use arrangements and the clustering of compatible uses such as employment centers, shopping areas, open space, and parks within easy walking and bicycling distance of each other and transit stops.

Goal LU-3: Retain and enhance existing and encourage new neighborhood-serving commercial uses, particularly retail services, to create vibrant commercial corridors.

Policy LU-4.4: Community Amenities. Require mixed-use and nonresidential development of a certain minimum scale to support and contribute to programs that benefit the community and the city, including education, transit, transportation infrastructure, sustainability, neighborhood-serving amenities, childcare, housing, job training, and meaningful employment for Menlo Park youth and adults.

City of Menlo Park Below-Market-Rate Housing Program. The City's BMR Housing Program (Menlo Park Municipal Code Chapter 16.96) is intended to increase the supply of affordable housing in Menlo Park. As part of the program, qualifying residential and other developers are required to contribute BMR housing units and/or BMR housing in-lieu fees. These units may be available for rent at low-income levels (or an equivalent alternative) or purchase for very low-, low-, or moderate-income households. The BMR Housing Program is administered under the BMR Housing Program Guidelines (Guidelines). Residential developments of five or more units are subject to the requirements of the BMR Housing Program and must submit a BMR Housing Agreement and comply with the program before a building permit or land use authorization can be issued. For developments of five to 19 units, the developer shall provide not less than 10 percent of the units below market rates to very low-, low-, and moderate-income households. For 20 or more units, no fewer than 15 percent of the units shall be below market rates to very low-, low-, and moderate-income households, in compliance with the BMR Guidelines. Non-residential projects, of 10,000 square feet or more, are required to provide BMR units or pay an affordable housing impact fee.[34]

[33] City of Menlo Park. 2016. *City of Menlo Park General Plan, Land Use and Circulation Elements*. November 29. Available: https://www.menlopark.org/DocumentCenter/View/15013/Land-Use-and-Circulation-Element_adopted-112916_final_figures?bidId=. Accessed: March 16, 2022.

[34] City of Menlo Park. 2021. *Menlo Park Municipal Code*. Chapter 16.96, Below-Market-Rate Housing Program. Available: https://www.codepublishing.com/CA/MenloPark/html/MenloPark16/MenloPark1696.html. Accessed: March 16, 2022.

Environmental Impacts

This section describes the impact analysis related to population and housing for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. A summary of the ConnectMenlo EIR impacts and mitigation measures is then provided. As previously discussed in Chapter 1, *Introduction*, the analysis below makes reference to, and tiers from, the ConnectMenlo Final EIR, where appropriate. This section identifies potential impacts of the Proposed Project and, if necessary, any mitigation measures.

Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect if it would result in any of the conditions listed below.

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure).
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

Methods for Analysis

This analysis considers whether population and household growth would occur with implementation of the Proposed Project and whether this growth would be within the forecasts for the city and/or considered substantial with respect to remaining growth potential in the city. This section uses ABAG projections to analyze the impacts of the Proposed Project.

An HNA prepared by Keyser Marston Associates (Appendix 3.13) has informed the analysis in the Draft EIR.[35] U.S. Census Bureau, U.S. Bureau of Labor Statistics, and California Employment Development Department data were used in preparation of the HNA. The HNA presents the anticipated housing needs associated with the Proposed Project. Issues related to both increased demand for housing and the regional housing needs allocation are addressed. The HNA is part of a range of analyses that will be used in the decision-making and entitlement process for the Proposed Project. Preparation of the HNA is required under the terms of the 2017 settlement agreement between Menlo Park and East Palo Alto (refer to Chapter 1, *Introduction*). In addition to providing an analysis of the housing supply and housing demand impacts of the Proposed Project, the HNA also evaluates the Proposed Project's potential to contribute to the displacement of existing residents within East Palo Alto and the Belle Haven neighborhood of Menlo Park, which both have risk factors for displacement. However, indirect displacement, as analyzed in the HNA, is provided for informational purposes and is not a requirement of CEQA. Please refer to Appendix 3.13 for an evaluation of the Proposed Project's potential to contribute to the existing residents as well as neighborhood change in the two communities.

Indirect or secondary impacts are those that are caused by a project and later in time or farther removed in distance but still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth (CEQA Guidelines, Section 15358[a][2]). Specifically, growth-inducing effects include the ways in which a project could foster economic or population growth or the construction of additional housing, either directly or indirectly. Projects that would remove obstacles to population growth (e.g., a major expansion of a

[35] Keyser Marston Associates. 2021. *Willow Village Master Plan Project Housing Needs Assessment*. July.

wastewater treatment plant) might allow development to occur in an area that was not previously considered feasible for development because of infrastructure limitations (CEQA Guidelines, Section 15126.2[d]). As such, indirect population growth is a secondary impact and therefore considered below.

Summary of Analysis in the ConnectMenlo EIR

As described in Chapter 1, *Introduction*, the ConnectMenlo EIR provided a program-level analysis of the development potential envisioned for the entire city, including the increased development potential in the Bayfront Area. The Land Use Element specifically identifies new development potential in the Bayfront Area of up to 2.3 million gross square feet (gsf) of non-residential space, 400 hotel rooms, and 4,500 residential units. The ConnectMenlo EIR further studied maximum office, life sciences, and commercial gross square footages within the 2.3 million gsf maximum. The program level EIR also studied a maximum of 3,000 unrestricted dwelling units and 1,500 corporate housing units (that could be located on the Meta East Campus).

- The ConnectMenlo EIR determined that, at full buildout, implementation of ConnectMenlo would result in an additional 11,570 residents, for a total city-wide population of 50,350, and 5,500 new employees, for a total city-wide employee population of 53,250. This topic was analyzed in the ConnectMenlo EIR as Impact POP-1 (pages 4.11-5 to 4.11-18) and determined to be less than significant. Within the ConnectMenlo EIR Study Area, future development would be guided by existing and proposed goals, policies, and programs, and zoning regulations, which would provide a long-term planning framework for orderly development consistent with regional planning initiatives for the Bay Area and focus future growth into transit-oriented and infill development opportunity areas within existing communities and encourage new development in areas where there is already the infrastructure to support it. No mitigation measures were recommended.
- The ConnectMenlo EIR found that buildout of ConnectMenlo would not displace a substantial number of housing units or people, nor would it require the construction of replacement housing elsewhere. This topic was analyzed in the ConnectMenlo EIR as Impact POP-2 (pages 4.11-18 to 4.11-20) and POP-3 (page 4.11-20) and determined to be less than significant. Within the ConnectMenlo EIR Study Area, existing policies would ensure that adequate housing would remain and that the potential for any displacement of existing housing and people would be limited. No mitigation measures were recommended.
- The ConnectMenlo EIR found that buildout of ConnectMenlo would result in a significant and unavoidable cumulative impact related to direct and previously unplanned population growth in the region. (Impact POP-4, at pages 4.11-20 to 4.11-21). Buildout of ConnectMenlo would result in population and housing levels that were not in alignment with ABAG's Projections 2013. However, the City found that future ABAG projections would take into account buildout of ConnectMenlo, and Menlo Park's growth would no longer contribute to a cumulative exceedance of regional projections. Since certification of the ConnectMenlo EIR, ABAG updated its population growth projections. The most recent regional projections (Plan Bay Area Projections 2040)[36] incorporate full buildout of ConnectMenlo.

[36] Association of Bay Area Governments and Metropolitan Transportation Commission. 2018. *Plan Bay Area Projections 2040.* November.

Impacts and Mitigation Measures

Impact POP-1: Unplanned Population Growth. The Proposed Project would not induce substantial unplanned direct or indirect population growth. (LTS)

At the main Project Site, the Proposed Project would include construction of up to approximately 1.8 million gsf of nonresidential uses at the main Project Site in the form of up to approximately 1.6 million gsf of office and accessory space and up to approximately 200,000 gsf of commercial/retail space. The Proposed Project would also include the construction of up to 1,730 multi-family housing units and an up to 193-room hotel. The Proposed Project at full buildout would accommodate approximately 7,964 employees at the main Project Site, 6,950 of whom would be seated workers within the Office Campus.[37] The total 7,964 employees, inclusive of the seated workers, would be a net increase of 4,298 on the main Project Site compared with the current number of onsite employees (3,666). For purposes of this analysis, seated workers and employees are referred to as employees (whether direct or indirect Meta employees, support staff, retail workers, etc.).[38] In addition, at full buildout at Hamilton Avenue Parcels North and South, approximately 164 employees would work at the retail and commercial uses, a net increase of approximately 34 employees. In total, the entire Project Site at full buildout would employ a total of 8,128 employees for a net increase of 4,332 employees compared to existing conditions. Table 3.13-6 presents existing and proposed employment and the number of residents at the Project Site at full buildout.

Construction

Construction of the Proposed Project, including demolition, grading, utility work, grading/excavation, landscaping, building and parking construction, and finishing work, would temporarily increase construction employment. Given the relatively common nature and scale of the construction associated with the Proposed Project (when compared to proposed development projects throughout the Bay Area), the demand for construction employment would most likely be met with the existing and future labor market in the Bay Area. The size of the construction workforce would vary during the different phases of construction, but it is anticipated that construction of the Proposed Project would require between 15 and 1,531 construction workers per day. The minimum number of construction workers onsite would be 15 during the demolition and grading/utility work required for each phase as well as the landscaping for Phase 2. The maximum number of construction workers onsite would range between 1,125 and 1,837 in 2024 and 2025 when Residential/Shopping District and Campus District construction in Phase 2 overlap. It is anticipated that construction workers would be hired from Bay Area sources. Although some would commute from outside the Bay Area, because of the temporary nature of construction, these workers would not be expected to relocate permanently. Therefore, impacts related to indirect population growth during construction of the Proposed Project would be ***less than significant***.

[37] Seated workers are workers with assigned physical seats (desks). Seated workers include both Meta employees (i.e., workers employed by a Meta entity) and contract workers (i.e., workers employed by a third party who provides workers to perform services pursuant to a contract with a Meta entity). The number of seated workers is a good proxy for the number of workers actually present in a given Meta building or campus on a typical day (referred to as "onsite workers"). The number of onsite workers typically is less than or equal to the number of seated workers. This balance occurs because, on any given day, a certain number of seated workers are not present onsite (as a result of time off, offsite meetings, remote work, sick leave, etc.), while a certain number of contract workers without assigned seats (e.g., security, culinary, transportation personnel) are present onsite. The 17,340 seated workers are in existing Bayfront Area Meta-owned East and West Campuses and not in other Meta-leased buildings in the area (e.g., former Intuit campus, Menlo Gateway, Commonwealth Corporate Center, and other buildings in the Bayfront Area that Meta occupies). However, employees, vendors/contractors, and interns within the East and West Campuses are included.

[38] Note that not all seated workers are Meta employees; on a given day, not all Meta employees connected with a particular site are seated in Meta offices on that site.

Table 3.13-6. Project Activity and Employment by Use

	Area/Quantity	Employees	Residents
Main Project Site			
Residential	1,730 units	35	3,520
Dining	23,000 gsf	160	—
Grocery	36,000 gsf	75	—
Hotel	193 rooms	210	—
Shops	141,000 gsf	130	—
Office and Accessory	1,600,000 gsf	7,354[a]	—
Total Main Project Site	—	***7,964***	***3,520***
Existing	—	***3,666***	—
(Net New Employees)		***(4,298)[b]***	
Hamilton Avenue Parcels			
Hamilton Avenue Parcel North	22,400 gsf	160	—
Hamilton Avenue Parcel South	5,760 gsf	4	—
Total (Hamilton Avenue Parcels)	—	164	—
Existing		***130***	—
(Net New Employees)		***(34)[b]***	
Total Project Site		***8,128***	***3,520***
Net New Employees and Residents		***(4,332)***	***(3,520)***

Source: Peninsula Innovation Partners, LLC. 2021.

a. Seated workers account for 6,950 of the 7,964 total employees. Seated workers are employees with assigned physical seats (desks). Seated workers include both Meta employees (i.e., workers employed by a Meta entity) and contract workers (i.e., workers employed by a third party who provides workers to perform services pursuant to a contract with a Meta entity).

b. ( ) denotes net increase compared with existing conditions.

Operation

The Proposed Project would have impacts on both the supply and demand for housing. New residential units would increase the supply of housing; non-residential components would increase employment and result in a demand for additional housing within commuting distance for workers. Table 3.13-7 includes a summary regarding employment as well as the housing supply and demand directly and indirectly induced by the Proposed Project. The numbers provided in the table are described and analyzed in more detail below. As shown in this table, the Proposed Project would result in added housing supply and housing demand, as follows:

- **Added Housing Supply:** The Proposed Project would increase housing supply through the construction of up to 1,730 units at the Project Site.
- **Added Housing Demand:** New jobs added by the Proposed Project would result in new worker households that would need housing somewhere within commuting distance to Menlo Park. The approximately 4,332 jobs added onsite under the Proposed Project at full buildout would create a demand for an estimated 2,545 additional housing units, along with an estimated demand for 277 housing units for workers in offsite services (e.g., restaurants or retail, educational, medical, or other facilities). The number of jobs can be translated into an estimate of worker housing demand, based on an average of 1.91 workers per housing unit.[39]

[39] The San Mateo County average is 1.9077 workers per housing unit. For calculations throughout this section, 1.9077 is used for accuracy. However, for rounding purposes, 1.91 is used in the text.

Table 3.13-7. Summary of Employment and Housing Induced by the Proposed Project

	Onsite	Offsite Due to Induced Employment[a]	Total
Regional Totals			
Net New Employment	4,332[b]	523	4,855 employees
Number of Households	2,271	274	2,545 households
Housing Units Constructed	1,730	n/a	1,730 housing units
Net Decrease in Housing Availability in Region[c]	-541	-274	-815 housing units
Menlo Park Share			
Estimated Menlo Park Share of Housing Need[d]	161	16	177 housing units
Housing Units Constructed in Menlo Park	1,730	n/a	1,730 housing units
Net Increase in Housing Availability in Menlo Park	1,569	-16	1,553 housing units
Estimated Population Added in Menlo Park	3,520	n/a[e]	3,520 persons

Source: Keyser Marston Associates. 2022. *Housing Needs Assessment.* Menlo Park, CA.

a. Estimated offsite employment would be induced by the demand of the residents of the new onsite housing for additional retail, restaurant, medical, and other services.

b. The net new employment at the Project Site includes seated workers in Office Campus and onsite employees to support seated workers, in the hotel, retail, and support for residential.

c. Housing units constructed under the Proposed Project minus number of households induced by the Proposed Project.

d. The estimated Menlo Park share of housing need is based on commute data from Meta that 7.4 percent of its employees live and work in Menlo Park and commute data from the U.S. Census that an average of 5.9 percent of Menlo Park employees also live in the city.

e. As discussed in more detail below, onsite employment could result in 419 new Menlo Park residents; offsite induced employment could result in 42 new Menlo Park residents. However, because the onsite units added by the Proposed Project could accommodate these employment-induced residents, they are included in the total Menlo Park population as a result of the Proposed Project.

The following analysis describes employment growth as a result of the Proposed Project as well as indirect population growth. Direct population growth from onsite residences is also described. The analysis also describes the housing demand and growth resulting from direct and indirect population increases under the Proposed Project.

Employment Growth

Operation of the Proposed Project would generate up to 4,332 net new jobs onsite. In addition, the Proposed Project would induce approximately 523 offsite jobs that would serve residents of the proposed housing. Job creation, which is driven by increased demand for products and services, was projected for each industry that would serve the new households. Spending by residents is estimated to generate 642 jobs. Of that total, 119 are estimated to be captured as part of the onsite employment totals for grocery, retail, and dining uses. Although residents are anticipated to meet a significant share of the need within the onsite uses, not all retail categories would be available onsite. Services such as medical care and others would be located offsite. Furthermore, onsite retail and dining would also serve a wider customer base that would include local residents, workers, and hotel guests, in addition to new residents of the Proposed Project.[40] Using the assumption that 5.9 percent of people who live in Menlo Park also work in the city, this would equate to approximately 31 new offsite jobs in Menlo Park.

[40] Keyser Marston Associates. 2021. *Willow Village Master Plan Project Housing Needs Assessment.* July.

As shown in Table 3.13-3, above, ABAG estimates that the number of jobs in the city's sphere of influence will grow by approximately 6,065 between 2020 and 2040. Therefore, the number of direct and indirect employees generated by the Proposed Project in Menlo Park would equal approximately 72 percent[41] of the anticipated employment growth in the city from 2020 to 2040, which is within the anticipated employment growth forecasts. Therefore, the number of employees generated by the Proposed Project would not exceed ABAG projections, and the Proposed Project would not result in an increase in city population or demand for housing that would exceed ABAG projections, as explained in more detail below.

Indirect Population Growth from Project Employment

Operation of the Proposed Project would generate up to 4,332 net new jobs at the Project Site. Using an average of approximately 1.91 workers per housing unit in San Mateo County, the Proposed Project would generate the equivalent of approximately 2,271 new households regionally.[42] On average, approximately 5.9 percent of the city's workforce both work and reside in the city; however, at the existing Menlo Park Meta campuses, approximately 7.4 percent of the Meta employees also live in Menlo Park. For the total net employment at the Project Site, including Office Campus, retail, restaurant, hotel, and employees at Hamilton Avenue Parcels North and South, a commute share of 7.1 percent is used.[43] This number reflects a blend of data from the different types of employment at the Project Site.[44] Assuming that 7.1 percent of workers who work at the Project Site would also live in Menlo Park, approximately 161 new households would be generated in the city.[45] With an average 2.60 pph, the Proposed Project's onsite employment could generate approximately 419 residents in Menlo Park.[46]

In addition, the residential uses of the Proposed Project would result in an indirect demand for 523 new offsite employees throughout the region. Using an average of 1.91 workers per housing unit in San Mateo County, the Proposed Project would generate the equivalent of approximately 274 new households regionally.[47] Assuming the city average of 5.9 percent of employees who work in the city would also be living in the city, approximately 16 new households would be generated.[48] With an average 2.60 pph, the Proposed Project's offsite induced employment could generate approximately 42 residents in Menlo Park.[49]

In total, onsite and offsite employment induced by onsite residents would result in indirect population growth (i.e., approximately 461 new Menlo Park residents). As shown in Table 3.13-1, approximately 44,530 residents lived within the city's sphere of influence in 2020. According to ABAG projections, the population is projected to increase to approximately 54,920 by 2040. This represents 10,390 additional

[41] 4,332 net jobs at the Project Site + 31 new jobs in the city induced by the onsite residents/6,065 new jobs in the city between 2020 and 2040 × 100 = 72 percent of anticipated employment growth in the city's sphere of influence.

[42] 4,332 new jobs/1.9077 workers per housing unit = 2,271 total households.

[43] For informational purposes, the HNA also includes a goal-based commute share estimate of 20 percent, based on the 2000 nexus study. This is not reflective of existing conditions and therefore not analyzed further here. For more details, please refer to Appendix 3.13.

[44] Keyser Marston Associates. 2022. *Housing Needs Assessment*. Menlo Park, CA.

[45] 2,271 regional households ×7.1 percent of people who work and live in Menlo Park = 161 new households in Menlo Park.

[46] 161 new households × 2.60 pph = 419 residents in Menlo Park.

[47] 523 new jobs/1.9077 workers per housing unit = 274 total households.

[48] 274 regional households × 5.9 percent of people who work and live in Menlo Park = 16 new households in Menlo Park.

[49] 16 new households × 2.60 pph = 42 residents in Menlo Park.

residents over 20 years. The addition of up to 461 new residents in the city as a result of the Proposed Project's onsite employment as well as indirect offsite employment would represent approximately 4.4 percent of the anticipated population growth within the city between 2020 and 2040.[50]

Direct Population Growth from Onsite Residences

The Proposed Project would provide up to 1,730 residential units. As shown in Table 3.13-8, the residential uses at the Project Site would provide a mix of studios as well as 1-, 2-, and 3-bedroom units. At full buildout of the proposed units, at least 15 percent (260 of the 1,730 units), and possibly up to 17.8 percent (308 of the 1,730 units) would be BMR rental units, which would be located throughout the Residential/Shopping District of the main Project Site. The BMR units would include a dedicated senior housing community (up to 120 units). Because of the proposed unit sizes, estimates for the onsite population reflect a lower average household size than the city average of 2.60 pph.[51] Across all units, it is expected that the average household size would be approximately 2.03 pph. This would result in a total onsite population of approximately 3,520.[52] Table 3.13-8 summarizes the onsite population by unit size.

Table 3.13-8. Onsite Population by Unit Size

	Number of Units	Estimated Household Size[a]	Total Number of People
Studio	501	1	501
1-Bedroom Unit	719	2	1,438
2-Bedroom Unit	459	3	1,377
3-Bedroom Unit	51	4	204
Total	***1,730***	***2.03***	***3,520***

Source: Keyser Marston Associates. 2022. *Housing Needs Assessment*. Menlo Park, CA.

a. Reflects the standard for relating unit size to household size specified in California Health and Safety Code Section 50052.5.

Based on ABAG projections, the residential population in Menlo Park is expected to increase by 10,390 over the next 20 years. The addition of up to 3,520 new onsite residents in the city as a result of the Proposed Project would represent approximately 33.9 percent of the anticipated population growth within the city between 2020 and 2040.[53]

Housing Demand and Growth

As discussed above, the Proposed Project at full buildout would induce a demand for 2,271 housing units in the region as a result of onsite employment. In addition, approximately 274 households would be induced in the region by offsite employment, creating a total demand for 2,545 housing units across the region. Although the Proposed Project would add up to 1,730 new residential units to the housing supply, because of the regional housing demand from the Proposed Project's onsite and induced employment, there would be a 815-unit deficit in housing supplied by the Proposed Project in Menlo

50 Up to 461 new residents in the city's sphere of influence/10,390 anticipated new residents in the city's sphere of influence between 2020 and 2040 = 4.4 percent of anticipated population growth in the city's sphere of influence.

51 Keyser Marston Associates. 2021. *Willow Village Master Plan Project Housing Needs Assessment*. July.

52 Keyser Marston Associates. 2022. *Housing Needs Assessment*. Menlo Park, CA.

53 Up to 3,520 new residents in the city's sphere of influence/10,390 anticipated new residents in the city's sphere of influence between 2020 and 2040 = 33.9 percent of anticipated population growth in the city's sphere of influence.

Park compared to demand created by the Proposed Project in the region.[54] Therefore, the Proposed Project is estimated to result in a net decrease in available housing in the region (i.e., approximately 815 units).[55] However, the approximately 815-unit decrease across the region as a result of the Proposed Project, induced by onsite and offsite employment, could be accommodated within other allowable construction in the Bayfront Area and housing in the rest of the region. Under ConnectMenlo, approximately 2,770 additional units would be allowable.

According to ABAG projections, the number of households in the Bay Area is expected to grow by 544,735 between 2020 and 2040. Therefore, the 815-unit demand deficit represents only a small fraction of the anticipated housing growth in the region between 2020 and 2040. Furthermore, only 5.9 to 7.4 percent (for a weighted average of 7.1 percent) of the employees who would be induced by the Proposed Project would live in the city; therefore, the rest would seek housing elsewhere in the Bay Area. Within Menlo Park, onsite and offsite induced employment would generate a demand for 177 housing units within the city. However, the net increase in housing availability in Menlo Park as a result of the Proposed Project would amount to 1,569 units. Therefore, the proposed housing at the Project Site would offset the housing demand from onsite and offsite induced employees who would both live and work in Menlo Park. In addition, the Proposed Project was considered as part of the growth analyzed in the ConnectMenlo EIR and accounted for in regional planning efforts and projections. Therefore, the Proposed Project's induced housing demand in the city, county, and region was also accounted for. The ConnectMenlo Land Use Element identifies an allowable increase in the number of residential units in the Bayfront Area (i.e., of approximately 4,500 units).[56] The development of the up to 1,730 housing units at the Project Site would be within the increase analyzed in the ConnectMenlo EIR. The remaining employees who would not live in Menlo Park would very likely find housing throughout the region, with the majority living in San Mateo, Santa Clara, Alameda, and San Francisco Counties.

Out of the 2,545 households induced by the Proposed Project, is anticipated that approximately 36.1 percent of the Proposed Project's induced employees at full buildout would live in Santa Clara County (919 employees), approximately 29.6 percent would live in San Mateo County (754 employees), 17.1 percent would live in Alameda County (436 employees), 13.0 percent would live in San Francisco County (331 employees), and the remainder would live in other nearby counties.[57] The cities adjacent to Menlo Park are also expected to house potential employees, as follows:[58]

- East Palo Alto: 1.0 percent (26 employees)
- Palo Alto: 4.0 percent (102 employees)
- Atherton: 0.3 (8 employees)
- Redwood City: 8.3 percent (212 employees)
- Woodside: 0.2 percent (5 employees)

ABAG projections are considered the benchmark for foreseeable housing growth (i.e., built housing) in each area. As shown in Table 3.13-2, ABAG projects that the number of households will grow by 18.9 percent in the Bay Area, 11.9 percent in San Mateo County, and 14.9 percent in the city between

[54] Project demand for 2,545 units minus the Proposed Project's provision of 1,730 units = 815-unit deficit.

[55] Keyser Marston Associates. 2021. *Willow Village Master Plan Project Housing Needs Assessment*. July.

[56] The 4,500 total units includes 3,000 unrestricted units with 1,500 corporate housing units.

[57] "Commute shed" percentages for estimate of Proposed Project employees are based on a weighted average for all Menlo Park workers and all Meta workers.

[58] Keyser Marston Associates. 2021. *Willow Village Master Plan Project Housing Needs Assessment*. Table 6-5. July.

2020 and 2040. For that same period, the indirect housing demand generated by the Proposed Project would be 0.47 percent of the projected household growth in the Bay Area and 7.5 percent of that in San Mateo County. On a regional basis, the Proposed Project's demand for housing would not represent a significant share of the total housing growth projected by ABAG.

Conclusion

ConnectMenlo's Land Use Element identifies an allowable increase in net new development potential of up to 2.3 million gsf for non-residential uses, up to 4,500 residential units,[59] and up to 400 hotel rooms in the Bayfront Area. Because the Proposed Project's land uses were accounted for in ConnectMenlo, the population increases associated with the level of development under the Proposed Project would therefore also be accounted for under ConnectMenlo. The up to 1,730 additional residential units, as well as associated population growth, assuming 1.91 workers per housing unit, with full buildout of the Proposed Project represents approximately 38 percent of the 4,500 residential units[60] assumed under full buildout of ConnectMenlo. The 193-room hotel portion of the Proposed Project represents approximately 48 percent of the 400 hotel rooms assumed under full buildout of ConnectMenlo. The net increase in the number of employees (including seated workers) at the Project Site under the Proposed Project (i.e., 4,332) represents approximately 79 percent of the 5,500 employees assumed under full buildout of ConnectMenlo. Therefore, the Proposed Project would be consistent with the intensity of residential development, hotel development, job development, and associated population increases considered by ConnectMenlo and would not result in residential or employment growth beyond that already analyzed in the ConnectMenlo EIR.

Although it is not known exactly where the offsite generation of approximately 523 jobs would occur as a result of the Proposed Project at full buildout, some of which may occur within the Bayfront Area and thus within the ConnectMenlo Study Area, it can be assumed that the majority of the jobs would be dispersed throughout San Mateo County and not just within Menlo Park, given the proximity of the Project Site to other jurisdictions within the county. As discussed above, according to ABAG, San Mateo County is expected to experience continued employment growth, with approximately 72,770 jobs by 2040. The offsite jobs increase under the Proposed Project would therefore represent a small percentage of the employment growth expected in San Mateo County by 2040 and would fall within the range of expected employment growth accounted for by ABAG.

The Proposed Project is an infill development within an already-developed area of the city. The employment growth under the Proposed Project is accounted for in ConnectMenlo and regional growth plans, such as ABAG projections. The Proposed Project would increase the supply of housing in Menlo Park by providing new housing. However, non-residential Proposed Project components would increase employment and result in the demand for additional housing within commuting distance for workers, causing a net decrease in housing availability in the region. The anticipated housing demand in the city can be accommodated in the city and the anticipated housing demand in the region has been anticipated in regional growth plans. The Project Site is an urban infill site and is served by existing infrastructure and services. The Proposed Project would not induce a substantial level of unplanned population growth, either directly or indirectly, resulting in ***less-than-significant*** impacts.

[59] The 4,500 total units includes 3,000 unrestricted units with 1,500 corporate housing units.

[60] The up to 1,730 additional residential units, as well as associated population growth, assuming 1.91 workers per housing unit, with full buildout of the Proposed Project represents approximately 38 percent of 4,500 unrestricted units under the ConnectMenlo General Plan.

Impact POP-2: Displacement of People or Housing. The Proposed Project would not displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. (LTS)

Meta (through an affiliate) currently owns the main Project Site and occupies several of the buildings for a variety of uses, including office space, R&D, worker amenities, and a health clinic. Some of the space is occupied by other onsite business tenants include as well as tenants with existing warehousing and industrial uses. In total, the main Project Site currently accommodates approximately 3,666 employees, consisting of approximately 3,500 Meta seated workers, approximately 96 building services employees, and approximately 70 workers from other onsite tenants. The Proposed Project would demolish all existing uses and redevelop the Project Site into a mixed-use neighborhood with residences, a hotel, retail establishments, office campus space, accessory uses, and open space. During development of the main Project Site, existing Meta workers would be temporarily relocated to other locations within Menlo Park and other Bay Area Meta campuses. Any remaining third-party tenants would relocate off the main Project Site.

The Proposed Project would accommodate approximately 8,128 employees (inclusive of the 6,950 seated workers within the Campus District). This represents a net increase in the number of employees at the Project Site (i.e., 4,332 additional employees). The Proposed Project would therefore accommodate substantially more employees at the Project Site than existing (about 53 percent more). Meta has not finalized occupancy plans for the Proposed Project, but it is anticipated that all Meta's seated and non-seated workers (plus support staff) at the existing main Project Site would be accommodated within Meta's existing campuses and/or the main Project Site and therefore would not be permanently displaced. During the redevelopment phases of the Proposed Project, temporary displacement of all existing employees at the main Project Site would occur during the time between demolition and occupancy. The 70 workers from other onsite tenants could be accommodated within existing vacant space in Menlo Park or in the 2.3 million gsf of commercial and office space that would be developed in the Bayfront Area under ConnectMenlo. Therefore, the Proposed Project would not permanently displace people at an employment center directly and result in a need to construct a replacement employment center elsewhere.

The Proposed Project would not directly displace housing because there is no existing housing on the Project Site. Therefore, the Proposed Project would not directly displace people or housing by demolishing housing units. The displacement of housing units or residents is an appropriate subject for study under CEQA to the extent that a project would displace housing onsite and result in a need to construct replacement housing elsewhere. By itself, the possibility of a project resulting in economic displacement of existing residents represents a social and economic issue that would not be considered an impact on the physical environment, unless there is substantial evidence that economic displacement would result in reasonably foreseeable (i.e., not speculative) indirect physical effects that would require the construction of new housing. For the Proposed Project, determining how economic effects influence future housing development in particular locations throughout a region is too speculative to predict or evaluate. Therefore, for the purposes of CEQA, the Proposed Project would not result in the displacement of substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere, resulting in a ***less-than-significant*** impact.

Consistent with the requirements of the 2017 settlement agreement, a displacement analysis has been conducted for the Proposed Project as part of the HNA. The displacement analysis, provided as Appendix 3.13 to this document, is provided for informational purposes and is not a requirement of CEQA; therefore, it is not summarized here. Please refer to Appendix 3.13 for an evaluation of the Proposed

Project's potential to contribute to the displacement of existing residents as well as neighborhood change in the two communities that are known to be vulnerable to displacement and are proximate to the Project Site: East Palo Alto and the Belle Haven neighborhood of Menlo Park.

Cumulative Impacts

Impact C-POP-1: Cumulative Population and Housing Growth. Cumulative development would result in a less than significant cumulative impact related to population and housing growth, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact regarding population and housing. (LTS)

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR accounted for growth within the Menlo Park city boundary and sphere of influence in combination with projected growth in the rest of San Mateo County and the surrounding region, as forecast in the ABAG 2013 projections. Impacts from cumulative growth were considered in the context of their consistency with regional planning efforts. As described in the ConnectMenlo EIR in Impact POP-4 (pages 4.11-20 to 4.11-21), although growth with buildout of ConnectMenlo plus cumulative development would exceed the 2013 regional growth projections, City General Plan goals, polices, and programs, as well as implementation of the City Zoning Ordinance, would provide the planning necessary to accommodate the increase in growth in the Study Area. In addition, ConnectMenlo would not displace housing or substantial numbers of people, necessitating the construction of replacement housing elsewhere.

The ConnectMenlo EIR determined that implementation of ConnectMenlo in combination with past, present, and reasonably foreseeable projects, would result in a significant and unavoidable cumulative impact related to population and housing, and that no mitigation measures were available to reduce the impact. As stated in Chapter 4.11, *Population and Housing*, of the ConnectMenlo EIR, planning documents for regional growth did not, at the time, include development potential under ConnectMenlo; therefore, development potential under ConnectMenlo exceeded ABAG's 2013 regional growth projections. Therefore, the ConnectMenlo EIR determined that implementation of ConnectMenlo would introduce growth where adequate planning had not yet occurred. However, the ConnectMenlo EIR also noted that once ABAG updated the regional growth projections to incorporate growth under ConnectMenlo the two long range planning tools would be better aligned and the cumulative impact would be reduced to a less than significant level. ABAG and MTC Plan Bay Area Projections 2040, incorporate growth under ConnectMenlo, and regional growth projections are now aligned; therefore, cumulative impacts related to population and housing is considered to be ***less than significant***.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative population and housing growth with the Proposed Project includes the area within the Menlo Park city boundary and sphere of influence in combination with projected growth in the rest of San Mateo County and the surrounding region, as forecast by ABAG.

As discussed above, the ConnectMenlo EIR identified a significant and unavoidable impact and therefore the City adopted a Statement of Overriding Considerations related to population growth under the cumulative condition. This was because the planning documents pertaining to regional growth did not

include the new development potential of ConnectMenlo. Since the adoption of ConnectMenlo in 2016, the ABAG projections have been updated to include full buildout in the Bayfront Area under ConnectMenlo (Projections 2040). Therefore, all development anticipated under ConnectMenlo, including the Proposed Project, has been accounted for and is included in the growth projections for the city, county, and region. Because the growth projections have been updated, the cumulative impact of ConnectMenlo in combination with past, present, and reasonably foreseeable projects is considered less than significant.

As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted residential units in the 123 Independence Drive project and East Palo Alto projects. However, the City and surrounding areas implement general plans and regulations adopted to guide development and growth within their respective jurisdictions. Therefore, these additional projects would not alter the less-than-significant cumulative impact determination above.

The Project Site currently does not contain housing units. During construction, workers would be displaced only temporarily. Therefore, the Proposed Project would not displace housing or permanently displace people. Furthermore, the Proposed Project would not require the construction of replacement housing elsewhere. The Proposed Project would be consistent with the mix and intensity of development contemplated by ConnectMenlo. Housing demand, beyond that accommodated by the Proposed Project, from onsite and offsite employment associated with the Proposed Project could be accommodated in the region. Such demand is accounted for in the ABAG growth projections for the region. Therefore, because the Proposed Project would be within the scope of development anticipated by ConnectMenlo, and ABAG projections have been updated to include full buildout of ConnectMenlo, the Proposed Project would not make a cumulatively considerable contribution with respect to significant cumulative population growth impacts.

The Proposed Project would not result in a substantial change in the ConnectMenlo project and would not cause a new or substantially more severe significant population and housing impact than that analyzed in the ConnectMenlo EIR. Therefore, because ConnectMenlo has been included in the ABAG growth projections, the Proposed Project in combination with other cumulative development would result in a ***less-than-significant cumulative impact*** with respect to population and housing. No mitigation measures would be required.

3.14 Public Services and Recreation

This section describes the existing environment and regulatory setting for public services and recreational facilities within Menlo Park related to the Willow Village Master Plan Project (Proposed Project). It describes the potential impacts on public service providers, including police, fire, and emergency services; recreation; libraries; and schools, that would result from implementation of the Proposed Project. The analysis also identifies the potential impacts of the Proposed Project related to the need for new or altered facilities in order for service providers to deliver required services.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable comments included requests to assess the Proposed Project's potential impacts on population growth, school enrollment, and emergency and first-responder response times. Comments also requested that the EIR assess the potential for overcrowding in schools and whether there would be a need for new school facilities.

Existing Conditions

Environmental Setting

Fire and Emergency Services

The Menlo Park Fire Protection District (MPFPD), which has a service boundary of 30 square miles, serves the cities of Menlo Park, Atherton, East Palo Alto, and some unincorporated areas in San Mateo County. Seven MPFPD fire stations currently serve an estimated residential population of approximately 90,000.[1] The MPFPD is organized into five Fire District Divisions, as follows: Administrative Services, Human Resources, Fire Prevention, Operations, and Support Services. Currently, the MPFPD's staff includes 12 chief officers, 30 captains, and 66 engineers/firefighters, for a total of 108 fire safety personnel. The MPFPD also employs an administrative support staff of 22.[2] At present staffing levels, the MPFPD has a ratio of approximately 1.2 firefighters per 1,000 residents in the service population. To support its fire safety personnel, the MPFPD also employs a fire-prevention staff of 10.[3] In addition, the MPFPD is part of the greater San Mateo County boundary-drop plan, which means the closest unit responds to each call, regardless of the department.

In 2020, the MPFPD responded to approximately 8,500 emergencies.[4] For first-response units, the adopted performance goal is to have the first unit arrive on the scene of all Code 3 (i.e., using warning lights and sirens) emergencies within 7 minutes, starting from the time of the call to the dispatch center, 90 percent of the time. For the full response, the MPFPD's goal is to have all dispatched units arrive on

[1] Schapelhouman, Harold. Fire Chief, Menlo Park Fire Protection District. April 27, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[2] Ibid.

[3] Ibid.

[4] Ibid.

the incident scene within 11 minutes, starting from the time of the call to the dispatch center, 90 percent of the time.[5] The MPFPD's average response times fall under the currently adopted 7-minute standard for first-response units and 11-minute standard for all units.[6]

The closest fires stations to the Project Site are MPFPD Stations 2 and 77. Station 2 serves East Palo Alto and the Menlo Park Labs Campus. The station staffs a ladder truck and fire engine with two captains, five firefighters, and one Battalion Chief per shift. Of the eight personnel per shift, a minimum of two are licensed paramedics. Station 2 was rebuilt in 2016. The 12,560-square-foot facility includes three drive-through bays, eight dorm rooms, two offices, a community conference room, a backup generator, a fuel tank, and a communications building with a 100-foot-tall monopole. Station 77's primary response areas include the eastern portion of Menlo Park, the Belle Haven neighborhood, the Bayfront, and East Palo Alto. Station 77 is staffed by one captain and two firefighters, with one being a qualified engineer. One person is a licensed paramedic, providing advanced life-support services.[7] The MPFPD plans to partially renovate Station 77 and install extra sleeping rooms.[8]

Police

The Menlo Park Police Department (MPPD) serves Menlo Park, including the Project Site, which is within Beat 3. One police station, located at city hall, covers the entire service area. The MPPD also operates a police substation and neighborhood service center north of US 101 in the Belle Haven neighborhood. The Belle Haven Neighborhood Service Center and Substation houses the MPPD's Code Enforcement Office and Community Safety Police Officer. MPPD officers use the substation to make calls as well as interview and/or process suspects, victims, or witnesses. In addition, the substation serves as a place for the community to meet with police officers or gather.

The MPPD is headed by a chief of police who oversees two divisions, the Patrol Operations Division and Special Operations Division. MPPD staffing includes 44 sworn officers and a full-time-equivalent (FTE) staff of 17.5.[9] The MPPD's current service population is approximately 42,000, which represents the existing population plus one-third of the employees in Menlo Park. The current MPPD service ratio is therefore approximately 1.0 sworn officer per 1,000 residents, which is below the MPPD's target ratio of 1.7 sworn officers per 1,000.

The MPPD's review of pre-pandemic data regarding call volume indicates that the annual number of calls for service was approximately 22,000, with 300 of those being emergency calls.[10] The MPPD's average response time for emergency calls ranges from approximately 4 minutes and 45 seconds to 5 minutes, from dispatch to arrival. Average response times for non-emergency calls range from approximately 7 to 10 minutes.[11, 12]

---

5 Emergency Services Consulting International. 2020. *Community Risk Assessment: Standards of Cover*. Prepared for the Menlo Park Fire Protection District.

6 Schapelhouman, Harold. Fire Chief, Menlo Park Fire Protection District. April 27, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

7 Menlo Park Fire Protection Department. 2019. *2018 Annual Report*. Available: https://www.menlofire.org/media/PDF/Annual%20Reports/2018%20Annual%20Report.pdf. Accessed: May 10, 2021.

8 Schapelhouman, Harold. Fire Chief, Menlo Park Fire Protection District. April 27, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

9 Menlo Park Police Department. 2020. *MPPD Organizational Chart*. Available: https://www.menlopark.org/DocumentCenter/View/1782/Organizational-Chart?bidId=. Accessed: May 10, 2021.

10 Dixon, William. Police Chief, Menlo Park Police Department. April 8, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

11 Ibid.

12 The MPPD does not have a quantified goal for response times; instead, it relies on a goal that involves sworn officers per service population.

The MPPD has a mutual aid agreement with every police agency in San Mateo County. This includes the Atherton Police Department, East Palo Alto Police Department, Redwood City Police Department, and the San Mateo County Sherriff's Office, which is responsible for law enforcement in unincorporated areas of Menlo Park and Redwood City. The MPPD also has an informal mutual aid agreement with the Palo Alto Police Department, which borders Menlo Park but is in Santa Clara County.[13] In the preparation of the General Plan and M-2 Area Zoning Update (ConnectMenlo), the MPPD indicated that it would need to hire an additional 17 sworn officers and purchase equipment commensurate to the level of growth and expansion anticipated in Menlo Park.

Schools

Four elementary/middle school districts and one high school district are within the boundaries of Menlo Park: Menlo Park City School District (CSD), Ravenswood CSD, Las Lomitas School District, Redwood CSD, and Sequoia Union High School District (SUHSD). The portion of Menlo Park that includes Las Lomitas School District, which is generally bounded by Alameda de las Pulgas to the north and Interstate 280 to the south, is built out, with no substantial potential for new housing units. Therefore, this school district is not analyzed further in this section because the Proposed Project would not induce the construction of new housing in that area and generate new students.

The Project Site is served by the Ravenswood CSD. However, the Proposed Project could indirectly generate students in the attendance areas of other districts because the potential exists for onsite employees to live elsewhere; therefore, the remaining districts are discussed in detail below.

Each school district that serves Menlo Park is part of a development fee sharing agreement. The SUHSD collects development fees and distributes a percentage of the fees to its feeder districts, which include Menlo Park CSD, Ravenswood CSD, Las Lomitas School District, and Redwood CSD.

Menlo Park City School District. The Menlo Park CSD serves parts of Menlo Park, Atherton, and unincorporated areas of San Mateo County. The Menlo Park CSD operates an early-learning center, three elementary schools (Encinal School, Laurel School, and Oak Knoll School) and one middle school (Hillview Middle School). In 2018–2019 (the most recent data available), total student enrollment at the four K–8 schools was 2,922. With 188 teachers, the Menlo Park CSD has a student/teacher ratio of approximately 15.5 students per teacher.[14,15]

The Menlo Park CSD is required to accommodate students within its boundaries. When a school reaches capacity, students can attend an alternate school within the district. If all classes are at capacity, then the Menlo Park CSD may increase the class size or open new classrooms. Table 3.14-1, below, provides a breakdown of the schools within the district, their capacities for 2015 to 2025, and current enrollment. Although Table 3.14-1 indicates that there is additional capacity available in all Menlo Park CSD schools, Menlo Park CSD has indicated that each of its schools is at capacity, either because of classroom size or the current state of the facilities.[16]

---

[13] City of Menlo Park. 2020. *Menlo Park Police Department Policy Manual*. Available: https://www.menlopark.org/DocumentCenter/View/27049/Menlo_Park_PD_Policy_Manual-12-31-2020. Accessed: March 16, 2022.

[14] California Department of Education. 2021a. *DataQuest: 2019–2020 Enrollment by Ethnicity and Grade, Menlo Park City School District.*

[15] California Department of Education. 2021b. *DataQuest: 2018–2019 Certificated Staff by Ethnicity for 2018-19, Menlo Park City School District.*

[16] Burmeister, Erik. Superintendent, Menlo Park City School District. April 5, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

Table 3.14-1. Menlo Park City School District—Capacity and Enrollment

School	Grades	Capacity[a]	Enrollment Population (2019–2020)[b]	Additional Capacity
Laurel School	K–5	720*[c]	705	15
Encinal School	K–5	720	636	84
Oak Knoll School	K–5	720	621	99
Hillview Middle School	6–8	1,100	960	140

Sources:

a. City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update for the City of Menlo Park Public Draft EIR.*

b. California Department of Education. 2021b. *DataQuest: 2019–2020 Enrollment by Grade.*

c. Benson Lee Consulting and Arch Beach Consulting. 2014. *Initial Study for the Laurel School Upper Campus (O'Conner School Site) New School Construction Project.* Prepared for the Menlo Park City School District. Available: https://district.mpcsd.org/cms/lib/CA01902565/Centricity/Domain/30/Initial%20Study%20Laurel%20School%20Upper%20Campus.pdf. Accessed: May 26, 2021.

Note: The capacity data provided in this table reflects information provided in ConnectMenlo.

*Laurel School was expanded to include the Upper Campus following publication of ConnectMenlo. The expansion added capacity for 360 students, in addition to the 360-student capacity reported in ConnectMenlo, for a total of 720 students.

The Menlo Park CSD's most recent student generation rates for elementary schools are 0.44 student per single-family unit and 0.18 student per single-family attached or multi-family unit.[17]

Ravenswood City School District. The Ravenswood CSD serves northern Menlo Park and East Palo Alto. The district operates three elementary schools and one middle school. Belle Haven Elementary School and Ravenswood Middle School serve students in the Ravenswood CSD attendance area who live in Menlo Park. Reported student enrollment for the 2019–2020 school year (the most recent data available) was 1,752.[18] Ravenswood employed 162 teachers in 2018–2019, resulting in a student/teacher ratio of approximately 10.8 students per teacher.[19] The district anticipates that enrollment will drop slightly in the near term and then level out because of the COVID-19 pandemic and relatively low enrollment in the lower grades.[20] The Ravenswood CSD's student generation rate is 0.249 student per housing unit for grades K–5 and 0.123 student per housing unit for grades 6–8.[21] Table 3.14-2, below, provides a breakdown of schools within the district, capacities, and current enrollment.

17 Enrollment Projection Consultants. 2015. *Concluding Documentation to Latest Forecast Update*. November 2, 2015.

18 Eger, William. Ravenswood City School District. April 26, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

19 California Department of Education. 2021c. *DataQuest: Certificated Staff by Ethnicity for 2018–2019, Ravenswood Elementary School District*.

20 Eger, William. Ravenswood City School District. April 26, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

21 School Facility Consultants. 2020. *School Facility Fee Justification Report for Residential, Commercial, and Industrial Development Projects for the Ravenswood City School District*. June.

Table 3.14-2. Ravenswood City School District—Capacity and Enrollment

School	Grades	Total Capacity	Current Enrollment (2019–2020)	Additional Capacity
Belle Haven Elementary School	K–5	760	491	269
Costano School of the Arts	K–5	620	473	147
Los Robles Ronald McNair Academy	K–5	300	214	86
Cesar Chavez Ravenswood Middle School	6–8	820	574	246

Source:
Eger, William. Ravenswood City School District. April 26, 2021—email to Kyle Perata, principal planner, City of Menlo Park.
Note:
Capacity values reflect estimates that were based on 20 students per classroom. Also, many classrooms in the district are in need of repairs or upgrades.

Redwood City School District. The Redwood CSD serves elementary and middle school students in Redwood City and portions of San Carlos, Menlo Park, Atherton, and Woodside. Redwood CSD has 16 schools, including 11 elementary schools, one middle school, three charter schools, and one Spanish immersion school. Not including enrollment at the charter schools and Spanish immersion school, which are considered "schools of choice," student enrollment in the Redwood CSD is approximately 6,700.[22] The district employs approximately 400 teachers, resulting in a student/teacher ratio of approximately 16.8 students per teacher.[23,24] The Redwood CSD's student generation rates for elementary schools are 0.36 student for single-family detached units, 0.18 student for single-family attached units, and 0.10 student for multi-family units. The Redwood CSD's student generation rates for middle schools are 0.10 student for single-family detached units, 0.06 student for single-family attached units, and 0.04 student for multi-family units.[25]

Taft Community School and John F. Kennedy Middle School serve portions of Menlo Park. Because Redwood CSD is a "district of choice" that allows students to apply to its four "schools of choice" regardless of attendance boundary, not all students living within a specific attendance boundary necessarily attend those schools. Table 3.14-3, below, provides a breakdown of the schools within the district, their capacities, and current enrollment.

Table 3.14-3. Redwood City School District—Capacity and Enrollment

School	Grades	Total Capacity[a]	Current Enrollment (2019–2020)[b]	Additional Capacity
Taft Community School	K–5	800	405	395
John F. Kennedy Middle School	6–8	1,150	737	413

Source:
a. Dias, Donald. Director, Bond Program, Redwood City School District. May 17, 2021—email to Kyle Perata, City of Menlo Park.
b. California Department of Education. 2021d. *DataQuest: 2019–2020 Enrollment by Grade, Redwood City School District.*

22 Dias, Donald. Director, Bond Program, Redwood City School District. May 17, 2021—email to Kyle Perata, City of Menlo Park.

23 Redwood City School District. 2021. *RCSD Fast Facts*. Available: https://www.rcsdk8.net/domain/2477. Accessed: May 10, 2021.

24 This calculation is for the Redwood City School District's non-charter schools.

25 DecisionInsite. 2015. *Residential Research Summary*. Prepared for the Redwood City School District. August.

Sequoia Union High School District. The SUHSD operates four comprehensive high schools, one alternative high school, one technology- and design-focused high school, as well as additional programs. The SUHSD serves Atherton, East Palo Alto, San Carlos, Woodside, Belmont, Portola Valley, portions of unincorporated San Mateo County, and Menlo Park, and enrollment is steadily increasing. Total student enrollment in the SUHSD was 9,305 as of the 2020–2021 school year.[26] TIDE Academy, a new high school at 150 Jefferson Drive with capacity for 400 students,[27] opened in August 2019 to accommodate enrollment growth within the district. As of the 2020–2021 school year, an estimated 136 students were enrolled at TIDE Academy.[28] Among the other SUHSD schools, Menlo-Atherton High School serves students residing in Menlo Park. Total student enrollment at Menlo-Atherton High School in 2020–2021 was approximately 2,305.[29] This school's capacity is estimated to be 2,250; therefore, the school is somewhat over capacity. With approximately 150 teachers,[30] Menlo-Atherton High School has a student/teacher ratio of approximately 16 students per teacher. The SUHSD uses the state's standard student generation rate of 0.2 student per housing unit.[31]

Parks and Recreation

The Menlo Park Community Services Department is responsible for providing recreational and cultural programs for residents of Menlo Park. Its facilities include 13 parks, two community centers (i.e., Arrillaga Family Recreation Center and the Menlo Park Community Campus, which is currently under construction), two public pools, three child care centers, two gymnasiums, a senior center, and one gymnastics center. Included in the park and recreational areas are tennis courts, softball diamonds, picnic areas, dog parks, playgrounds, a skate park, a shared-use performing arts center, soccer fields, and open space.[32]

City of Menlo Park (City) General Plan Policy OSC-2.4 calls for maintaining a ratio of 5 acres of developed parkland per 1,000 residents.[33,34] Currently, Menlo Park has an estimated population of 34,138 and 244 acres of parkland and open space for its residents.[35] With these values, Menlo Park has a ratio of 7.15 acres of parkland per 1,000 residents.

Libraries

Menlo Park has two libraries, Menlo Park Library on Alma Street and the Belle Haven Branch Library on Ivy Drive. In total, the libraries have approximately 37,800 square feet of space and approximately 25 FTE staff members.[36] Operating as a department of the City, the municipal libraries have approximately

[26] Leach, Crystal. Interim superintendent, Sequoia Union High School District. May 20, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[27] Ibid.

[28] Ibid.

[29] Ibid.

[30] Menlo-Atherton High School. 2020. *2020–2021 District Profile*. Available: https://www.mabears.org/documents/Menlo-Atherton%20High%20School%20Profile%202020-2021.pdf. Accessed: May 10, 2021.

[31] Leach, Crystal. Interim superintendent, Sequoia Union High School District. May 20, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[32] City of Menlo Park Community Services Department. 2021. *Community Services Department*. Available: https://www.smc-connect.org/locations/menlo-park-community-services-department. Accessed: March 16, 2022.

[33] Bird, Adrianne Lee. Menlo Park Department of Parks and Recreation. April 15, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[34] Murphy, Justin. City Manager's Office. May 14, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[35] U.S. Census Bureau. 2020. *American Community Survey Demographic and Housing Estimates* (2019 American Community Survey 5-year Estimates).

[36] Reinhart, Sean. Director, Library and Community Services, Menlo Park Library. April 5, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

24,100 registered borrowers. The Menlo Park library system circulates 111,447 books and other print materials, 10,076 physical audio books, and 14,921 physical video materials. The Menlo Park Library also has various forms of multi-media resources, including 483,789 e-books, 414,327 downloadable audio materials, and 22,018 downloadable video materials.[37] In 2017, the City authorized the Library System Improvement Project. This project includes three main components—a new Belle Haven branch, a new Main Library, and various short-term system improvements to support increased usage. Short-term physical improvements are ongoing in the City's libraries. Construction of the new Menlo Park Community Campus, which will also include library facilities for the Belle Haven neighborhood, will be completed in 2023. The library within this facility is estimated to have an area of 4,446 square feet.[38] With the new library on the Menlo Park Community Campus, total library square footage would increase to 38,800 square feet.

Regulatory Setting

State

California Senate Bill 50 (SB 50). Under the provisions of SB 50, school districts are authorized to collect fees to offset costs associated with increasing school capacity as a result of development and related population increases. The funding goes to acquiring school sites, constructing new school facilities, and modernizing existing school facilities. SB 50 establishes a process for determining the amount developers would be charged to mitigate the impact of development on school districts from increased enrollment. According to the California Government Code, development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation."

Local

City of Menlo Park General Plan. The City General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2015–2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The following goal and policies within the Open Space/Conservation Element of the City General Plan that have been adopted to avoid or mitigate environmental impacts are relevant to public services and recreation and the Proposed Project:

Goal OSC2: Provide parks and recreational facilities. Develop and maintain a parks and recreation system to provide areas and facilities that are conveniently located, sustainable, properly designed, and well maintained to serve recreation needs and promote healthy living for residents, workers, and visitors to Menlo Park.

Policy OSC2.1: Open Space for Recreation Use. Provide open space lands for a variety of recreation opportunities, make improvements, construct facilities, and maintain programs that incorporate sustainable practices that promote healthy living and quality of life.

Policy OSC-2.2: Planning for Residential Recreational Needs. Work with residential developers to ensure that parks and recreational facilities planned to serve new development will be available concurrently with need.

Policy OSC2.3: Recreation Requirements for New Development. Require dedication of improved land, or payment of fee in lieu of, for park and recreation land for all residential uses.

[37] California State Library. 2021. *California Public Library Statistics, 2019–2020*. Available: https://www.library.ca.gov/services/to-libraries/statistics/. Accessed: March 16, 2022.

[38] Hart Howerton. 2020. *Menlo Park Community Campus Planning Application*. December 14.

Policy OSC2.4: Parkland Standards. Strive to maintain a standard of 5 acres of parkland per 1,000 residents.

Policy OSC-2.6: Pedestrian and Bicycle Paths. Develop pedestrian and bicycle paths consistent with the recommendations of local and regional trail and bicycle route projects, including the Bay Trail.

The following policies within the Safety Element of the City General Plan that have been adopted to avoid or mitigate environmental impacts are relevant to public services and the Proposed Project:

Goal S1: Ensure a safe community.

Policy S1.5: New Habitable Structures. Require that all new habitable structures incorporate adequate hazard mitigation measures to reduce identified risks from natural and human-caused disasters.

Policy S1.10: Safety Review of Development Projects. Continue to require hazard mitigation, crime prevention, fire prevention, and adequate access for emergency vehicles in new development.

Policy S1.11: Visibility and Access to Address Safety Concerns. Require that residential development be designed to permit maximum visibility and access to law enforcement and fire control vehicles consistent with privacy and other design considerations.

Policy S1.29: Fire Equipment and Personnel Access. Require adequate access and clearance, to the maximum extent practical, for fire equipment, fire suppression personnel, and evacuation for high occupancy structures in coordination with the Menlo Park Fire Protection District.

Policy S-1.30: Coordination with the Menlo Park Fire Protection District. Encourage City-Fire District coordination in the planning process and require all development applications to be reviewed and approved by the Menlo Park Fire Protection District prior to project approval.

Policy S1.38: Emergency Vehicle Access. Require that all private roads be designed to allow access for emergency vehicles as a prerequisite to the granting of permits and approvals for construction.

The following policies and goals from the City's ConnectMenlo Land Use Element adopted to avoid or minimize environmental impacts pertain to public services and the Proposed Project:

Goal LU-2: Maintain and enhance the character, variety and stability of Menlo Park's residential neighborhoods.

Policy LU-2.2: Open Space. Require accessible, attractive open space that is well maintained and uses sustainable practices and materials in all new multiple-dwelling and mixed-use development.

Goal LU-4: Promote and encourage existing and new business to be successful and attract entrepreneurship and emerging technologies for providing goods, services amenities, local job opportunities and tax revenue for the community while avoiding or minimizing potential environmental and traffic impacts.

Policy LU-4.4: Community Amenities. Require mixed-use and nonresidential development of a certain minimum scale to support and contribute to programs that benefit the community and the city, including programs related to education, transit, transportation infrastructure, sustainability, neighborhood-serving amenities, child care, housing, job training, and meaningful employment for Menlo Park youth and adults.

Goal LU-6: Preserve open space lands for recreation; protect natural resources, as well as air and water quality; and protect and enhance scenic qualities.

Policy LU-6.1: Parks and Recreation System. Develop and maintain a parks and recreation system that provides areas, play fields, and facilities conveniently located and properly designed to serve the recreation needs of all Menlo Park residents.

Policy LU-6.2: Open Space in New Development. Require new nonresidential, mixed-use, and multiple-dwelling development of a certain minimum scale to provide ample open space in the form of plazas, greens, community gardens, and parks whose frequent use is encouraged through thoughtful placement and design.

Policy LU-6.3: Public Open Space Design. Promote public open space design that encourages active and passive uses, and use during daytime and appropriate nighttime hours to improve quality of life.

Policy LU-6.4: Park and Recreational Land Dedication. Require new residential development to dedicate land, or pay fees in lieu thereof, for park and recreation purposes.

Policy LU-6.6: Public Bay Access. Protect and support public access to the Bay for the enjoyment of open water, sloughs, and marshes, including restoration efforts and completion of the Bay Trail.

Menlo Park Fire Protection District Fire Prevention Code, Ordinance 45-2019. Pursuant to Title 24 of the California Code of Regulations (also known as the California Building Standards Code) as well as California Health and Safety Code Section 13869 et seq., a fire protection district may adopt a fire prevention code by reference. The MPFPD adopted an amended and restated Fire Prevention Code for Menlo Park in October 2019 that included local amendments to the 2019 California Fire Code, as presented in Ordinance 45-2019. Ordinance 45-2019 outlined requirements for burning, fire apparatus access roads, traffic-calming devices, photovoltaic system installations, automatic fire sprinkler systems, fire alarm systems and components, and building access in the event of an emergency. Ordinance 45-2019 also noted that fees for permits and other services may be established by resolution of the MPFPD Fire Board. As of the preparation of this EIR, the fee schedule had not been adopted.[39]

Menlo Park Fire Protection District Fire Prevention Code, Ordinance No. 47-2019. The Fire Prevention Code was adopted pursuant to the Fire Protection District Act of 1987 (California Health and Safety Code Sections 13800 et seq.). This code, which was adopted by the MPFPD in October 2019, adopted locally specific fire prevention regulations, beyond the specifications of the 2019 California Fire Code, according to specific climatic, geological, and topographical conditions in Menlo Park. These regulations apply to the area within the Menlo Park Fire Protection District's jurisdictional boundaries. Ordinance 47-2019 also noted that fees for permits and other services may be established by resolution of the MPFPD Fire Board. As of the preparation of this EIR, the fee schedule had not been adopted.[40]

Environmental Impacts

This section describes the impact analysis related to public services and recreation for the Proposed Project. It describes the methods used to determine the impacts of the Proposed Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant or potentially significant impacts accompany each impact discussion.

---

[39] Menlo Park Fire Protection District. 2019. *Menlo Park Fire Protection District Ordinance No. 2019-45: District Fire Prevention Code for the City of Menlo Park*. Adopted: October 15, 2019. Available: https://www.menlofire.org/media/Fire%20Prevention/Fire%20Code%20Ordinances/47-2019%20MPFPD.pdf. Accessed: May 24, 2021.

[40] Menlo Park Fire Protection District. 2019. *Menlo Park Fire Protection District Ordinance No. 2019-47, District Fire Prevention Code*. Adopted: October 15, 2019. Available: https://www.menlofire.org/media/Fire%20Prevention/Fire%20Code%20Ordinances/47-2019%20MPFPD.pdf. Accessed: May 24, 2021.

Thresholds of Significance

In accordance with Appendix G of the California Environmental Quality Act (CEQA) Guidelines, the Proposed Project would have a significant effect related to public services if it would result in any of the conditions listed below.

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
    - Fire protection,
    - Police protection,
    - Schools,
    - Parks, or
    - Other public facilities.

In accordance with Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect related to recreation if it would result in any of the conditions listed below.

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Methods for Analysis

Potential impacts on public services are evaluated by:

- Assessing the potential for the Proposed Project to increase demand for public services, based on goals established by service providers; and
- Comparing the ability of the service provider/public facility to serve the Proposed Project and accommodate the associated increase in demand.

Next, a determination is made as to whether existing services and facilities would be capable of meeting the demand of the Proposed Project and, if not, whether the expansion of existing facilities would cause an adverse environmental effect. The analysis is based on a review of City documents and maps, field reconnaissance, and direct communication with City service providers.

With respect to the analysis of recreational resources, the CEQA Appendix G thresholds above are addressed under Impact PS-4 and its subheadings.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the impacts below that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update.[41]

- Impacts related to fire and emergency services were analyzed in the ConnectMenlo EIR as Impact PS-1 (pages 4.12-8 to 4.12-12) and determined to be less than significant because development would be required to comply with existing regulations as part of the City's project approval process, including City General Plan policies and City Zoning Ordinance regulations prepared to minimize impacts related to fire protection services. No mitigation was required.
- Impacts related to police services were analyzed in the ConnectMenlo EIR as Impact PS-3 (pages 4.12-15 to 4.12-18) and determined to be less than significant because development would be required to comply with existing regulations as part of the City's project approval process, including City General Plan policies prepared to minimize impacts related to police protection services. No mitigation was required.
- Impacts related to school facilities were analyzed in the ConnectMenlo EIR as Impact PS-8 (pages 4.12-35 to 4.12-41) and determined to be less than significant because development would be required to comply with existing regulations to minimize impacts on schools and because development would occur incrementally over a 24-year period and be subject to mandatory payment of developer impact fees, which, pursuant to SB 50, are deemed to be full and complete mitigation. No mitigation was required.
- Impacts related to parks and recreational facilities were analyzed in the ConnectMenlo EIR as Impact PS-5 and Impact PS-6 (pages 4.12-23 to 4.12-26) and determined to be less than significant because implementation of ConnectMenlo would not decrease Menlo Park's ratio of parkland to residents to below the desired minimum ratio of 5 acres of parkland per 1,000 residents, and no new or expanded facilities would be required. No mitigation was required.
- Impacts related to recreation were analyzed in the ConnectMenlo EIR as Impact PS-6 (pages 4.12-25 and 4.12-26) and determined to be less than significant because, although development under the general plan's horizon could increase the demand for recreational opportunities and facilities, recreational projects would be required to comply with existing regulations, including general plan policies prepared to minimize impacts related to park and recreational services and facilities, and the development of such facilities would occur incrementally over a 24-year period. No mitigation was required.
- Impacts related to libraries were analyzed in the ConnectMenlo EIR as Impact PS-10 (pages 4.12-44 to 4.12-46) and determined to be less than significant because development under ConnectMenlo would be required to comply with existing regulations, including City General Plan policies, that would minimize impacts related to library services. In addition, the City would collect development impact fees to address infrastructure and service needs in the community, which could include library services. No mitigation was required.

[41] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Prepared by PlaceWorks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 19, 2021

Impacts and Mitigation Measures

Impact PS-1: Impacts on Fire Services. The Proposed Project would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered fire service facilities. (LTS)

The Proposed Project would generate a residential population and a daytime employment population that would require additional fire services in Menlo Park. The Proposed Project would construct 1,730 multi-family units on the main Project Site and, as a result of employment, indirectly generate a demand for 177 units in Menlo Park, as explained in Section 3.13, *Population and Housing*. Overall, the onsite and offsite employment induced by the Proposed Project would result in 461 new Menlo Park residents. Housing units generated by the Proposed Project are anticipated to increase the resident population of Menlo Park by 3,520. In total, the Proposed Project would result in 3,981 new residents. Therefore, the Proposed Project is expected to increase fire and medical calls from new Menlo Park residents and the onsite employees.[42] As described above, the MPFPD has a fire-protection staff of 108 and an estimated residential service population of 90,000. The current service ratio is 1.20 fire-protection staff members per 1,000 residents in the service population, which is above the MPFPD's goal of one fire-protection staff member per 1,000 residents in the service population. If there were no increase in MPFPD staffing, this ratio would decrease from 1.20 to 1.1 per 1,000 upon implementation of the Proposed Project, which would continue to exceed the MPFPD's goal of one fire protection staff member per 1,000 residents in the service population. Therefore, the Proposed Project would not result in the need for new or physically altered fire service facilities in order to maintain acceptable service ratios. To maintain the current staffing ratio, which exceeds the MPFPD staffing goal, approximately nine new fire-safety employees would need to be hired. Under this scenario, the MPFPD confirmed that demands associated with the Proposed Project could place a strain on current staffing levels and require additional staffing resources to provide adequate fire and emergency medical-service protection.[43]

The Proposed Project may result in a need for additional staff members to maintain existing service ratios, which exceed the MPFPD staffing goals; therefore, it is possible that there could be a need for new or expanded facilities. However, existing stations are located on infill lots in Menlo Park and neighboring jurisdictions, which are highly developed. Therefore, the anticipated small scale of expansion to accommodate the nine additional personnel would be unlikely to result in significant environmental impacts. As such, if expanded facilities are needed, the physical environmental impacts

[42] Seated workers are workers with assigned physical seats (desks). Seated workers include both Meta employees (i.e., workers employed by a Meta entity) and contract workers (i.e., workers employed by a third party who provides workers to perform services pursuant to a contract with a Meta entity). The number of seated workers is a good proxy for the number of workers actually present in a given Meta building or on a campus on a typical day (referred to as "onsite workers"). The number of onsite workers typically is less than or equal to the number of seated workers. This balance occurs because, on any given day, a certain number of seated workers are not present onsite (as a result of time off, offsite meetings, remote work, sick leave, etc.), while a certain number of contract workers without assigned seats (e.g., security, culinary, transportation personnel) are present onsite. The 17,340 seated workers are in the existing Bayfront Area Meta-owned Campuses, including buildings on the main Project Site, and does not include workers in other Meta-leased buildings in the area (e.g., the former Intuit campus, Menlo Gateway, Commonwealth Corporate Center, and other buildings in the Bayfront Area that Meta occupies). However, employees, vendors/contractors, and interns within the East and West Campuses are included. Note that not all seated workers are Meta employees and, on a given day, not all Meta employees connected with a particular site are seated in Meta offices on that site.

[43] Schapelhouman, Harold. Fire Chief, Menlo Park Fire Protection District. April 27, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

would most likely be less than significant. Any new facilities would be subject to CEQA review, as applicable, at the time specific facilities are proposed.

The Proposed Project would be required to comply with all applicable MPFPD codes and regulations and meet MPFPD standards related to fire hydrants (e.g., fire-flow requirements, hydrant spacing), the design of driveway turnaround and access points to accommodate fire equipment, and other standards. In addition, the Project Sponsor would be required to pay any applicable fire protection impact fees, as outlined in the Fire Protection Facilities Impact Fee Program for new construction. Although these fees were not formally adopted at the time of the EIR's preparation, the Proposed Project would be subject to the fees if the City formally adopts them prior to building permit issuance. Payment of any applicable fees would further address the potential need for any additional fire service equipment

Upon Project completion, the MPFPD would continue to serve the Project Site and respond to calls for assistance from its existing stations. Stations 1, 2, 5, and 77 are less than 2 miles from the Project Site. In addition, the MPFPD has an automatic aid agreement with Redwood City and Palo Alto, which would provide backup and respond in the event of a major fire. At this time, additional firefighters could be needed as a result of the Proposed Project in order to maintain existing staffing ratios, which exceed the MPFPD staffing goals; additional equipment could also be needed to serve the Proposed Project. If the MPFPD determines that expanded facilities are needed to accommodate the additional staff and equipment, the physical environmental impacts would most likely be less than significant. Any new facilities would be subject to CEQA review, as applicable, at the time when specific facilities are proposed. As such, the Proposed Project would not result in substantial adverse physical environmental impacts associated with the provision of new or physically altered fire and emergency service facilities in order to maintain acceptable service ratios, response times, or other performance objectives, consistent with the ConnectMenlo EIR. Impacts related to fire services due to the Proposed Project would be ***less than significant***.

Impact PS-2: Impacts on Police Services. The Proposed Project would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered police service facilities. (LTS)

Although the Proposed Project would include onsite private security for the Campus District, it could still affect the MPPD by intensifying site activity; adding new residents, employees, and visitors; increasing square footage; and increasing traffic incidents on the Project Site. As part of the City's project approval process, the Proposed Project would be required to comply with existing regulations, including City General Plan policies that have been prepared to minimize impacts related to police protection services.

The MPPD's service population is approximately 42,000, which represents the existing residential population and existing employees in Menlo Park. No plans exist for immediate or near-term expansion of MPPD facilities or additional personnel or equipment. With 44 sworn police officers and a service population of approximately 42,000, the MPPD's current ratio of officers to residents is approximately 1.0 to 1,000. This is below the MPPD's target ratio of 1.7 officers per 1,000 members of the service population, which the MPPD believes is the most effective service ratio.[44] The Proposed Project would add approximately 3,981 residents to Menlo Park. In addition, approximately 4,332 employees would be added at the Project Site. To calculate the service population, the MPPD considers employees who work in Menlo Park as one-third of a resident. As such, the service population with the Proposed Project would increase from approximately 42,000 to 47,425. This would reduce the service ratio from 1.0 to 0.89 officer per 1,000. To adjust the number of sworn police officers per 1,000 accordingly, the MPPD would need to staff 49 sworn officers, an increase of five FTE

[44] Dixon, William. Police Chief, Menlo Park Police Department. April 8, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

police officers to serve the Proposed Project. For buildout of ConnectMenlo, the MPPD indicated that it would need to hire an additional 17 sworn officers and purchase commensurate equipment for those officers to accommodate the level of growth projected from ConnectMenlo. At the time, the MPPD had 48 officers; therefore, to accommodate full buildout of ConnectMenlo, the MPPD would need to hire 21 sworn police officers.[45] The five sworn officers necessary to serve the Proposed Project would be within the total increase anticipated with ConnectMenlo. The ConnectMenlo EIR indicated that existing facilities would be adequate and able to accommodate the increase in the number of sworn police officers to serve full buildout of ConnectMenlo if the MPPD determines that additional officers are necessary.[46] The sworn officers needed to maintain the existing service ratio with the Proposed Project would likewise be able to be accommodated within existing facilities.

A review of pre-pandemic data indicates that the MPPD's annual call volume was approximately 22,000, including approximately 300 emergency calls. Average response times, from dispatch to arrival, for emergency calls range from approximately 4 minutes and 45 seconds to 5 minutes. Average response times for non-emergency calls range from approximately 7 to 10 minutes. Response times for non-emergency calls to the Project Site range from 12 to 15 minutes, which the MPPD considers an acceptable response time.[47] The MPPD may need to hire five additional sworn officers to maintain current service ratios; however, even if the MPPD determines that additional officers are necessary, the MPPD would not require new or expanded facilities to accommodate the additional sworn officers.

Overall, implementation of the Proposed Project would not be anticipated to affect service levels or other service indicators to the extent that new or expanded facilities would be required in order to maintain acceptable service ratios, response times, or other performance objectives, consistent with the ConnectMenlo EIR.[48] Impacts on police services with the Proposed Project would be ***less than significant***.

Impact PS-3: Impacts on School Facilities. The Proposed Project would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered school facilities. (LTS)

Implementation of the Proposed Project would result in a direct increase in demand for school facilities through its provision of residential units on the main Project Site as well as an indirect increase because of the offsite housing required by Project-generated employees. Overall, as described in Section 3.13, *Population and Housing*, the onsite and offsite employment induced by the Proposed Project would result in 461 new Menlo Park residents. Housing units generated by the Proposed Project are anticipated to increase the resident population of Menlo Park by 3,520. In total, the Proposed Project would result in 3,981 new residents.

With respect to Project Site–generated students, school-age students residing in the 1,730 residential units included in the Proposed Project would be assigned to Ravenswood CSD for elementary and middle school. High school students would be within Menlo-Atherton High School's attendance area. For this analysis, the Ravenswood CSD student generation rates of 0.249 student per housing unit for grades K–5

[45] As noted in the ConnectMenlo EIR, the MPPD had a service ratio of 1.14 sworn officers per 1,000 residents. The 17-officer increase is based on that metric, not the 1.0-per-1,000 metric, which would necessitate a need for five officers to maintain the current service ratio (2022) with the Proposed Project.

[46] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update for the City of Menlo Park Public Draft EIR.* Available: https://www.menlopark.org/DocumentCenter/View/10360/ConnectMenloProjectDEIR_060116?bidId=. Accessed: May 10, 2021.

[47] Dixon, William. Police Commander, Menlo Park Police Department. April 8, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[48] Ibid.

and 0.123 student per housing unit for grades 6–8 were used to estimate the number of elementary and middle school students added by the Proposed Project; SUHSD's student generation rate of 0.2 student per housing unit was used to estimate the number of high school students added by the Proposed Project. However, because approximately 70 percent of the Proposed Project's residential units (currently estimated at approximately 1,220 units if the maximum of 1,730 units is constructed) would be studio and one-bedroom units (120 of which would be senior housing units) and therefore less likely to have families in them, the student generation rate provides a conservative approach. Using the rates provided, the Proposed Project's 1,730 residential units would be estimated to generate 431 elementary school students, 213 middle school students, and 346 high school students.[49]

The Proposed Project could also indirectly generate new school-aged students in Menlo Park because of increased employment, which would require 177 offsite residential units (see Section 3.13, *Population and Housing*) throughout the Ravenswood CSD, Menlo Park CSD, Ravenswood CSD, Redwood CSD, and Sequoia Union HSD. Elementary and middle school students indirectly generated by the Proposed Project could attend the Menlo Park CSD, Ravenswood CSD, or Redwood CSD, depending on their home addresses. High school students indirectly generated by the Proposed Project would be zoned to Menlo-Atherton High School. To ensure a conservative analysis for students indirectly generated by the Proposed Project, this analysis considers generation rates for both single-family and multi-family residential units.

For elementary school students, the Menlo Park CSD generation rate for single-family dwelling units (0.44) is used because it is the highest compared with rates of other districts; for multi-family residential units, the Ravenswood CSD generation rate (0.249) is used because it is the highest compared with rates of other districts. For middle school students, the Ravenswood CSD generation rate for all housing types (0.123) is used because it is the highest compared with rates of other districts. To distribute the students within elementary and middle schools, it is assumed that students would be split evenly between grade levels. For high school students, the rate used by the SUHSD, 0.2 student per unit, is used.

At this time, the types of housing units that Project employees would occupy are unknown. Therefore, this analysis assumes a breakdown in housing units similar to that of existing housing unit types in Menlo Park. According to the City General Plan Housing Element, approximately 63 percent of the housing units in Menlo Park are single-family residential units/townhouses and 37 percent are multi-family residential units.[50] Therefore, it is assumed that the 177 new offsite residential units generated by the Proposed Project would be 112 single-family residential units and 65 multi-family residential units. In total, the Proposed Project could indirectly generate 66 elementary school students, 22 middle school students, and 36 high school students throughout Menlo Park.[51] The indirectly generated elementary school students would be divided evenly between the Menlo Park CSD, Ravenswood CSD, and Redwood CSD.

The sections below provide a detailed breakdown of the capacities of the various school districts and their ability to absorb students generated by the Proposed Project.

Elementary and Middle Schools

[49] Calculations: 431 elementary students = 1,730 × 0.249; 213 elementary students = 1,730 × 0.123; 346 high school students = 1,730 × 0.2.

[50] City of Menlo Park. 2014. *City of Menlo Park Housing Element 2015–2023.*

[51] Calculations: 58 elementary students = (98 × 0.44) + (58 × 0.249); 20 middle school students = (98 × 0.123) + (58 × 0.123); 31 high school students = 156 × 0.2.

*Menlo Park City School District***.** Based on Menlo Park CSD's student generation rates, approximately 22 elementary school students and eight middle school students would be indirectly generated by induced population growth from the Proposed Project's non-residential uses. The students expected to be indirectly generated by the Proposed Project within Menlo Park CSD's attendance area would represent approximately 1.0 percent of existing capacity at elementary schools and 0.7 percent of existing capacity at middle schools in the Menlo Park CSD. Based on the most recent enrollment data and school capacity estimates, as shown in Table 3.14-1, the Menlo Park CSD has the capacity to accommodate the students. However, Menlo Park CSD indicated that it considers the district's schools to be at capacity, based on the age and state of existing facilities.[52]

Ravenswood City School District. Based on the Ravenswood CSD's student generation rates, the Proposed Project would generate approximately 453 elementary school students and 220 middle school students (as a result of both proposed onsite and offsite employment and proposed onsite residential units). Based on currently available capacity and enrollment estimates, as shown in Table 3.14-2, the Ravenswood CSD has additional capacity for 502 elementary school students and 246 middle school students. The elementary school and middle school students directly and indirectly generated by the Proposed Project would represent approximately 26.9 percent and 26.8 percent of existing capacity in the Ravenswood CSD, respectively. It is anticipated that the Ravenswood CSD would be able to accommodate the increase in students potentially generated by the Proposed Project within its existing facilities.

Redwood City School District. Based on the Menlo Park CSD's student generation rates, approximately 22 elementary school students and eight middle school students would be indirectly generated by induced population growth from the Proposed Project's non-residential uses. As shown in Table 3.14-3, the Redwood CSD has the capacity to accommodate the students. In addition, the Redwood CSD anticipates decreased enrollment in the near term, indicating that the district is likely to maintain its enrollment capacity.[53] The students directly and indirectly generated by the Proposed Project would represent approximately 2.7 percent of total capacity in the Redwood CSD elementary schools and 0.6 percent of total capacity in the middle school. Redwood CSD would be able to accommodate the increase in students potentially generated by the Proposed Project in its existing facilities.

High Schools

Sequoia Union High School District. Based on SUHSD's student generation rate, the Proposed Project would generate 382 high school students (as a result of both proposed onsite and offsite employment and proposed onsite residential units). This represents a 15.5 percent increase from Menlo-Atherton High School's most recent enrollment statistics. Menlo-Atherton High School's capacity was 2,200 as of 2016.[54] The students directly and indirectly generated by the Proposed Project would represent approximately 17.0 percent of enrollment capacity at Menlo-Atherton High School, which is already above capacity. In August 2019, the SUHSD opened a new high school, the TIDE Academy, to accommodate enrollment growth. As of the 2020–2021 school year, TIDE Academy has additional enrollment capacity for approximately

[52] Burmeister, Erik. Superintendent, Menlo Park City School District. April 5, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[53] Dias, Donald. Director, Bond Program, Redwood City School District. May 17, 2021—email to Kyle Perata, City of Menlo Park.

[54] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update for the City of Menlo Park Public Draft EIR*. Available: https://www.menlopark.org/DocumentCenter/View/10360/ConnectMenloProjectDEIR_060116?bidId=. Accessed: May 10, 2021.

250 students.[55] It is not anticipated that the students generated by the Proposed Project could be accommodated by existing facilities. As described in ConnectMenlo, it is anticipated that new high school facilities would be required to accommodate the expected growth in Menlo Park.[56]

Conclusion

As discussed above, the Proposed Project would generate additional students within Menlo Park that would result in exceedances of school capacities within the Ravenswood CSD, potentially the Menlo Park CSD,[57] and the SUHSD. However, the Proposed Project would be subject to SB 50 school impact fees (established by the Leroy F. Greene School Facilities Act of 1998), providing a mechanism to support this demand. As a result of the wide-ranging changes in the financing of school facilities, including the passage of state school facilities bonds, which are intended to provide a major source of financing for new school facilities, Section 65996 of the State Government Code states that the payment of school impact fees that may be required by any state or local agency, as established by SB 50, is deemed to constitute full and complete mitigation for school impacts from development. Because it includes both non-residential space and residential space, the Proposed Project would be subject to residential and non-residential school impact fees to fund improvements to existing school facilities that would be required because of the Proposed Project's impact on school enrollment. These fees are based on the square footage and land use types proposed by a development project.

Although the payment of the school impact fee by the Proposed Project could contribute toward the construction or expansion of schools, any actual construction or expansion of school facilities would not be a direct result of the Proposed Project and would be required to undergo a separate environmental review process. Similarly, if new housing were built to support induced population growth from the Proposed Project's non-residential uses, it would be subject to separate environmental review and required to pay the appropriate impact fees to affected school districts. The number of students generated by the Proposed Project in each district is consistent with the expansion analyzed in the ConnectMenlo EIR. As a result, the impacts related to schools would be ***less than significant***.

[55] Leach, Crystal. Interim superintendent, Sequoia Union High School District. May 20, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[56] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update for the City of Menlo Park Public Draft EIR*. Available: https://www.menlopark.org/DocumentCenter/View/10360/ConnectMenloProjectDEIR_060116?bidId=. Accessed: May 10, 2021.

[57] Although published capacity numbers indicate that the Menlo Park CSD has the capacity for students generated by the Proposed Project, the district has indicated that it considers its schools to be at capacity, based on the age and state of existing facilities.

Impact PS-4 Impacts on Parks and Recreational Facilities. The Proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated, nor would it require construction or expansion of recreational facilities that would have an adverse physical effect on the environment. (LTS)

Deterioration of Recreation Facilities

The Proposed Project would result in an increase in the residential and employee populations that would use existing park and recreational facilities in Menlo Park. However, the Proposed Project would include approximately 8 acres of publicly accessible open space in the form of publicly accessible parks, bike paths, and trails throughout the main Project Site that could offset this increased park demand.

As stated in Section 3.13, *Population and Housing*, in total, the Proposed Project would result in 3,981 new residents in Menlo Park and 4,332 net new employees at the Project Site. These employees and their families could use the City's park facilities during non-work hours. As explained above, the Menlo Park Community Services Department currently exceeds its goal of 5 acres per 1,000 residents and has not identified any existing capacity issues.[58,59] The 3,981 new Menlo Park residents generated by the Proposed Project would reduce the park service ratio from 7.15 to 6.33 residents per 1,000 acres of parkland. With implementation of the Proposed Project, the City would still exceed its service goal of 5 acres of parkland per 1,000 residents. In addition, the Proposed Project's inclusion of approximately 8 acres of publicly accessible open space would offset park usage from Project-generated residents and employees.

It is not anticipated that the increase in worker and residential population would affect park and recreational facilities because the increased use of these facilities is expected to be spread out among several parks and recreational facilities in the area, including the facilities proposed as part of the Proposed Project. Overall, the Proposed Project would not cause or accelerate the physical deterioration of existing neighborhood and regional parks or other recreational facilities. Therefore, impacts would be ***less than significant***.

Construction of Recreational Facilities

As discussed above, with implementation of the Proposed Project, the City would still exceed its service goal of 5 acres of parkland per 1,000 residents. Therefore, the Proposed Project would not increase the demand for park and recreational facilities such that the construction of new facilities, other than those included in the Proposed Project, would be required. The Proposed Project would include park and recreational space, the environmental impacts of which are analyzed throughout this EIR. This would include an approximately 3.5-acre Publicly Accessible Park in the southwest corner of the Project's Residential/Shopping District, which would provide recreational areas and public restrooms. The location of the park would allow both residents of the Proposed Project and residents of surrounding Menlo Park and East Palo Alto neighborhoods to access and use the amenities. The Publicly Accessible Park, which would be privately maintained, could include active programming, passive programming, or a combination of active and passive programming. The park could also include play structures, gardens, public off-street parking, picnic areas, and open field areas for warm-ups or casual play.

[58] Bird, Adrianne Lee. Assistant director, Library and Community Services. April 15, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[59] Murphy, Justin. Deputy city manager. May 14, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

Another park facility, an approximately 0.3-acre publicly accessible open space area (Dog Park) would be located in the southeast portion of the Project's Residential/Shopping District, which, in addition to the Dog Park, would accommodate opportunities for passive recreation. Finally, the Proposed Project's Town Square District would be anchored by an approximately 2.0-acre Elevated Park with bicycle paths, pedestrian walking trails, gardens with native drought-tolerant and adapted species, lawns, interpretive horticultural exhibits, seating areas, picnic areas, and security and safety infrastructure. Additional open space, consisting of landscaped sidewalk areas, outdoor seating areas, and urban gardens, would provide a buffer and transition between the Proposed Project's districts. The final design of open spaces would be subject to review and approval by the City. These spaces would provide additional park resources for the community.

The privately owned, publicly accessible open space on the main Project Site would not be dedicated parkland and would not be considered part of Menlo Park Community Services Department parkland. Furthermore, it would not affect park service ratios; however, it would offset park usage from Project-generated residents and workers.

In summary, the Proposed Project would not result in the need for new or expanded park and recreation facilities, the construction of which could have significant environmental impacts. The environmental impacts associated with the park and recreational space provided by the Proposed Project are discussed throughout the applicable resource chapters of this EIR. The impact would be less than significant.

Conclusion

Overall, impacts of the Proposed Project associated with the provision of or the need for new or physically altered park and recreational facilities would be less than significant because the Proposed Project would not result in significant deterioration at existing park and recreational facilities or require the construction of new or expanded park and recreational facilities that would have an adverse physical effect on the environment. Therefore, impacts would be ***less than significant***.

Impact PS-5: Impacts on Library Facilities. The Proposed Project would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered library facilities. (LTS)

The Proposed Project would introduce an increased residential population that would use the City's library resources. As stated in Section 3.13, *Population and Housing*, the Proposed Project would result in approximately 3,981 new residents in Menlo Park. The Menlo Park Library does not have numerical service goals but assesses service needs through user surveys and by monitoring collection use, collecting direct user feedback on programs and services, and comparing services provided to those of other local libraries as well as library best practices.[60]

In 2017, the City authorized the Library System Improvement Project. This project includes three main components—a new Belle Haven branch, a new Main Library, and various short-term system improvements to support increased usage. Short-term physical improvements are ongoing in the City's libraries. Construction of the new Menlo Park Community Campus, which will also include library facilities for the Belle Haven neighborhood, will be completed in 2023. It is estimated that the library within this facility will have an area of 4,446 square feet.[61] With the new library on the Menlo Park Community Campus, total library square footage would increase to 38,800 square feet.

[60] Reinhart, Sean. Director, Library and Community Services, Menlo Park Library. April 5, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

[61] Hart Howerton. 2020. *Menlo Park Community Campus Planning Application*. December 14.

Existing library projects would expand Menlo Park's library capacity enough to accommodate the Proposed Project. Thus, the increased demand on library facilities generated by the Proposed Project would not result in the need for new or physically altered library facilities. Therefore, impacts on City libraries with the Proposed Project would be ***less than significant***.

Cumulative Impacts

Impact C-PS-1: Cumulative Public Services Impacts. Cumulative development would result in a less-than-significant cumulative impact on public services and would not trigger physical impacts associated with new or altered facilities; the Proposed Project would not be a cumulatively considerable contributor. (LTS)

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the potential for cumulative impacts on public services, as discussed below, to result from implementation of the updates to the Land Use and Circulation Elements and M-2 Area Zoning Update in combination with other past, present, and reasonably foreseeable future projects.

Fire Services

Cumulative impacts related to fire protection services were analyzed in the ConnectMenlo EIR as Impact PS-2 (pages 4.12-12 and 4.12-13). Cumulative impacts were considered in the context of growth from development under the ConnectMenlo project within the city combined with the estimated growth in the service area of the MPFPD, which includes the cities of Atherton, East Palo Alto, and Menlo Park and some unincorporated areas of San Mateo County. The ConnectMenlo EIR determined that ongoing compliance with state and local laws, including the payment of developer fees to support the ability of the MPFPD to provide adequate services to its service area, would minimize impacts related to fire protection services. Furthermore, any future expansion of fire facilities would require permitting and review in accordance with CEQA, which would ensure that any environmental impacts would be disclosed and mitigated to the extent feasible. Thus, development under the ConnectMenlo when considered with other past, present, and foreseeable future projects would result in less-than-significant cumulative impacts with respect to the need for remodeled or expanded fire protection facilities.

Police Services

Cumulative impacts related to police services were analyzed in the ConnectMenlo EIR as Impact PS-4 (pages 4.12-18 and 4.12-19). Cumulative impacts were considered in the context of Menlo Park city limits, which represent the MPPD's service area, though the ConnectMenlo EIR noted that the MPPD also maintains mutual aid agreements with the Atherton Police Department, East Palo Alto Police Department, Redwood City Police Department, and the San Mateo County Sherriff's Office. Pursuant to the ConnectMenlo EIR, the MPPD confirmed that no new or expanded facilities would be required to accommodate additional sworn officers or equipment. Growth under the ConnectMenlo project also was not expected to increase the degree or incidence of need for mutual aid from neighboring agencies significantly and result in a need for expanded facilities. Therefore, the ConnectMenlo EIR found that implementation of the ConnectMenlo project when considered with other past, present, and foreseeable future projects would have a less-than-significant cumulative effect with respect to the need for remodeled or expanded police facilities.

School Facilities

Cumulative impacts related to school services were analyzed in the ConnectMenlo EIR as Impact PS-9 (page 4.12-42). The ConnectMenlo EIR analyzed potential cumulative impacts related to schools that could occur from implementation of the ConnectMenlo project in combination with reasonably foreseeable growth in the areas served by the Menlo Park CSD, Redwood CSD, Ravenswood CSD, and SUHSD. Though cumulative projects would add new students to the Menlo Park, CSD, Redwood CSD, Ravenswood CSD, and SUHSD, in addition to those generated by development allowed by the ConnectMenlo project, which could result in the need for new or expanded school facilities, the ConnectMenlo EIR determined that the cumulative projects would be subject to compliance with the City's General Plan and mandatory school impact fees under SB 50. Therefore, cumulative impacts related to school facilities would be less than significant.

Parks and Recreational Facilities

Cumulative impacts related to parks and recreational facilities were analyzed in the ConnectMenlo EIR as Impact PS-7 (pages 4.12-26 and 4.12-27). The geographic scope for the cumulative analysis included park and recreational facilities within the Menlo Park boundary as well as San Mateo County and the Midpeninsula Regional Open Space District. Though the potential population increase under the ConnectMenlo project would increase the demand for park and recreational facilities, the ConnectMenlo EIR determined that the City would ensure that adequate parklands and recreational facilities would be provided through compliance with existing regulations. Thus, cumulative impacts associated with park and recreational facilities would be less than significant.

Library Facilities

Cumulative impacts related to library services were analyzed in the ConnectMenlo EIR as Impact PS-11 (page 4.12-46). The geographic scope of the cumulative analysis was the Menlo Park Library service area. The ConnectMenlo EIR determined that the payment of property taxes would support the ability of the Menlo Park Library to provide adequate services in its service area and that the Menlo Park Library included long-range strategies to ensure the provision of adequate library facilities to meet the demands of existing and future residents of Menlo Park. Furthermore, the ConnectMenlo EIR found that the expansion of existing libraries or the construction of new libraries would occur in an urbanized area, which would reduce the potential for new environmental impacts, and require permitting and review in accordance with CEQA, which would ensure that any environmental impacts would be disclosed and mitigated to the extent feasible. Therefore, the ConnectMenlo EIR concluded that the ConnectMenlo project, when considered with cumulative projects, would result in less-than-significant cumulative impacts with respect to the need for remodeled or expanded library facilities.

Cumulative Impacts with the Proposed Project

Fire Services

Consistent with the ConnectMenlo EIR, cumulative impacts were considered in the context of growth from development under the ConnectMenlo project within Menlo Park combined with the estimated growth in the service area of the MPFPD, which includes the cities of Atherton, East Palo Alto, and Menlo Park and some of the unincorporated areas of San Mateo County. As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to buildout considered in the ConnectMenlo EIR, the cumulative scenario

for this EIR also includes the additional unrestricted units at 123 Independence Drive and the reasonably foreseeable projects in East Palo Alto, where applicable. Because these projects would also be served by the MPFPD, they are considered in the cumulative analysis for fire services.

The Proposed Project in combination with other projected growth in Menlo Park and East Palo Alto would increase demand on fire protection services. Based on the analysis presented under Impact PS-1, existing fire protection facilities would be able to serve the population growth anticipated to occur with the Proposed Project. However, population and employment growth in the MPFPD's service area due to cumulative development would increase service call volumes and could create a need for additional facilities to maintain existing MPFPD service levels. Additional firefighters and facilities could be required to accommodate the projected cumulative growth and maintain the same level of service as under existing conditions. However, as identified in the ConnectMenlo EIR, the expansion of existing fire facilities would occur in already urbanized areas, which would reduce the potential for significant environmental impacts. The physical environmental impacts resulting from potential future expansion of stations within the urban setting of Menlo Park and neighboring jurisdictions are expected to be less than significant. Furthermore, any environmental impacts related future expansions would require permitting and review in accordance with CEQA, as necessary, which would ensure that any environmental impacts would be disclosed and mitigated to the extent feasible.

The Proposed Project would not result in a substantial change in the ConnectMenlo project or cause new or substantially more severe significant cumulative impacts from the construction of new or physically altered fire service facilities. Therefore, the Proposed Project would not be a cumulatively considerable contributor to a significant cumulative impact. Consistent with the conclusions in the ConnectMenlo EIR, the cumulative impact of the Proposed Project with respect to fire services and the need for new or altered facilities when considered with other past, present, and foreseeable future projects would be ***less than significant***.

Police Services

Consistent with the ConnectMenlo EIR, cumulative impacts were considered in the context of the Menlo Park city limits, which represent the MPPD's service area, though the ConnectMenlo EIR noted that the MPPD also maintains mutual aid agreements with the Atherton Police Department, East Palo Alto Police Department, Redwood City Police Department, and the San Mateo County Sherriff's Office. As noted in Chapter 3, *Environmental Impact Analysis*, of this EIR, in addition to buildout considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at 123 Independence Drive . Because this project would also be served by the MPPD, it is considered in the cumulative analysis for police services.

The Proposed Project in combination with other projected growth in Menlo Park would increase demand on police services. Based on the analysis presented under Impact PS-2, the Proposed Project alone would not require new or expanded police facilities. The MPPD reviews population forecasts during its annual budgeting process to determine whether additional police services are required to accommodate growth. It is not anticipated that the addition of officers would require additional facilities; according to the ConnectMenlo EIR, existing facilities would be adequate for the additional officers. The additional development of unrestricted units at 123 Independence Drive would also be adequately served by the MPPD and would not alter the cumulative impact determination stated in the ConnectMenlo EIR.

The Proposed Project would not result in a substantial change in the ConnectMenlo project or cause new or substantially more severe significant cumulative impacts from the construction of new or physically altered police facilities. Therefore, the Proposed Project would not be a cumulatively considerable

contributor to a significant cumulative impact. Consistent with the conclusions in the ConnectMenlo EIR, the cumulative impact of the Proposed Project with respect to police services and the need for new or altered facilities when considered with other past, present, and foreseeable future projects would be ***less than significant***.

School Facilities

The ConnectMenlo EIR analyzed potential cumulative impacts related to schools that could occur from implementation of the ConnectMenlo project in combination with reasonably foreseeable growth in the areas served by the Menlo Park CSD, Redwood CSD, Ravenswood CSD, and SUHSD. In addition to buildout considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at 123 Independence Drive and the reasonably foreseeable projects in East Palo Alto, where applicable. Because these projects would also be served by the Ravenswood CSD and SUHSD, they are considered in the cumulative analysis for schools.

As addressed under Impact PS-3, the Proposed Project would directly generate elementary, middle, and high school students who would reside within the Ravenswood CSD and SUHSD attendance areas. Future housing projects in the Menlo Park CSD, Ravenswood CSD, Redwood CSD, and SUHSD attendance areas would generate additional students who would need to be accommodated within these or other local school districts. The ConnectMenlo EIR considered future growth and concluded that cumulative impacts on schools would be less than significant. Section 65996 of the State Government Code states that the payment of school impact fees established by SB 50 (the Leroy F. Greene School Facilities Act of 1998) is deemed to constitute full and complete mitigation for school impacts. The school districts discussed previously have enacted development fees in accordance with the Leroy F. Greene School Facilities Act and levied the fees on development projects within their service areas. Development projects would be required to pay school impact fees, which are based on the amount of proposed residential and commercial space. The payment of appropriate fees would help to provide school services to meet the needs associated with current and future citywide growth. The development of additional unrestricted dwelling units at 123 Independence Drive and within East Palo Alto would also be required to pay school impact fees and therefore would not change the cumulative impact determination stated in the ConnectMenlo EIR.

The Proposed Project would not result in a substantial change in the ConnectMenlo project or cause new or substantially more severe significant cumulative impacts from the construction of new or physically altered school facilities. Therefore, the Proposed Project would not be a cumulatively considerable contributor to a significant cumulative impact. Consistent with the conclusions in the ConnectMenlo EIR, the cumulative impact of the Proposed Project with respect to schools and the need for new or altered facilities when considered with other past, present, and foreseeable future projects would be ***less than significant***.

Parks and Recreational Facilities

Consistent with the ConnectMenlo EIR, the geographic scope for the cumulative analysis included park and recreational facilities within the Menlo Park boundary as well as San Mateo County and the Midpeninsula Regional Open Space District. In addition to buildout considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at 123 Independence Drive and the reasonably foreseeable projects in East Palo Alto, where applicable. Because these projects would also be served by open space areas in San Mateo County, they are considered in the cumulative analysis for park and recreational facilities.

As described in the ConnectMenlo EIR, anticipated buildout under the ConnectMenlo project would be distributed throughout the Bayfront Area and occur incrementally over time. In addition, future development, as part of a project approval process, would be required to comply with existing regulations, including general plan policies to minimize impacts related to park and recreational services and facilities. Other projects in surrounding communities, including East Palo Alto, that would use City and County of San Mateo parks would also be required to adhere to existing regulations governing the use of parks. The City would also implement general plan programs that would require ongoing evaluation of the City's recreational facilities and services. Any environmental impacts related to future expansion of City park and recreational facilities would require permitting and review in accordance with CEQA, as necessary, which would ensure that any environmental impacts would be disclosed and mitigated to the extent feasible.

The Proposed Project would not result in a substantial change in the ConnectMenlo project or cause new or substantially more severe significant cumulative impacts from the construction of new or physically altered park and recreational facilities. Therefore, the Proposed Project would not be a cumulatively considerable contributor to a significant cumulative impact. Consistent with the conclusions in the ConnectMenlo EIR, the cumulative impact of the Proposed Project with respect to park and recreational facilities when considered with other past, present, and foreseeable future projects would be ***less than significant***.

Library Facilities

Consistent with the ConnectMenlo EIR, the geographic context for an analysis of cumulative impacts on library services is the area served by the Menlo Park Library system, which is Menlo Park. The additional unrestricted units at 123 Independence Drive would be within the service boundaries of the Menlo Park Library system. Therefore, it is included in the cumulative analysis.

A significant cumulative impact would occur if the cumulative context would require new or physically altered library facilities to accommodate growth, the construction of which could cause significant environmental impacts. The Proposed Project alone would not cause the need for new or physically altered library facilities because existing facilities and current library expansion projects would be able to serve Menlo Park residents. However, future expansion of library facilities could be required to serve potential increases in growth in conjunction with cumulative growth in the service area. Short- and long-term physical improvements are ongoing within the Menlo Park Library system. These separate projects help the libraries accommodate cumulative growth. The expansion of existing libraries or the construction of new libraries would occur in an urbanized area, which would reduce the potential for new environmental impacts. Any environmental impacts related to the expansion or construction of library facilities would be project-specific and require permitting and review in accordance with CEQA, which would ensure that any environmental impacts would be disclosed and mitigated to the extent feasible. With planned improvements, the construction of which is not expected to cause significant environmental impacts, the Menlo Park Library system would be able to meet service demands under cumulative conditions.

The Proposed Project would not result in a substantial change in the ConnectMenlo project or cause new or substantially more severe significant cumulative impacts from the construction of new or physically altered library facilities. Therefore, the Proposed Project would not be a cumulatively considerable contributor to a significant cumulative impact. Consistent with the conclusions in the ConnectMenlo EIR, the cumulative impact of the Proposed Project with respect to library facilities when considered with other past, present, and foreseeable future projects would be ***less than significant***.

3.15 Utilities and Service Systems

This section describes the existing environment and regulatory setting for utilities and service systems within Menlo Park related to the Willow Village Master Plan Project (Proposed Project). It describes the potential impacts on utilities and service systems, including water, wastewater, stormwater, natural gas, electricity, telecommunications, and solid waste that would result from implementation of the Proposed Project. Cumulative impacts are discussed at the end of this section. The analysis is based on information from the Menlo Park Municipal Water (MPMW) 2020 Urban Water Management Plan (UWMP);[1] the Alternative Water Source Assessment and Water Modeling Memorandum prepared by Freyer & Laureta, Inc.;[2] the Water Supply Assessment (WSA) for the Proposed Project prepared by West Yost (Appendix 3.15);[3] the Willow Village Hydraulic Evaluation technical memorandum prepared for the Project by West Yost;[4] and multiple sanitary sewer technical studies prepared by Sherwood Design Engineers and Freyer & Laureta, Inc.[5,6]

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. Applicable comments included requests by the San Francisco Public Utilities Commission (SFPUC) and West Bay Sanitary District (WBSD) to assess the Proposed Project's potential impacts on SFPUC facilitates and their pipeline/property right of way (ROW), as well as impacts on downstream WBSD facilities, potential upgrades, and recycled water treatment. Comments by individuals also requested that the EIR assess the treatment of and impacts to solid waste facilities.

Existing Conditions

Environmental Setting

Water Supply

The Project Site, inclusive of the main Project Site and the Hamilton Avenue Parcels North and South unless otherwise noted, is within the MPMW service area, which consists of two service areas: the Upper Zone (providing water to the Sharon Heights area) and the Lower Zone (providing water to areas east of El Camino Real). The Lower Zone serves the Project Site.[7] MPMW provides water to roughly half of Menlo

1 City of Menlo Park. 2021. *2020 Urban Water Management Plan for Menlo Park Municipal Water*. Available: Prepared by Erler & Kalinowski, Inc. June. https://www.menlopark.org/DocumentCenter/View/29212/2020-Urban-Water-Management-Plan-June-2021. Accessed: March 16, 2022.

2 Freyer & Laureta, Inc. 2022. *Willow Village Project Water Demand, Alternate Water Source Assessment and Water Modeling Memorandum*. Technical memorandum to Eric Harrison. January 27.

3 West Yost. 2022. *Willow Village Project Water Supply Assessment*. Prepared for the Menlo Park Municipal Water District. February.

4 West Yost. Technical Memorandum. 2022. *Willow Village Hydraulic Evaluation*. Prepared for the Menlo Park Municipal Water District. February.

5 Sherwood Design Engineers and Freyer & Laureta, Inc. 2019. *Offsite Sanitary Sewer System Study, Willow Village*. July 19.

6 Sherwood Design Engineers and Freyer & Laureta, Inc. 2020. *Sanitary Sewer System Study, Willow Village*. December 18.

7 Menlo Park Municipal Water. 2021. *Menlo Park Municipal Water*. Available: https://www.menlopark.org/131/Menlo-Park-Municipal-Water. Accessed: March 16, 2022.

Park (including the Project Site), which equates to about 16,000 residents in an area of approximately 9 square miles, through 4,296 service connections (as of 2020). MPMW purchases all of its water from the Regional Water System (RWS), which is operated by SFPUC in accordance with the November 2018 Amended and Restated Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda, San Mateo, and Santa Clara Counties. The term of the agreement is 25 years, with a beginning date of July 1, 2009 and an expiration date of June 30, 2034. Per the agreement, MPMW has an Individual Supply Guarantee (ISG) of 4.456 million gallons per day (mgd), or 1,630 million gallons per year, supplied by the SFPUC RWS. Over the last five years (2016–2020), MPMW has purchased between 52 percent and 66 percent of its individual supply guarantee. Approximately 85 percent of the water supplied to the RWS originates in the Hetch Hetchy watershed in Yosemite National Park. The water flows down the Tuolumne River and into Hetch Hetchy Reservoir. Water from the Hetch Hetchy watershed is managed through the Hetch Hetchy Water and Power Project (Hetch Hetchy Project). The Hetch Hetchy Project is composed of reservoirs, hydroelectric generation and transmission facilities, and water transmission facilities, from the Hetch Hetchy Valley west to the Alameda East Portal of the Coast Range Tunnel in Sunol Valley.[8]

The reliability of MPMW's water supply is dependent upon its water supply contract with the SFPUC and its membership in the Bay Area Water Supply and Conservation Agency (BAWSCA), which represents the SFPUC's 26 wholesale customers and coordinates their water conservation programs. Approximately 15 percent of the water supply to the RWS originates in the Alameda and Peninsula watersheds, which comprise the Alameda System and the Peninsula System. These systems generally consist of facilities west of the Alameda East Portal, including the 63,000-acre Alameda and Peninsula watersheds, storage reservoirs, two water treatment plants (WTPs), and a distribution system that delivers water to retail and wholesale customers. The current reliability of MPMW's water supply is largely dependent upon the reliability of the SFPUC's water supply.[9]

In May 2021, the Menlo Park City Council adopted the 2020 UWMP. The 2020 UWMP carries forward information from the 2015 UWMP that remains current and relevant but also provides additional information required by the amendments to the Urban Water Management Planning Act (California Water Code Sections 10610–10657). The 2020 UWMP concludes that in normal years Menlo Park will have the necessary water resources available to support anticipated growth, including the growth anticipated in the General Plan and M-2 Area Zoning Update (ConnectMenlo). In single and multiple dry years, there is more uncertainty in available water supply due to implementation of the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment). However, MPMW is taking steps to improve supply reliability through local emergency supply projects, partnerships to pursue recycled water supplies, and actions to reduce potable water demand in dry years through implementation of its adopted Water Shortage Contingency Plan (WSCP). The WSCP was approved in May 2021 concurrent with the 2020 UWMP, but serves as a stand-alone document. It is to be engaged in case of a water shortage event, such as a drought or supply interruption. The WSCP provides specific policies and actions that can be implemented for various shortage scenarios (e.g., implementing customer water

[8] Menlo Park Municipal Water. 2021. *Menlo Park Municipal Water*. Available: https://www.menlopark.org/131/Menlo-Park-Municipal-Water. Accessed: March 16, 2022.

[9] Ibid.

budgets and surcharges or restricting landscape irrigation to specific days/times). Consistent with Department of Water Resources requirements, the WSCP provides six standard water shortage levels, ranging from 10 percent to more than 50 percent.[10,11]

Water Treatment

The City of Menlo Park (City) does not own or operate a WTP. Although the Hetch Hetchy water source meets federal and state drinking water quality requirements without the need for filtration, it is secondarily disinfected with ultraviolet treatment at the SFPUC's Tesla Treatment Facility, constructed in 2011. All SFPUC water derived from sources other than Hetch Hetchy Reservoir is treated at one of two treatment plants, the Sunol Valley WTP or the Harry Tracy WTP. The Sunol Valley WTP treats primarily water from the Alameda System reservoirs. The Harry Tracy WTP filters and disinfects water supplied from the Peninsula System, including Crystal Springs Reservoir and San Andreas Reservoir.[12,13] The Tesla Treatment Facility has the capacity to treat 315 mgd.[14] Recent construction at the Sunol Valley WTP increased the plant's peak capacity from 120 to 160 mgd.[15] The Harry Tracy WTP, which was seismically upgraded in 2017, has the capacity to provide approximately 140 mgd for 60 days within 24 hours of a major earthquake.[16]

In 2020, processed and redistributed recycled water, discussed below (see *Wastewater Treatment and Collection and Recycled Water*), accounted for 20 million gallons (mg) in the MPMW system, offsetting the demand for potable water from the SFPUC. In addition, MPMW is pursuing emergency groundwater resources through the Emergency Water Storage/Supply project. If water supplies from the RWS are reduced or unavailable, the Emergency Water Storage/Supply Project would have the capacity to provide MPMW with up to 4.32 mgd from two or three wells at separate locations. In 2021, MPMW completed construction of the first well for emergency use in the Lower Zone at the City's corporation yard. Because of COVID-19, the State Water Resources Control Board (SWRCB) has not yet been able to complete the permitting for the new well, which is now expected to occur in 2022. The SWRCB will also need to amend MPMW's permit to allow water from these wells to be used for drinking water. Future site planning is continuing for additional well(s) or reservoir site(s).

---

10 City of Menlo Park. 2021. *2020 Urban Water Management Plan for Menlo Park Municipal Water*. Prepared by Erler & Kalinowski, Inc. June. Available: https://www.menlopark.org/DocumentCenter/View/29212/2020-Urban-Water-Management-Plan-June-2021. Accessed: March 16, 2022.

11 As mentioned above, the City receives its water from the SFPUC. In April 2021, the SFPUC issued a draft UWMP for adoption in July 2021. The SFPUC's draft UWMP identified several potential future water supply scenarios. Scenarios that involve full adoption of the Bay-Delta Plan indicate substantial long-term water deficits during multi-year droughts. Such deficits could result in cities not receiving their full annual water allocations from the SFPUC. However, should this scenario occur, the City's WSCP would be implemented, along with further reductions, as needed. Compliance with City code and ordinance requirements, the 2020 UWMP, and the WSCP, as well as any additional water reductions, would apply across the City's water department to all customers.

12 West Yost. 2022. Willow Village Project Water Supply Assessment. February.

13 Menlo Park Municipal Water. 2021. *Menlo Park Municipal Water*. Available: https://www.menlopark.org/131/Menlo-Park-Municipal-Water. Accessed: March 16, 2022.

14 San Francisco Public Utilities Commission (SFPUC). 2011. *Hetch Hetchy Regional Water System, Water System Improvement Program, Tesla Treatment Facility*. Available: https://infrastructure.sfwater.org/fds/fds.aspx?lib=SFPUC&doc=708008&ver=1&data=272583080. Accessed: November 19, 2021.

15 Monterey Mechanical Company. 2021. *Sunol Water Treatment Plant*. Available: https://www.montmech.com/project/sunol-water-treatment-plant/. Accessed November 19, 2021.

16 San Francisco Public Utilities Commission. 2011. *Hetch Hetchy Regional Water System, Harry Tracy Water Treatment Plant*. Available: https://baywork.org/wp-content/uploads/2017/08/Harry-Tracy-Water-Treatment-Plant-fact-sheet-020817.pdf#:~:text=The%20recently%20upgraded%20Harry%20Tracy%20Water%20 Treatment%20Plant, Hetch%20Hetchy%20Regional%20Water%20System.%20Filter%20no.%203. Accessed: November 19, 2021.

Existing Water Supply and Infrastructure

The Project Site is served by existing water lines throughout the site that anchor the MPMW Lower Zone service area through three adjacent mains: water mains within O'Brien Drive to the south, Adams Court to the west, and Willow Road to the east.

Water use from existing development at the main Project Site equals an average daily demand of 53,151 gallons per day (gpd).[17]

Hydraulic Fire Flow Availability

The main Project Site and the neighboring Life Sciences District have existing deficiencies in meeting fire flow requirements.[18] Two pipeline projects were identified in the City's Water System Master Plan (WSMP) to meet the City's water system performance criteria and address fire flow requirements in the area to support future development; proposed upgrades include a 16-inch diameter pipeline along East Loop Road and a 12-inch diameter pipeline connection to the existing 12-inch diameter pipeline on O'Brien Drive, north of the SFPUC easement. These upgrades are required to ensure adequate capacity to meet onsite fire flows and also provide similar or improved flow-through capacity for the Life Sciences District per the recommended WSMP improvements (the WSMP is also discussed below under *Regulatory Setting*).

Wastewater Treatment and Collection and Recycled Water

The City does not own or operate a wastewater treatment plant (WWTP) and does not convey its own wastewater. The West Bay Sanitary District (WBSD) provides wastewater collection and conveyance services to the MPMW service area. WBSD's service area includes Menlo Park, portions of Portola Valley, portions of Atherton, portions of East Palo Alto, portions of Redwood City, portions of Santa Clara County, and portions of unincorporated San Mateo County. Overall, the WBSD service area encompasses approximately 8,325 acres and has approximately 19,000 connections to serve a population of 52,900. The collection system includes approximately 200 miles of gravity sewer mains; about 37 miles of pressure, or force, mains; and 12 sewage pump stations. WBSD conveys the majority of raw wastewater from the Menlo Park pump station and force main to the Silicon Valley Clean Water (SVCW) pump station in Redwood City for treatment and discharge to San Francisco Bay.[19] A limited volume of wastewater is treated within the MPMW service area at the Sharon Heights Recycled Water Facility (RWF), located at the Sharon Heights Golf and Country Club, which began using recycled water in late 2020.

SVCW, a Joint Powers Authority, serves the cities of Belmont, Redwood City, and San Carlos as well as the WBSD. More than 220,000 people and businesses are in its service area. SVCW owns and operates a WWTP, including the support facilities necessary for operation and maintenance of the plant. Its facilities also include force mains for a wastewater conveyance system, five wastewater conveyance pump stations,

[17] West Yost. Technical Memorandum. 2022. *Willow Village Hydraulic Evaluation*. Prepared for the Menlo Park Municipal Water. February.

[18] West Yost. Technical Memorandum. 2022. *Willow Village Hydraulic Evaluation*. Prepared for the Menlo Park Municipal Water. February.

[19] West Bay Sanitary District. 2021. *About Us*. Available: https://westbaysanitary.org/about-us/. Accessed: November 19, 2021.

and an effluent outfall to a deep-water channel in the San Francisco Bay.[20] As noted in the ConnectMenlo EIR and reported by the Regional Water Quality Control Board (RWQCB), the SVCW WWTP has an average dry-weather design flow of 29 mgd and a peak wet-weather design flow of 71 mgd. In general, conveyance systems and treatment plants are designed and constructed to accommodate future capacity, including additional base flows due to planned growth plus estimated wet-weather flows.[21]

The Sharon Heights RWF is managed by the WBSD in coordination with MPMW. This 0.5 mgd satellite WWTP produces tertiary recycled water under Title 22 for reuse within MPMW's service area. Wastewater is diverted from the WBSD's collection system and pumped into the RWF. In 2020, approximately 63 mg of wastewater was treated at the Sharon Heights RWF. Of that total, 20 mg was recycled; the remaining 43 mg was conveyed to the SVCW WWTP for discharge. According to the 2020 MPMW UWMP, the amount of wastewater collected from the MPMW service area in 2020 totaled approximately 873 mg.

WBSD has completed a feasibility study and approved the feasibility of a Resource Recovery Center at WBSD's former treatment plant behind Bedwell Bayfront Park, which could produce approximately 500,000 gpd of recycled water for reuse (the MPMW 2020 UWMP projects an annual recycled water supply of 72 mg/yr from this new facility). In a public/private partnership with Meta Platforms, Inc. (Meta), the WBSD Board of Directors spearheaded the effort to install 2,800 feet of purple recycled water pipe parallel with the storm drainpipe Meta replaced in Chilco Street. This pipe would be used to distribute recycled water to the main Project Site. According to WBSD, recycled water could be used for irrigation, industrial purposes, firefighting, public fill stations, and toilet flushing in the Bayfront Area.

Existing Wastewater Collection and Treatment at the Project Site

Wastewater from the majority of the existing buildings onsite currently drain to the WBSD Menlo industrial pump station, which pumps to a gravity main that drains toward the intersection of Willow Road and Hamilton Avenue. Buildings near the northwest corner of the site drain to this same gravity main. From the intersection of Willow Road and Hamilton Avenue, the gravity main extends and discharges the existing Hamilton Henderson pump station. The Hamilton Henderson pump station is a duplex station (two pumps; one on-duty, one on-standby) that discharges via a 12-inch pipe into a 30-inch main line, which then drains into a new 36-inch main line constructed within Chilco Street.[22] The Hamilton Henderson pump station capacity is 1,650 gpm (one pump on). Wastewater from the Project Site ultimately discharges to the Menlo Park pump station maintained by SVCW. To maintain discharge demands the Proposed Project would construct a new sanitary sewer force main to carry the anticipated flow offsite to the existing sewer infrastructure at Chilco Street past the existing Hamilton Henderson pump station.[23]

---

[20] Silicon Valley Clean Water. 2020. *Capital Improvement Program 2020 Update, FY 20–21 to FY 29–30*. Prepared January. Available: https://svcw.org/wp-content/uploads/2020/08/2020-SVCW-CIP-Update.pdf. Accessed: November 19, 2021.

[21] City of Menlo Park. 2016. *ConnectMenlo General Plan Land Use and Circulation Elements and M-2 Area Zoning Update EIR*. Available: https://www.menlopark.org/DocumentCenter/View/10360/ConnectMenloProject DEIR_060116?bidId=. Accessed: March 19, 2021.

[22] Sherwood Design Engineers and Freyer & Laureta, Inc. 2019. *Offsite Sanitary Sewer System Study, Willow Village*. July 19.

[23] Sherwood Design Engineers and Freyer & Laureta, Inc. 2020. *Sanitary Sewer System Study*, Willow Village. December 18.

The existing main Project Site is made up of 18 parcels that include approximately 1 million square feet of existing industrial, office, and warehouse land uses with surface parking. Wastewater currently generated from the main Project Site is from restroom usage, cooking, cleaning, and washing within kitchens, laboratories, and breakrooms associated with the existing approximately 3,570 seated workers. Wastewater associated with the Hamilton Avenue Parcels North and South are related to retail and gas station restroom use, along with a carwash. The ConnectMenlo EIR assumes that 90 percent of water usage becomes wastewater. Using this same methodology and knowing the current total potable water usage at the main Project Site is 19 mg/yr (0.05 mgd), the current wastewater generated at the Project Site is estimated to be approximately 17 mg/yr.

Storm Drainage System

The main Project Site currently consists of approximately 13 percent landscaped area and 87 percent impervious surfaces (buildings and paved surfaces). There are currently no stormwater treatment facilities in place at the main Project Site. The main Project Site's current stormwater runoff discharges to an existing 66-inch storm drain at Hamilton Avenue in Willow Road. This City trunk line discharges to the Ravenswood Slough via a Caltrans pump station. Hamilton Avenue Parcels North and South are currently developed with approximately 71 percent impervious surfaces (buildings and hardscapes) and approximately 29 percent pervious surfaces such as landscaping.

Solid Waste Collection and Disposal

Recology provides solid waste collection and conveyance service for Menlo Park. Collected recyclables, organics, and garbage are conveyed to the Shoreway Environmental Center (Shoreway) in San Carlos for processing and shipment. Shoreway is owned by RethinkWaste (former South Bayside Waste Management Authority), a joint powers authority that comprises 12 public agencies, including the City of Menlo Park. As of January 1, 2011, Shoreway has been operated by South Bay Recycling under a 10-year contract with RethinkWaste. The primary goal of RethinkWaste is to provide cost-effective waste reduction, recycling, and solid waste programs to member agencies through franchised services and the services of other recyclers to divert 50 percent (minimum) of the waste stream from landfills, as mandated by California state law (AB 939).[24]

Shoreway facilities consist of a transfer station, a materials recovery facility, a public recycling center, an environmental education center, Recology offices, and South Bay Recycling offices. Shoreway serves as a regional solid waste and recycling facility for the receipt, handling, and transfer of refuse, recyclables, and organic materials collected from the RethinkWaste service area (i.e., southern and central San Mateo County). Shoreway is separately permitted by the California State Integrated Waste Management Board to receive 3,000 tons per day of solid waste and recyclables.[25] In 2020 Shoreway received, sorted, and transported 419,700 tons of materials.

[24] RethinkWaste. 2021. *About Us—Mission, Vision, Core Values & Strategic Priorities*. Available: https://rethinkwaste.org/about/rethinkwaste/mission-vision-core-values-strategic-priorities/. Accessed: November 19, 2021.

[25] RethinkWaste. 2021. *About Shoreway.* Available: http://www.rethinkwaste.org/shoreway-facility. Accessed: November 19, 2021.

In 2020, the RethinkWaste service area (San Mateo County) produced a total of approximately 105,930 tons of commercial solid waste, 44,184 tons of multi-family waste, and 190,060 tons of residential waste.[26] Overall, the service area experienced a 52 percent diversion rate by recycling and composting waste. Menlo Park had a slightly higher diversion rate than the county, with approximately 57 percent of waste diverted from the landfill.[27] In 2020, Menlo Park's per capita solid waste disposal rate for residents was 4.1 pounds per day (ppd); the target per capita disposal rate for residents is 7.5 ppd. Menlo Park's per capita solid waste disposal rate for employees in 2019 was 3.7 ppd;[28] the California Department of Resources Recycling and Recovery (CalRecycle) target per capita disposal rate for employees is 9.2 ppd.[29]

Materials not composted or recycled at Shoreway are sent to several different landfills, with most going to the Ox Mountain Landfill (also known as Corinda Los Trancos Landfill) near Half Moon Bay. This landfill is expected to remain operational until 2034, with a permitted throughput capacity of 3,598 tons per day.[30] In 2019, approximately 23,770 tons of waste from Menlo Park went to the Ox Mountain Landfill.[31]

Electricity

Menlo Park is served by a community choice energy program, known as Peninsula Clean Energy (PCE) as well as Pacific Gas and Electric (PG&E). PCE offers its customers a higher percentage of renewable energy than PG&E and customers in Menlo Park are automatically enrolled in PCE. Customers may opt out and continue to purchase electricity from PG&E. PCE uses PG&E's distribution system to serve Menlo Park customers. Historically PG&E has provided natural gas and electricity services to the vast majority of Northern California, including Menlo Park and the Project Site. PG&E is a publicly traded utility company that, under contract with the California Public Utilities Commission (CPUC), generates, purchases, and distributes energy. PG&E's service area covers 70,000 square miles, roughly extending north to south from Eureka to Bakersfield and east to west from the Sierra Nevada to the Pacific Ocean. PG&E's electricity distribution system consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines.[32] Although the Proposed Project is currently served by the existing

[26] Since values provided in the RethinkWaste *2019 Annual Report*, the COVID-19 pandemic resulted in a substantially reduced commercial waste collection volume (+26%) with an increase to residential waste; RethinkWaste. 2021. *2021 Annual Report*. Available https://rethinkwaste.org/wp-content/uploads/2021/07/2020-Annual-Report.pdf. Accessed: November 19, 2021.

[27] Recology San Mateo County. 2021. *Annual Report to the SBWMA for Year 2021.* Prepared February. Available: https://rethinkwaste.org/wp-content/uploads/2021/02/Recology-Annual-Report-2020.pdf. Accessed: February 15, 2022.

[28] The 2020 disposal rate for employees is significantly lower at 2.6 ppd. The 2019 rate is used in this EIR as a worst-case rate because it represents pre-pandemic levels when employees were in offices more than working from homes.

[29] California Department of Resources Recycling and Recovery (CalRecycle). 2020. *Jurisdiction Diversion/Disposal Rate Summary (2007-Current), Menlo Park*. Available: https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006. Accessed: November 19, 2021.

[30] California Department of Resources Recycling and Recovery (CalRecycle). 2021. *SWIS Facility Detail*: *Corinda Los Trancos Landfill (Ox Mountain) (41-AA-0002).* Available: https://www2.calrecycle.ca.gov/SolidWaste/Site/Details/3223. Accessed: November 19, 2021.

[31] California Department of Resources Recycling and Recovery (CalRecycle). 2020. *Jurisdiction Diversion/Disposal Rate Summary (2007-Current), Menlo Park*. Available: https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006. Accessed: November 19, 2021.

[32] Pacific Gas & Electric Company. 2021. *Company Profile*. Available: www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed: March 16, 2022.

PG&E Belle Haven Substation, PG&E would upgrade the Ravenswood Substation[33] and provide improvements to support distribution-level electrical service to the main Project Site from this substation. The upgrades to the Ravenswood substation would be required to serve the Proposed Project given the increased electrical demand from compliance with the City's reach code, which limits the amount of natural gas usage at the main Project Site.

Natural Gas

PG&E's natural gas (methane) pipe delivery system includes 42,000 miles of distribution pipelines and 6,700 miles of transmission pipelines. Gas delivered by PG&E originates in gas fields in California, the Southwest, the Rocky Mountains, and Canada. Transmission pipelines send natural gas from fields and storage facilities in large pipes under high pressure. Smaller distribution pipelines deliver gas to individual businesses and residences. PG&E's gas transmission pipeline systems serve approximately 15 million energy customers in California. The system is operated under an inspection and monitoring program in real time on a 24-hour basis, with leak inspections, surveys, and patrols taking place continuously along the pipelines.[34] The PG&E gas transmission pipeline nearest the Project Site runs in a north–south direction, primarily along Sevier Avenue, west of the Project Site, from US 101 to the Dumbarton Rail Corridor.[35] Distribution gas pipelines are located throughout the Bayfront Area.

Telecommunications

There are numerous telecommunications providers in Menlo Park that offer DSL, wireless, cable, fiber, and copper services, including Atherton Fiber, Sonic, XFINITY from Comcast, AT&T, Earthlink, Wave Broadband, Viasat Internet, Zayo, Lumen, Verizon, and HughesNet, to residents and businesses in the city. The Project Site primarily receives services from AT&T, EarthLink, and XFINITY.[36] Telecommunications facilities include underground conduits and overhead cables throughout the vicinity of the Project Site.

Regulatory Setting

Federal

Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), enacted in 1974, is a federal law. Its intent is to ensure safe drinking water for the public. The SDWA, which has been amended several times since it came into law, authorizes the U.S. Environmental Protection Agency (EPA) to set national standards for drinking water. These are called the National Primary Drinking Water Regulations. The regulations, which provide protection from both naturally occurring and manufactured contaminants, set enforceable maximum contaminant levels for drinking water and require all water providers in the United States to treat water sources, except for

[33] The current Ravenswood Substation operates as an existing Transmission Substation and is not equipped with distribution system infrastructure.

[34] Pacific Gas and Electric Company. n.d. *Learn about the PG&E Natural Gas System.* Available: https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/natural-gas-system-overview.page. Accessed: December 2, 2021.

[35] Pacific Gas and Electric Company. 2021. *Learn Where Natural Gas Pipelines Are Located*. Available: https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/gas-transmission-pipeline/gas-transmission-pipelines.page. Accessed: December 2, 2021.

[36] BroadbandNow. 2021. *Internet Providers in Menlo Park, California*. Last updated November 25. Available: https://broadbandnow.com/California/Menlo-Park?zip=94025. Accessed: December 2, 2021.

private wells that serve fewer than 25 people. In California, the State Department of Health Services conducts most enforcement activities. If a water system does not meet the standards, it is the water supplier's responsibility to notify its customers.

Clean Water Act

Refer to Section 3.11, *Hydrology and Water Quality*, of this EIR, for a discussion of the federal Clean Water Act of 1972.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters in the United States. Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits identify effluent and receiving water limits for allowable connections and/or mass emissions for pollutants contained in discharges, prohibitions on discharges that were not specifically allowed under the permit, and provisions that describe required actions for the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Wastewater discharges are regulated under the NPDES permit program for direct discharges to receiving waters as well as the National Pretreatment Program for indirect discharges to sewage treatment plants.

Operation of the SVCW WWTP and its wastewater collection system is regulated by the waste discharge requirements (NPDES No. CA0038369) found in RWQCB Order No. R2-2018-00XX, effective April 1, 2018, and expiring March 31, 2023.[37] The discharger's wastewater collection system consists of four pump stations, which receive wastewater from the "satellite" wastewater collection systems of four municipal jurisdictions (i.e., WBSD, City of Belmont, City of San Carlos, City of Redwood City). Effluent from the WWTP is also subject to two other NPDES permits, 1) the waste discharge requirements for mercury and polychlorinated biphenyls (PCBs) from municipal and industrial wastewater discharges to San Francisco Bay (NPDES No. CA0038849) and 2) the waste discharge requirements for nutrients from municipal wastewater discharges to San Francisco Bay (NPDES No. CA0038873). The three NPDES permits enable SVCW to discharge treated wastewater into San Francisco Bay.

State

California Porter-Cologne Water Quality Control Act

As addressed under Section 3.11, *Hydrology and Water Quality,* under the California Porter-Cologne Water Quality Control Act, passed in 1969 and amended in 2013, the SWRCB has authority over state water rights and water quality policy. The act divides the state into nine regional basins, each of which is under the jurisdiction of the RWQCB that oversees water quality on a day-to-day basis at the local and regional level. RWQCBs oversee a number of water quality functions in their respective regions. RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Menlo Park is under the jurisdiction of the San Francisco Bay RWQCB.

[37] San Francisco Bay Regional Water Quality Control Board. 2018. *Tentative Order No. R2-2018-00XX*. Available: https://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2018/February/SiliconValley/SVCW_Tentative_Order.pdf. Accessed: March 16, 2022.

The San Francisco Bay-Delta Water Quality Control Plan

The SWRCB adopted an amendment to the San Francisco Bay-Delta Water Quality Control Plan (Bay-Delta Plan) on December 12, 2018. The plan establishes water quality objectives that protect uses of water in the Bay-Delta watershed, including uses pertaining to drinking water, water for irrigation, and fish and wildlife habitat. The Bay-Delta Plan Amendment requires the release of 40 percent of the "unimpaired flow" on the Lower San Joaquin River's three salmon-bearing tributaries, the Stanislaus, Tuolumne, and Merced Rivers, from February through June in every year type, whether wet, normal, dry, or critically dry and requires a program for implementation. The new flow objectives recognize the vital role upstream flows provide for habitat as well as the migration of threatened and endangered fish. The revised salinity objectives reflect updated scientific information about the salt levels that are suitable for agriculture in the southern delta. The reliability of the SFPUC RWS supply is highly dependent on the assumption of whether or not the 2018 Bay-Delta Plan Amendment is implemented. According to the SFPUC, should the Bay-Delta Plan Amendment be implemented, significant supply shortfalls are projected in dry years for agencies that receive water supplies from the SFPUC RWS, as well as other agencies whose water supplies would be affected by the amendment. For MPMW, supply shortfalls are projected in single dry years (ranging from 27 to 32 percent) and in multiple dry years (ranging from 27 to 44 percent) through 2040, with similar shortfalls through 2045. If supply shortfalls do occur, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its WSCP.[38] The projected single dry year shortfalls would require implementation of Stage 3 or 4 of the MPMW WSCP, and the projected multiple dry year shortfalls would require implementation of Stage 3, 4 or 5 of the MPMW WSCP.

Should the Bay-Delta Plan Amendment not be implemented, MPMW expects to meet the demand for existing and planned future uses through 2040 in normal years, single dry years, and multiple dry years. A 16.5 percent supply shortfall is projected during the fourth and fifth consecutive dry years for base year 2045. These projected supply shortfalls are significantly less than the projected supply shortfalls if the Bay-Delta Plan Amendment is implemented. The SFPUC is currently implementing an Alternative Water Supply Planning Program to investigate and plan for new water supplies to address future long-term water supply reliability challenges and vulnerabilities on the RWS. As of June 2021, the SFPUC is pursuing several strategies to uphold its supply agreements, including strategies involving voluntary agreements, drought planning, alternative water supplies, and litigation.

Senate Bills 610 and 221

California Senate Bill (SB) 610 and SB 221 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 were companion measures that sought to promote more collaborative planning between local water suppliers and the cities and counties. Both statutes require detailed information regarding water availability. This information would be provided to city and county decision-makers prior to approval of specified large development projects to ensure that prudent water supply planning has been conducted and that planned water supplies will be adequate with respect to meeting existing demands, anticipated demands from approved projects and tentative maps, and the demands of proposed projects.

[38] A main focus of MPMW's planned demand reduction measures is to increase public outreach and keep customers informed of the water shortage emergency and actions they can take to reduce consumption. The City will utilize its emergency supply well(s) as supply augmentation during WSCP Stages 5 and 6. Other actions that the City will take will include coordination with other agencies, implementing drought surcharge, increasing water waste patrols, etc. Additional information on MPMW's WSCP is provided in Chapter 8 of MPMW's 2020 UWMP.

SB 610 amended California Water Code Sections 10910 through 10915 (inclusive) to require land use lead agencies to, in certain instances:

- Identify any public water purveyor that may supply water for a proposed development project and
- Request a WSA from the identified water purveyor.

The purpose of the WSA is to demonstrate the sufficiency of the purveyor's water supplies with respect to satisfying the water demands of proposed projects that exceed a certain size and are subject to review under CEQA while still meeting the demands of the water purveyor's existing and planned future uses. Projects requiring a WSA include the following: (1) a proposed residential development of more than 500 dwelling units; (2) a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space; (3) a proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space; (4) a proposed hotel or motel, or both, having more than 500 rooms; (5) a proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area; (6) a mixed-use project that includes one or more of the projects specified in this subdivision; and (7) a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project. California Water Code Sections 10910 through 10915 delineate the specific information that must be included in the WSA.

SB 221 amended state law (California Government Code Section 66473.7) to require affirmative written verification of an adequate water supply prior to approval by a city or county of certain residential subdivisions. SB 221 was intended to be a fail-safe mechanism that would ensure collaboration in finding the needed water supplies before construction begins.

The WSA prepared for the Proposed Project, included in Appendix 3.15, complies with SB 610 (California Water Code Sections 10910 through 10915) and SB 221. The Proposed Project includes a residential subdivision with more than 500 units; therefore, the SB 221 requirements apply to the Proposed Project.

Senate Bill 1383

SB 1383 requires CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants (SLCPs), such as CH_4, hydrofluorocarbons, and anthropogenic black carbon (soot) emissions. SLCPs are GHGs that degrade in the atmosphere at a faster rate than CO_2 and are considered to be responsible for 40 percent of current net climate changing emissions. The strategy includes a target to reduce CH4 emissions by 40 percent below 2013 levels by 2030, including those from livestock management operations. This bill also requires CalRecycle and CARB to adopt regulations that achieve specific targets to reduce organic waste in landfills. The Final SLCP Reduction Strategy was approved by CARB in March 2017 and includes recommendations to reduce CH4 emissions from a variety of sources as well as refrigerants and fumigants.[39] As it pertains to CalRecycle, SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025 and grants CalRecycle the regulatory authority required to achieve these targets. SB 1383 also establishes an additional waste reduction target (i.e., not less than 20 percent of currently disposed edible food to be recovered for human consumption by 2025). The Office of Administrative Law approved CalRecycle's regulations to reduce SLCP from organic waste in November 2020.

[39] California Air Resources Board. 2017. Short-Lived Climate Pollutant Reduction Strategy. Available: https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf. Accessed February 28, 2022.

Urban Water Management Planning Act

Through the Urban Water Management Planning Act of 1983, the California Water Code requires all urban water suppliers within California to prepare and adopt an UWMP and update it every 5 years. This requirement applies to all suppliers that provide water to more than 3,000 customers or supply more than 3,000 acre-feet of water annually. The act is intended to support the conservation and efficient use of urban water supplies. It requires a comparison between a project's water use and water supply sources for the next 20 years, in 5-year increments; planning for single and multiple dry years; and a water recycling analysis with a description of the wastewater collection and treatment system within the agency's service area and the current and potential recycled water uses. In September 2014, the act was amended by SB 1420 to require urban water suppliers to provide descriptions of their water demand management measures and similar information. The MPMW's most recent update to its UWMP occurred in 2021.

The MPMW 2020 UWMP incorporated the future population, employment, and water demand projections for buildout of the General Plan, including the additional allowable development associated with ConnectMenlo (including bonus level development potential) and other major development projects within the MPMW service area. The Proposed Project, if approved, would be within this permitted total development potential that could occur within ConnectMenlo and the associated program-level EIR. Therefore, the water demand for the Proposed Project is included and accounted for in the MPMW 2020 UWMP. The SFPUC 2020 UWMP, adopted in June 2021, extends to a 2045 horizon year and analyzes two supply scenarios, one with the Bay-Delta Plan Amendment assuming implementation starting in 2023, and one without the Bay-Delta Plan Amendment. Results of these analyses are summarized as follows:

- If the Bay-Delta Plan Amendment is implemented, SFPUC will be able to meet its contractual obligations to its wholesale customers as presented in the SFPUC 2020 UWMP in normal years but would experience significant supply shortages in dry years. In single dry years, supply shortages would range from 36 to 46 percent. In multiple dry years, supply shortages would range from 36 to 54 percent. Implementation of the Bay-Delta Plan Amendment will require rationing in all single dry and multiple dry years through 2045.
- If the Bay-Delta Plan Amendment is not implemented, SFPUC would be able to meet 100 percent of the projected purchases of its wholesale customers during all year types through 2045 except during the fourth and fifth consecutive dry years for base year 2045 when 15 percent wholesale supply shortages are projected.

In June 2021, in response to various comments from wholesale customers regarding the reliability of the RWS as described in SFPUC's 2020 UWMP, the SFPUC provided a memorandum describing SFPUC's efforts to remedy the potential effects of the Bay-Delta Plan Amendment. As described in the memorandum,[40] SFPUC's efforts include the following:

- Pursuing a Tuolumne River Voluntary Agreement
- Evaluating the drought planning scenario in light of climate change
- Pursuing alternative water supplies
- In litigation with the State over the Bay-Delta Plan Amendment
- In litigation with the State over the proposed Don Pedro FERC Water Quality Certification

[40] West Yost. 2022. Willow Village Project Water Supply Assessment. February.

Sustainable Groundwater Management Act

Refer to Section 3.11, *Hydrology and Water Quality*, of this EIR, for a discussion of the Sustainable Groundwater Management Act of 2014.

2009 Water Conservation Act

The Water Conservation Act of 2009, SB X7-7, requires all water suppliers to increase water use efficiency. The legislation set an overall goal of reducing per capita water use by 20 percent by 2020, with an interim goal of 10 percent by 2015. Effective in 2016, urban retail water suppliers that did not meet the water conservation requirements established by this bill were not eligible for state water grants or loans. SB X7-7 requires urban retail water suppliers to determine baseline water use and set reduction targets according to specified standards. As demonstrated in MPMW's 2020 UWMP, MPMW is in compliance with SB X7-7 requirements.[41]

State Updated Model Water Efficient Landscape Ordinance

The updated Model Water Efficient Landscape Ordinance required cities and counties to adopt landscape water conservation ordinances by February 1, 2016, or a different ordinance that would be at least as effective in conserving water as the updated ordinance. The City adopted Ordinance No. 968, Water Efficient Landscaping Regulations, in 2016 and revised Menlo Park Municipal Code Chapter 12.44, as described below.

CALGreen Building Code

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations [CCR]). It applied to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure, unless otherwise indicated in the code, throughout California. CALGreen established planning and design standards for sustainable site development, including water conservation measures and requirements for new buildings to reduce water consumption by 20 percent. The mandatory provisions of CALGreen became effective January 1, 2011. The building efficiency standards are enforced through the local building permit process. The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through building concepts with either a reduced negative impact or a positive environmental impact and the encouragement of sustainable construction practices in the following categories:

- Planning and design,
- Energy efficiency,
- Water efficiency and conservation,
- Material conservation and resource efficiency, and
- Environmental quality.

[41] City of Menlo Park. 2021. *2020 Urban Water Management Plan for Menlo Park Municipal Water*. Available: Prepared by Erler & Kalinowski, Inc. June. https://www.menlopark.org/DocumentCenter/View/29212/2020-Urban-Water-Management-Plan-June-2021. Accessed: March 16, 2022.

The California Plumbing Code

The California Plumbing Code (Part 5, Title 24, CCR) was adopted as part of the California Building Standards Code to prevent disorder in the industry as a result of widely divergent plumbing practices and the use of many different, and often conflicting, plumbing codes by local jurisdictions. Among the many topics covered in the code were water fixtures, potable and non-potable water systems, and recycled water systems. According to the code, water supply and distribution practices shall comply with all applicable provisions of the current edition of the California Plumbing Code.

Executive Order N-10-21

On July 8, 2021, California Governor Gavin Newsom issued Executive Order N-10-21, which proclaimed a state of emergency due to drought conditions in nine counties, Inyo, Marin, Mono, Monterey, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, and Santa Cruz. It directs state agencies to take actions to bolster drought resilience and prepare for impacts on communities, businesses, and ecosystems. The order calls on all Californians to reduce their water use voluntarily by 15 percent from their 2020 levels.[42] Menlo Park is in San Mateo County.

State Water Resources Control Board General Waste Discharge Requirement

On May 2, 2006, the SWRCB adopted a General Waste Discharge Requirement (Order No. 2006-0003) for all publicly owned sanitary sewer collection systems in California with more than 1 mile of sewer pipe. The order provides a consistent statewide approach to reducing sanitary sewer overflows by requiring public sewer system operators to take all feasible steps to control the volume of waste discharged into the system, prevent sanitary sewer waste from entering the storm sewer system, and develop a Sanitary Sewer Master Plan. The General Waste Discharge Requirement requires storm sewer overflows to be reported to the SWRCB with use of an online reporting system. The SWRCB has delegated enforcement authority to the nine RWQCBs. The San Francisco Bay RWQCB issues and enforces NPDES permits applicable to the WBSD wastewater collection system in Menlo Park and the SVCW WWTP in Redwood City.

State Water Resources Control Board Drought Emergency Regulations

On January 4, 2022, the SWRCB adopted emergency regulations, prohibiting certain wasteful water-use practices, such as irrigating in ways that cause more than incidental runoff, washing vehicles without an automatic shutoff valve, irrigating turf and ornamental landscaping within 48 hours of measurable rainfall, and washing impervious areas, unless necessary to address an immediate health and safety need. These regulations became effective January 18, 2022.

Sanitary District Act of 1923

The Sanitary District Act of 1923 (Health and Safety Code Section 6400 et seq.) authorizes the formation of sanitation districts. It also authorizes the districts to construct, operate, and maintain facilities for the collection, treatment, and disposal of wastewater. The act was amended in 1949 to allow the districts to provide solid waste management and disposal services, including refuse transfer and resource recovery

[42] State of California. 2021. *Executive Order N-10-21*. Available: https://www.gov.ca.gov/wp-content/uploads/2021/07/Conservation-EO-N-10-21.pdf. Accessed: March 16, 2022.

Assembly Bill 939 and Senate Bill 1016

The California Integrated Waste Management Act of 1989, or AB 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of all solid waste (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. In 2006, SB 1016 updated the requirements. The new per capita disposal and goal measurement system moves the emphasis from an estimated diversion measurement number to an actual disposal measurement number, along with an evaluation of program implementation efforts. These two factors will help determine each jurisdiction's progress toward achieving AB 939 diversion goals. The 50 percent diversion requirement is now measured in terms of per capita disposal, expressed as pounds per day. Under the SB 1016 measurement system, a city is required to annually dispose of an amount equal to or less than its "50 percent equivalent per capita disposal target," as calculated by CalRecycle.

Assembly Bill 1826

Assembly Bill 1826 (AB 1826) requires that state agencies, businesses, and multifamily complexes that generate specific quantities of organic or solid waste each week enroll in organic recycling programs through an applicable solid waste disposal company. AB 1826 defines organic waste as food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. Solid waste is defined as the total of trash, recycling, and organics. Organic recycling programs may take the form of composting, mulching, or anaerobic digestion. Businesses and multifamily residential housing complexes that generate the following quantities are required to implement organic or solid waste recycling programs under AB 1826:

- Eight or more cubic yards of organic waste per week as of April 1, 2016;
- Four of more cubic yards of organic waste per week as of January 1, 2017;
- Four or more cubic yards of solid waste per week as of January 1, 2019; and
- Two or more cubic yards of solid waste per week as of January 1, 2020, if statewide disposal of organic waste is not reduced by half.

In September 2020, CalRecycle reduced the threshold to 2 cubic yards of solid waste generated by covered businesses.

Title 14, CalRecycle

CCR Title 14, Division 7, contains CalRecycle regulations pertaining to all nonhazardous waste management in California. It contains regulations regarding the minimum standards for solid waste handling and disposal, standards for handling and disposal of asbestos containing waste, special waste standards, enforcement of standards, commercial recycling, and solid waste cleanup programs, among other topics.

Title 24, California Green Building Standards (CALGreen)

In accordance with CCR Title 24, part 6 (last amended in 2019, effective January 1, 2020), buildings constructed after June 30, 1977, must comply with the standards identified in CCR Title 24. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. Title 24 requires the inclusion of state-of-the-art energy conservation features in building designs and construction, such as specific energy-conserving design features and non-depletable energy resources. In addition, it must be

demonstrated that a building would comply with a designated energy budget. Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). Unless otherwise noted in a regulation, all newly constructed buildings in California are subject to the requirements of the CALGreen Code.

Local

Bay Area Water Supply and Conservation Agency

The BAWSCA, created in 2003, represents 26 agencies that depend on the San Francisco RWS, including MPMW. The BAWSCA oversees and coordinates water conservation, water supply, and water recycling activities for member agencies; acquires water and makes it available to other agencies on a wholesale basis; finances improvements to the RWS; and builds facilities as necessary.

Water Shortage Allocation Plan. In November 2018, the wholesale customers and SFPUC adopted the November 2018 Amended and Restated Water Supply Agreement, which included a Water Shortage Allocation Plan (WSAP) to allocate water from the RWS to retail and wholesale customers during system-wide shortages of 20 percent or less, including such shortages occurring as a result of implementation of the Bay-Delta Plan Amendment. The WSAP has two tiers:

- Tier One allocates water between SFPUC and the wholesale customers collectively based on the level of the shortage (up to 20 percent). This plan applies only when SFPUC determines that a system-wide water shortage exists and issues a declaration of a water shortage emergency under California Water Code Section 350. The SFPUC may also opt to request voluntary cutbacks from San Francisco and the wholesale customers to achieve 7 BAWSCA Drought Allocation to achieve necessary water use reductions during drought periods.
- Tier Two allocates the collective wholesale customer share among the wholesale customers based on a formula that accounts for each wholesale customer's individual supply guarantee, seasonal use of all available water supplies, and residential per capita use. BAWSCA calculates each wholesale customer's Allocation Factors annually in preparation for a potential water shortage emergency.

BAWSCA recognizes that the Tier Two plan was not designed for RWS shortages greater than 20 percent, and in a memorandum dated March 1, 2021, BAWSCA provided a refined methodology to allocate RWS supplies during projected future single dry and multiple dry years in the instance where supply shortfalls are greater than 20 percent for the purposes of the BAWSCA member agencies' 2020 UWMPs. The revised methodology developed by BAWSCA allocates the wholesale supplies as follows:

- When the average Wholesale Customers' RWS shortages are 10 percent or less, an equal percent reduction will be applied across all agencies. This is consistent with the existing Tier Two requirements in a Tier Two application scenario.
- When average Wholesale Customers' shortages are between 10 and 20 percent, the Tier Two Plan will be applied.
- When the average Wholesale Customers' RWS shortages are greater than 20 percent, an equal percent reduction will be applied across all agencies.

In another memorandum dated February 18, 2021, BAWSCA explains that in actual RWS shortages greater than 20 percent, BAWSCA member agencies would have the opportunity to negotiate and agree upon a more nuanced and equitable approach. This would likely consider basic health and safety needs, the water needs to support critical institutions, and minimizing economic impacts on individual communities and the region.

Silicon Valley Clean Water 2020 Capital Improvement Program

The 2020 updated SVCW Capital Improvement Program (CIP), which is applicable through fiscal year 2030, identifies and allocates funds for projects within the SVCW system. This includes projects that would replace and rehabilitate existing infrastructure (e.g., pump stations, treatment plant, force main).

Menlo Park Municipal Water 2018 Water System Master Plan

MPMW completed the 2018 Water System Master Plan as a comprehensive evaluation of its water distribution system. The master plan identifies strategies to 1) meet the system's infrastructure needs in a cost-effective manner; 2) guide capital expenditures for the system; 3) furnish important guidance to enhance renewal and replacement strategies, and operational and water quality practices; and 4) provide a framework for diversifying MPMW's water supply.

West Bay Sanitary District Collection System Master Plan

The WBSD completed a sewer Collection System Master Plan in June 2011. In July 2013, the WBSD updated the plan to address recalibration issues following completion of several CIP projects that affected the district's flow monitoring program. The 2011 master plan assessed the conveyance capacity of the WBSD's sewer collection system (e.g., pipes, pump stations); evaluated facilities, which may require rehabilitation or replacement; developed a prioritized CIP; and established a funding plan for the proposed CIP.

West Bay Sanitary District Code of General Regulations

The WBSD's Code of General Regulations establishes standards, conditions, and provisions for fees related to the use of the district's sanitary wastewater facilities. Article VII requires Class 1 sewer permits for residential connections, Class 2 sewer permits for non-residential connections, and Class 3 sewer permits for construction of sewer mains, pumping stations, and other wastewater facilities. To receive a permit, a developer must submit an application, pay all fees and charges, and satisfy requirements, such as extending collection facilities to the vicinity of the development site. For a Class 3 permit, the WBSD manager examines the submitted application's conformance with engineering practices and the standard specifications and policies of the WBSD and then submits it to the WBSD board of directors for approval. Subsequent to the WBSD's acceptance of a Class 3 permit, but prior to connection of and discharge into the WBSD's wastewater facilities, a Class 1 or Class 2 permit, as applicable, must be obtained by the developer. All costs and expenses associated with the installation and connection of the building sewer shall be at the owner's expense. All work shall be inspected and performed in accordance with the standard specifications of WBSD.

Water Shortage Contingency Plan

As part of MPMW's updated 2020 UWMP, the district has updated its WSCP,[43] which serves as a stand-alone document to be engaged in case of a water shortage event, such as a drought or supply interruption. It defines the specific policies and actions that will be implemented for various shortage scenarios. The main objective of the WSCP is to ensure that MPMW has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions. Consistent with

[43] Menlo Park Municipal Water District. 2021. *2020 Urban Water Management Plan, Appendix J, Water Shortage Contingency Plan*. Available: https://www.menlopark.org/DocumentCenter/View/28016/Draft-Urban-Water-Management-Plan. Accessed: March 16, 2022.

California Water Code Section 10632, the WSCP provides six standard water shortage levels to address shortage conditions, ranging from 10 percent to more than 50 percent; identifies a suite of demand mitigation measures for MPMW to implement at each level; and identifies procedures for MPMW to use to assess annually whether or not a water shortage is likely to occur in the coming year, among other things.

In light of currently prevailing drought conditions, on March 1, 2022, the Menlo Park City Council adopted a resolution declaring an emergency water shortage condition pursuant to California Water Code Section 350; declaring a Stage 1 drought under the City's WSCP; and adopting a Water Conservation Plan to enforce the SWRCB's emergency regulations to prohibit wasteful water-use practices.[44]

Menlo Park General Plan

The City General Plan consists of the Open Space/Conservation, Noise, and Safety Elements, adopted May 21, 2013; the 2014-2023 Housing Element, adopted by the City on April 1, 2014; and the Circulation and Land Use Elements, adopted November 29, 2016. The Following policies from the Land Use Element adopted to avoid or mitigate environmental impacts pertain to the Proposed Project:

Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities and services to meet the needs of Menlo Park's residents, businesses, workers, and visitors.

> **Policy LU-7.1 Sustainability.** Promote sustainable site planning, development, landscaping, and operational practices that conserve resources and minimize waste
>
> **Policy LU-7.2: Water Supply.** Support the efforts of the Bay Area Water Supply and Conservation Agency or other appropriate agencies to secure adequate water supplies for the Peninsula, to the extent that these efforts are in conformance with other City policies.
>
> **Policy LU-7.3: Supplemental Water Supply.** Explore and evaluate development of supplemental water sources and storage systems, such as wells and cisterns, for use during both normal and dry years, in collaboration with water providers and users.
>
> **Policy LU-7.4: Water Protection.** Work with regional and local jurisdictions and agencies responsible for ground water extraction to develop a comprehensive underground water protection program in accordance with the San Francisquito Creek Watershed Policy, which includes preservation of existing sources and monitoring of all wells in the basin to evaluate the long term effects of water extraction.
>
> **Policy LU-7.5: Reclaimed Water Use**. Implement use of adequately treated "reclaimed" water (recycled/non-potable water sources such as, graywater, blackwater, rainwater, stormwater, foundation drainage, etc.) through dual plumbing systems for outdoor and indoor uses, as feasible.
>
> **Policy LU-7.6: Sewage Treatment Facilities.** Support expansion and improvement of sewage treatment facilities to meet Menlo Park's needs, as well as regional water quality standards, to the extent that such expansion and improvement are in conformance with other City policies.

The following policies from the Open Space and Conservation Element were adopted to avoid or minimize environmental impacts and pertain to the Proposed Project:

[44] These regulations were adopted January 4, 2022, became effective January 18, 2022, and are described above.

Goal OSC-4: Promote Sustainability and Climate Action Planning. Promote a sustainable energy supply and implement the City's Climate Action Plan to reduce greenhouse gas emissions and improve the sustainability of actions by City government, residents, and businesses in Menlo Park. This includes promoting land use patterns that reduce the number and length of motor vehicle trips, and encouraging recycling, reduction and reuse programs.

Policy OSC-4.2: Sustainable Building. Promote and/or establish environmentally sustainable building practices or standards in new development that would conserve water and energy, prevent stormwater pollution, reduce landfilled waste, and reduce fossil fuel consumption from transportation and energy activities.

Policy OSC-4.3 Renewable Energy. Promote the installation of renewable energy technology, such as, on residences and businesses through education, social marketing methods, establishing standards and/or providing incentives.

Policy OSC-4.4: Vehicles Using Alternative Fuel. Explore the potential for installing infrastructure for vehicles that use alternative fuel, such as electric plug in recharging stations.

Policy OSC-4.5: Energy Standards in Residential and Commercial Construction. Encourage projects to achieve a high level of energy conservation exceeding standards set forth in the California Energy Code for Residential and Commercial development.

Policy OSC-4.6: Waste Reduction Target. Strive to meet the California State Integrated Waste Management Board per person target of waste generation per person per day through their source reduction, reuse, and recycling programs.

Policy OSC-4.7: Waste Management Collaboration. Continue to support and participate in efforts such as the South Bayside Waste Management Authority, which provides waste reduction, recycling, and solid waste programs and solutions.

Policy OSC-4.8: Waste Diversion. Develop and implement a zero waste policy, or implement standards, incentives, or other programs that would lead the community towards a zero waste goal.

Goal OSC-5: Ensure Healthy Air and Water Quality. Enhance and preserve air quality in accord with state and regional standards, and encourage the coordination of total water quality management, including both supply and wastewater treatment.

Policy OSC-5.3: Water Conservation. Encourage water-conserving practices in businesses, homes and institutions.

The following policies from the Safety Element were adopted to avoid or minimize environmental impacts and pertain to the Proposed Project:

Goal S-1: Ensure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards, and assure community emergency preparedness and a high level of public safety services and facilities.

Policy S-1.6: Design and Location of Utilities. Monitor appropriate location, design, construction, maintenance and inspection standards for utility systems traversing hazard areas within the City limits. This would include evaluation and upgrading outdated systems and infrastructure, coordination with the State Public Utilities Commission and locating new utility systems away from potential hazard areas.

Policy S-1.27: Regional Water Quality Control Board (RWQCB) Requirements. Enforce stormwater pollution prevention practices and appropriate watershed management plans in the RWQCB general National Pollutant Discharge Elimination System requirements, the San Mateo County Water Pollution Prevention Program and the City's Stormwater Management Program. Revise, as necessary, City plans so they integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies.

Additional goals and policies related to water and wastewater are discussed in Section 3.11, *Hydrology and Water Quality*, of this EIR.

ConnectMenlo/General Plan Update

In 2016, the City completed a multi-year planning effort to update the Land Use and Circulation Elements and M-2 Zoning specifications of its general plan for the 2040 planning horizon. This general plan update process was known as ConnectMenlo. ConnectMenlo reaffirmed remaining development potential within Menlo Park and incorporated land use changes in the Bayfront Area, including the development potential for up to 4,500 new multi-family residential units, 2.3 million gross square feet (gsf) of new non-residential uses, and 400 new hotel rooms.

A program-level EIR was prepared for ConnectMenlo that analyzed more detailed land uses within the maximum development potential set by ConnectMenlo. Furthermore, in conjunction with the ConnectMenlo EIR, a Water Supply Evaluation Study (WSE Study)[45] was prepared to determine whether there would be an adequate water supply available to meet current and planned water demands within the service area during normal and dry hydrologic years over a 20-year horizon. More specifically, the WSE Study included:

- Summaries of the WSA requirements articulated in California Water Code Sections 10910–10915 and a description of how they were addressed in the WSE Study.
- A description and analysis of current and projected future water demands for the ConnectMenlo project through 2040.
- A description and analysis of historical, current, and projected future water demands for the MPMW service area through 2040.
- A description and analysis of current and projected future water supplies for the MPMW service area through 2040.
- A comparison of water supplies and demands for the MPMW's water service area, including projected water demands associated with the ConnectMenlo project.

Data in the WSE Study were based primarily on the MPMW 2010 UWMP; the draft MPMW 2015 UWMP, which was developed at the same time as the WSE Study; information from the City; and specific information from PlaceWorks, author of the 2016 ConnectMenlo EIR. The final adopted MPMW 2015 UWMP incorporated the ConnectMenlo growth projections.

ConnectMenlo identifies the maximum development potential that could occur within the ConnectMenlo study area, including potential bonus-level increased development, and the associated program-level EIR further defines the maximum development that can occur by specific land uses. MPMW and the City's

[45] City of Menlo Park. 2016. *Water Supply Evaluation Study for ConnectMenlo – General Plan and M-2 Area Zoning Update*. Available: https://www.menlopark.org/DocumentCenter/View/9587/020916-ConnectMenlo-WSE-2016-02-04-FINAL?bidId=. Accessed: March 16, 2022.

Planning Division are actively tracking the planned projects, including projects in the ConnectMenlo study area, on a cumulative basis to ensure that development remains below the maximum level permitted by ConnectMenlo and is consistent with the ConnectMenlo EIR. The Proposed Project, if approved, would be included in this cumulative development total, which would be below the maximum level permitted.

Menlo Park Municipal Code

Title 7, Health and Sanitation; Title 12, Buildings and Construction; and Title 16, Zoning, of the Menlo Park Municipal Code include the following regulations relevant to water resources.

Chapter 7.35, Water Conservation, contains regulations and restrictions regarding water use in order to conserve water resources and eliminate wasteful water uses. Menlo Park Municipal Code Section 7.35.020 allows the City Council to adopt by resolution a water conservation plan and mandate water conservation measures in the event of adoption of emergency water conservation regulations by the SWRCB, SFPUC or the City.

Chapter 12.44, Water Efficient Landscaping Ordinance, adopted in 2016 (Ordinance No. 968), establishes water-efficient landscaping standards to conserve water used for irrigation. The ordinance applies to all new landscapes greater than 500 square feet and rehabilitated landscapes greater than 1,000 square feet associated with projects that require City review and approval.

Section 16.43.140(3) for the Office District and 16.45.130(3) for the Residential Mixed-Use District, Green and Sustainable Building, Water Use Efficiency and Recycled Water, specifies requirements for water use efficiency and recycled water use in the Office (O) and Residential- Mixed Use-Bonus (R-MU-B) zones. These include:

a. Single-pass cooling systems shall be prohibited in all new buildings.

b. All new buildings shall be built and maintained without the use of well water.

c. Applicants for a new building with more than 100,000 square feet of gross floor area shall prepare and submit a proposed water budget and accompanying calculations, following the methodology approved by the City. For all new buildings with 250,000 square feet or more in gross floor area, the water budget shall account for the potable water demand reduction resulting from the use of an alternative water source for all City-approved non-potable applications. The water budget and calculations shall be reviewed and approved by the City's Public Works Director prior to certification of occupancy. Twelve months after the date of certification of occupancy, the building owner shall submit the data and information necessary for the City to compare actual water use to the allocation in the approved water budget. In the event that actual water consumption exceeds the water budget, a water conservation program, as approved by the City's Public Works Director, shall be implemented. Twelve months after City approval of the water conservation program, the building owner shall submit the data and information necessary for the City to determine compliance with the conservation program. If water consumption exceeds the budgeted amount, the City's Public Works Director may prohibit the use of water for irrigation or enforce compliance as an infraction, pursuant to Chapter 1.12, until compliance with the water budget is achieved.

d. All new buildings shall be dual plumbed for the internal use of recycled water.

e. All new buildings with 250,000 square feet or more in gross floor area shall use an alternate water source for all City-approved non-potable applications. An alternative water source may include, but is not limited to, treated non-potable water such as graywater. An alternate water source

assessment shall be submitted that describes the alternative water source and proposed non-potable application. The alternate water source assessment, the alternative water source, and the water's proposed uses shall be approved by the City's Public Works Director and Community Development Director. If MPMW has not designated a recycled water purveyor and/or a municipal recycled water source is not available prior to project approval, applicants may propose conservation measures to meet the requirements of this section, subject to approval of the City Council. The conservation measures shall achieve a reduction in potable water use equivalent to the projected demand of City-approved non-potable applications, but in no case shall the reduction be less than 30 percent compared to the water budget in subsection (3)(C) of this section. The conservation measures may include onsite measures, offsite measures, or a combination thereof.

f. Potable water shall not be used for dust control on construction projects.

g. Potable water shall not be used for decorative features, unless the water recirculates.

A Water Use Budget was prepared for the Proposed Project. Also, because the Proposed Project includes more than 250,000 sf of gross floor area in its proposed new buildings, an Alternate Water Source Assessment was prepared[46] (refer to (c) and (e) above). Further since the Proposed Project meets the definition of a Project, as specified in State Water Code Section 10912(a), a water supply assessment has been prepared for the Proposed Project, per the requirements of State Water Code section 10910(a).

Environmental Impacts

This section describes the impact analysis related to utilities for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
- Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

[46] Sherwood Design Engineers. 2020. Technical Memorandum to Eric Harrison Regarding: *Willow Village Project Water Use Budget and Alternate Water Source Assessment*. October 20.

Methods for Analysis

Potential impacts on utilities and service systems are evaluated by:

- Assessing the potential for the Proposed Project to increase demand for utilities services, based on goals established by service providers; and
- Comparing the ability of the service provider/public facility to serve the Proposed Project and accommodate the associated increase in demand.

Next, a determination is made as to whether existing services and facilities would be capable of meeting the demand of the Proposed Project and, if not, whether the expansion of existing facilities would cause an adverse environmental effect. The analysis is based on a review of City documents and maps, field reconnaissance, direct communication with City service providers, and the technical reports prepared for the Project.

Water Supply and Infrastructure. The analysis of water supply and infrastructure focuses on the nature and magnitude of the change in water use compared with existing and projected water use in the MPMW service area. To determine potential impacts, existing and projected water consumption was estimated from demand projection calculations and quantitative evaluation of data for existing land uses, approved projects, and proposed development, including the Proposed Project. The primary resources used for this analysis include MPMW's 2020 UWMP, the WSA, the Water Use Budget, and the Alternate Water Source Assessment prepared for the Proposed Project.

Wastewater Generation and Infrastructure. The ConnectMenlo EIR assumes that 90 percent of water demand becomes wastewater. Following that assumption, it is assumed that wastewater generation under the Proposed Project would equal 90 percent of water consumed by the Proposed Project and would be conveyed to the SVCW WWTP. The wastewater demands of the Proposed Project are compared to the available capacity of the WBSD sanitary sewer system and the SVCW WWTP to assess the potential for significant environmental impacts.

Summary of Analysis in the ConnectMenlo EIR

The ConnectMenlo EIR analyzed the impacts below that would result from implementing the updates to the Land Use and Circulation Elements and the M-2 Area Zoning Update.[47]

- Impacts related to construction or relocation of utilities were analyzed in the ConnectMenlo EIR under Impacts UTIL-2 (pages 4.14-28 and 4.14-29), UTIL-4 (pages 4.14-36 to 4.14-38), UTIL-5 (pages 4.14-38 to 4.14-41), UTIL-11 (pages 4.14-64 to 4.14-66), and UTIL-13 (pages 4.14-76 to 4.18-81) and determined to be less than significant. It is expected that the City will implement General Plan programs that require expansion of the Menlo Park Municipal Water District's conservation programs and future development to employ green building best practices. No mitigation measures were recommended.[48]
- Impacts related to water supply were analyzed in the ConnectMenlo EIR under UTIL-1 (pages 4.14-24 to 4.14-27) and determined to result in a less-than-significant impact because future development under ConnectMenlo would be required to comply with existing regulations, including City General Plan

[47] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Zoning Update for the City of Menlo Park*. June 1. Prepared by PlaceWorks, Berkeley, CA. Menlo Park, CA. Available: https://www.menlopark.org/1013/Environmental-Impact-Report. Accessed: March 19, 2021

[48] The ConnectMenlo EIR does not discuss impacts on telecommunication facilities.

policies and zoning requirements, to minimize impacts related to water supplies. Development would result in a demand for 343 mg/yr. The ConnectMenlo EIR concluded that the water supply would be adequate and able to meet increased demands in normal years as well as the additional demand generated by the increase in development associated with implementation of ConnectMenlo. During single and multiple dry years, water shortages would be managed through demand reductions. Furthermore, future development under ConnectMenlo would be required to comply with existing regulations, including City General Plan policies and zoning requirements, to minimize impacts related to water supplies. No mitigation measures were recommended.

- Impacts related to wastewater capacity were analyzed in the ConnectMenlo EIR under Impact UTIL-6 (pages 4.14-43 to 4.14-45) and determined to result in a less-than-significant impact because future development is expected to tie into existing collection facilities. The installation of extension lines would comply with applicable sewer permits, which require projects to reduce impacts on service capacity. In addition, projects would be required to comply with existing regulations that promote water conservation and minimize impacts related to wastewater generation. No mitigation measures were recommended.
- Impacts related to solid waste generation were analyzed in the ConnectMenlo EIR under Impact UTIL-8 (pages 4.14-52 to 4.14-55) and determined to result in a less-than-significant impact because future development would be required to comply with existing regulations to minimize impacts related to solid waste disposal and attain solid waste reduction goals. No mitigation measures were recommended.
- Impacts related to compliance with solid waste regulations were analyzed in the ConnectMenlo EIR under Impact UTIL-9 (pages 4.14-55 and 4.14-56) and determined to result in a less-than-significant impact. No mitigation measures were recommended.

Impacts and Mitigation Measures

Impact UT-1: Construction or Relocation of Utilities. The Proposed Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. (LTS)

The construction of the water system, sewer infrastructure, and upgrades to the PG&E Ravenswood substation would have the potential to cause significant adverse environmental effects such as fugitive dust generation, noise generation, sedimentation, and erosion. The proposed utility expansions are a part of the Project Description, and the potential impacts that would result from construction of these facilities are evaluated throughout this EIR (e.g., refer to Section 3.4, *Air Quality*; Section 3.6, *Greenhouse Gas Emissions*, Section 3.11, *Hydrology and Water Quality*; and Section 3.7, *Noise and Vibration*).

Water

Water for the Proposed Project would be treated at one of three WTPs: the SFPUC's Tesla Treatment Facility, the Sunol Valley WTP, or the Harry Tracy WTP. The Tesla Treatment Facility has the capacity to treat 315 mgd. The Sunol Valley WTP has the capacity to treat 160 mgd. The Harry Tracy WTP has the capacity to treat approximately 140 mgd. The total net increase in potable water demand of the Proposed

Project is estimated to be approximately 0.22 mgd[49]. Although it is not known exactly which of the three WTPs would treat water for the Project Site, the increase in demand (i.e., about 0.22 mgd) would not be considered a significant increase for the SFPUC system, which can treat approximately 615 mgd with the combined capacity of its three WTPs. Also, the ConnectMenlo EIR found that the existing capacity for water treatment would be sufficient for the development planned under ConnectMenlo, of which the Proposed Project is within the scope of development for. Therefore, no new or expanded water treatment facilities would be required to serve the Project.

As the ConnectMenlo EIR notes, the SFPUC is continuously planning operational upgrades, maintenance, and capital improvements for its WTPs. This is expected to continue in the future, independent of the Proposed Project. Environmental impacts from construction of new or expanded water treatment facilities deemed necessary through the planning process would be addressed in the CEQA review conducted by the lead agency for such facility expansion or development (i.e., SFPUC). Therefore, an evaluation of the possible environmental effects of future expansion/development of such facilities would be speculative and beyond the scope of this EIR.

As stated previously, the City's 2018 WSMP identified a deficiency in the volume of the existing 10-inch water main which would not be adequate to serve the Project. To meet the City's water system performance criteria and in doing so, improve fire flow availability in the Life Sciences District, the Proposed Project would construct a 16-inch diameter pipeline within proposed Park Street, Main Street, and East Loop Road and a 12-inch diameter pipeline connection to the existing 12-inch diameter pipeline on O'Brien Drive, north of the SFPUC easement, to meet on-site fire flow requirements. The on-site system includes a mix of public and private water mains that were evaluated in the Technical Memorandum *Willow Village Hydraulic Evaluation* prepared for the Project by West Yost,[50], to ensure compliance with City requirements. The installation of new or expanded water lines on or adjacent to the Project Site would require excavation, trenching, soil movement, and other activities that are typical during construction of development projects. These construction impacts are a part of the Project Description, and the potential impacts that would result from construction of these facilities are evaluated throughout this EIR (e.g., refer to Section 3.4, *Air Quality*; Section 3.6, *Greenhouse Gas Emissions*, Section 3.11, *Hydrology and Water Quality*; and Section 3.7, *Noise and Vibration*).

The Proposed Project, as part of the City's project approval process, would be required to comply with existing regulations, including plans, policies, and zoning regulations that promote water conservation and green building best practices, and would not require or result in the relocation of existing or construction of new or expanded water treatment facilities beyond those proposed as part of the Project and analyzed in this EIR. In addition, the Project Sponsor would be required to coordinate with the City and MPMW to address water-flow requirements through the subdivision mapping process, and ensure that the existing and proposed water delivery infrastructure would be adequate for the Proposed Project. Therefore, adoption of the Proposed Project would result in ***less-than-significant*** impacts regarding the need for new or expanded water treatment facilities.

[49] Total Project potable water demand of 0.27 mgd minus existing potable water use of 0.05 mgd = 0.22 mgd net increase in water demand.

[50] West Yost. Technical Memorandum. 2022. *Willow Village Hydraulic Evaluation*. Prepared for the Menlo Park Municipal Water District. February.

Wastewater

The Proposed Project would include gravity main lines on-site within public rights of way or private streets and easements, two on-site pump stations within easements dedicated to WBSD, and force mains on-site and off-site to properly convey wastewater from the site to the 36-inch gravity main in Chilco Street. The pump station proposed at the southwest corner of the main Project Site will be sized to handle all flow from the Proposed Project, as well as wastewater diverted from the existing Willow Road pump station. Because the Proposed Project would install new pipes on the main Project Site, infiltration and inflow amounts would be reduced to negligible.[51]

Wastewater in MPMW service area is collected by the WBSD and the SVCW WWTP. According to the 2020 MPMW UWMP, the volume of wastewater from the MPMW service area collected by the WBSD totaled approximately 873 mg/yr in 2020, or about 2.4 mgd. It is estimated that, applying the ConnectMenlo EIR methodology, 90 percent of the Project's water usage would become wastewater. The total water usage is estimated at 155 mg/yr with 128 mg/yr of non-irrigation water. Irrigation water would by its use not become wastewater. Therefore, because the Project's total water non-irrigation demand is estimated at 0.35 mgd (or 128 mg/yr)[52], the estimated wastewater generation rate for the Proposed Project would be approximately 0.27 mgd (or 115 mg/yr). This would not represent a significant increase for the WBSD relative to its current average collection rates. In addition, the Proposed Project would be within the maximum scope of development studied in ConnectMenlo and the ConnectMenlo EIR concluded that such development would not require the construction or relocation of new wastewater facilities.

Operation of the SVCW WWTP and its wastewater conveyance system is governed by the waste discharge requirements found in RWQCB Order No. R2-2018-00XX (NPDES No. CA0038369). This order has a dry-weather facility design flow of 29 mgd and a peak wet-weather design flow of 71 mgd. The NPDES permit does not have a limitation on flow quantity. As noted in the ConnectMenlo EIR, SVCW reports that its treatment plant has a capacity of 80 mgd; however, to utilize the full plant capacity of 80 mgd, certain pump station and pipe improvements are necessary. Therefore, the WWTP design is not necessarily limited to the peak wet-weather flow of 71 mgd mentioned in the NPDES permit, but for the purpose of this analysis 71 mgd is considered the maximum flow under current conditions.

As stated above, the Sharon Heights RWF at the Sharon Heights Golf and Country Club processes a limited amount of wastewater in Menlo Park, some of which could originate from the Project and be released as recycled water. This, however, is considered speculative. Because the overall amount of processed wastewater would be minimal, it is not included in this analysis. As reported by the RWQCB, from October 2012 through August 2017, the SVCW WWTP treated an average of 13.5 mgd, with a maximum instantaneous flow of 50 mgd. Both rates are well within the 29 mgd average dry-weather design flow and 71 mgd peak wet-weather design flow. Under its Stage 2 expansion program, SVCW will increase WWTP capacity to 80 mgd as needed.

Assuming that 90 percent of the net amount of total non-irrigation water use by the Proposed Project (0.35 mgd or 128 mg/yr) would become wastewater (see Impact UT-3, below), the estimated net increase in wastewater generation would be approximately 0.27 mgd (or 115 mg/yr). This increase in wastewater generation would not be significant relative to the currently available excess dry-weather design flow

[51] Sherwood Design Engineers and Freyer & Laureta, Inc. 2019. *Offsite Sanitary Sewer System Study, Willow Village*. July 19

[52] Total potable water use = Project net increase of potable water of 0.27 mgd + 0.06 mgd of water for toilet flushing (non-potable) + 0.02 mgd water for cooling (non-potable) = 0.35 mgd.

capacity of 15.5 mgd (i.e., 29 mgd design flow minus 13.5 mgd current average flow = 15.5 mgd) or its excess wet-weather design flow capacity of 57.5 mgd (i.e., 71 mgd design flow minus 13.5 mgd current average flow = 57.5 mgd).

Although the increase in wastewater flows with implementation of the Proposed Project would add to capacity demands for the WWTP and its conveyance system, the effect would not be substantial. Any increase would be integrated into ongoing planning and budgeting processes to improve the conveyance system, treatment processes, and capacity because the Proposed Project is within the scope of development planned by ConnectMenlo. Planning for operational upgrades, maintenance, and capital improvements at the WWTP is expected to continue in the future, independent of the Proposed Project. Environmental impacts from construction of the new or expanded wastewater treatment facilities deemed necessary through the planning process would be addressed in the CEQA review conducted by the lead agency for such facility expansion or development. Therefore, an evaluation of possible environmental effects from future expansion/development of such facilities would be speculative and beyond the scope of this EIR.

The Proposed Project, as part of the City's project approval process, would be required to comply with existing regulations, including policies and zoning requirements that promote water conservation and minimize impacts related to wastewater generation. In addition, the Proposed Project would not reduce the capacity of the wastewater treatment system substantially. Therefore, the Proposed Project would not require or result in the relocation of existing or construction of new or expanded wastewater treatment facilities and there would be a less-than-significant impact regarding the need for new or expanded wastewater treatment facilities.

The installation of new or expanded sewer lines near the Project Site would require excavation, trenching, soil movement, and other activities that are typical during construction of development projects. These construction impacts are a part of the Project Description, and the potential impacts that would result from construction of these facilities are evaluated throughout this EIR (e.g., refer to Section 3.4, *Air Quality*; Section 3.6, *Greenhouse Gas Emissions*, Section 3.11, *Hydrology and Water Quality*; and Section 3.7, *Noise and Vibration*). The Project Sponsor would be required to coordinate with the City and WBSD and the SVCW through the subdivision mapping process to assess wastewater flow requirements and ensure that the existing wastewater infrastructure would be adequate for the Proposed Project.

Stormwater

Implementation of the Proposed Project would result in a slight increase (approximately 4 percent) in pervious surface area compared to existing conditions. Hamilton Avenue Parcels North and South would have an increased pervious area of 8 percent (or 11,273 sf); the main Project Site would have a 4 percent increase in pervious area (or 98,221 sf) over existing conditions. This would result in total Project Site pervious area of approximately 17 percent (or 545,279 sf) inclusive of vegetation, soil, and permeable paving. Hardscape would therefore cover approximately 2.3 msf, or approximately 83 percent of the Project Site with materials such as concrete, decomposed granite, and other pavers.[53] Because the Proposed Project would have a larger pervious area than existing conditions, there would be a net decrease in the volume of stormwater runoff leaving the Project Site. The Project Sponsor would be required to develop and implement a final Stormwater Management Plan, with the goal of reducing the discharge of pollutants to the maximum extent practicable, in compliance with State and County of San Mateo requirements.

[53] Freyer & Laureta Inc. 2021. *Willow Village Impervious Areas*. May.

As part of the Proposed Project, an onsite storm drain system would be built to convey runoff by gravity from all buildings and other areas to the existing City main in Willow Road. The onsite system is anticipated to include private and public storm drain mains. The Proposed Project would comply with San Mateo County C.3 requirements, as required by the City's NPDES municipal permit. Project Site runoff would be managed by a combination of low-impact development strategies, which could include bioretention areas, flow-through planters, permeable paving, rain gardens, and/or vegetated swales. Along the southern property line of the main Project Site, an existing open channel directs stormwater flows to the existing storm drain located along the eastern property line of the main Project Site. To accommodate main Project Site improvements, drainage flows within this offsite channel would be sent underground, and the channel would be filled.

As part of an integrated approach to stormwater management, consistent with City and San Mateo County requirements, streetscapes, parks, and open spaces would employ best management practices to reduce and treat stormwater runoff and increase the amount of pervious landscaped area compared with existing conditions. The Proposed Project improvements on the individual parcels as well as the design of private streets and public rights-of-way through the main Project Site would incorporate green infrastructure, per the requirements of the City's adopted Green Infrastructure Plan. Proposed treatment areas would receive diverted stormwater runoff from impervious surfaces associated with streets, building roofs, and level surfaces on the main Project Site prior to discharge to the storm drain system.

Routine maintenance at the bioretention and landscaped stormwater treatment areas would be required to prevent sediment buildup and clogging, which reduce efficiency and can lead to bioretention and treatment area failure. Maintenance tasks include inspecting the bioretention and treatment areas to ensure proper drainage between storms and removing obstructions, debris, and trash. Furthermore, the Project Sponsor would be required to enter into a Stormwater Operations and Maintenance Agreement with the City for maintenance of the stormwater treatment facilities. In addition, the Proposed Project would implement BMPs, both during and after construction, to minimize or prevent pollutant discharges and runoff. The Proposed Project would comply with the General Construction Permit; San Francisco Bay Municipal Separate Storm Sewer System Permit, Provision C.3; and San Mateo Countywide Water Pollution Prevention Program C.3 Stormwater Technical Guidance and implement a SWPPP and other erosion and pollution control measures.

The Proposed Project, as part of the City's project approval process, would be required to comply with existing stormwater regulations, as discussed above. In addition, the Proposed Project would reduce the total volume of stormwater runoff at the Project Site over existing conditions due to the on-site stormwater elements discussed above. Therefore, the Proposed Project would not require or result in the relocation of existing or construction of new or expanded stormwater drainage facilities beyond what is proposed at the main Project Site and within the vicinity of the Proposed Project. There would be no impact regarding the need for new or expanded off-site stormwater treatment facilities.

Electricity and Natural Gas

During operation, the Proposed Project would meet 100 percent of its energy demand (electricity and natural gas), consistent with the requirements of Menlo Park Municipal Code Sections 16.43.140 (for the Office portion) and 16.45.130 (for the Residential Mixed-Use portion), through a combination of the purchase of 100 percent renewable electricity from Peninsula Clean Energy and implementation of a reach code–mandated onsite renewable energy system. Other sustainability features (see Chapter 2, *Project Description*) of the Proposed Project also include photovoltaic solar systems or solar hot water systems (solar thermal) on each residential building; only all-electric residential buildings; electric-vehicle charging

stations in parking garages for 10 percent of all parking spaces as well as infrastructure for additional electric-vehicle parking spaces; and enrollment in and use of Energy Star Portfolio Manager for all buildings. If needed, PG&E would provide gas and electrical power for the proposed facilities. Although the Proposed Project is currently served by the existing PG&E Belle Haven Substation, PG&E would upgrade the Ravenswood Substation[54] and provide offsite improvements to support distribution-level electrical service to the main Project Site from this substation. The proposed offsite upgrades would require excavation, trenching, soil movement, and other activities that are typical during construction of development projects. These construction impacts are a part of the Project Description, and the potential impacts that would result from construction of these facilities are evaluated throughout this EIR (e.g., refer to Section 3.4, *Air Quality*; Section 3.11, *Hydrology and Water Quality*; and Section 3.7, *Noise and Vibration*).

Annual natural gas usage at the main Project Site would be limited because of the City's reach code, which allows only public commercial restaurant/food service operations to use natural gas for cooking, subject to approval of an exception (allowed through Ordinance No. 1057) by the Environmental Quality Commission. If exceptions are granted, the natural gas allowed by City reach codes would be required to be offset, per the City Zoning Ordinance.[55]

The installation of new or expanded gas lines on the main Project Site would require excavation, trenching, soil movement, and other activities that are typical during construction of development projects. In addition, although construction related to the new or relocated gas and electric lines could result in short-term environmental effects (e.g., noise, dust, traffic, temporary service interruption), the work would comply with City and PG&E regulations as well as standard conditions for new construction related to infrastructure improvements. For example, these regulations and conditions would require new gas line construction, or the expansion of existing lines, to include BMPs (e.g., require construction areas to minimize dust generation). In addition, any such work would be subject to compliance with applicable regulations and standard conditions of approval for the Proposed Project, including City permits/review for construction (e.g., grading permits, private development review, encroachment permits). No offsite natural gas facilities would need to be constructed or expanded as a result of the Proposed Project.

Telecommunications

Telecommunications lines may need to be extended or relocated as a result of the Proposed Project. The installation of new or expanded telecommunication lines on the Project Site would require excavation, trenching, soil movement, and other activities that are typical during construction of development projects. These construction impacts are discussed in the appropriate topical sections of this Draft EIR as part of the assessment of overall Project impacts. However, no offsite telecommunications facilities would need to be constructed or expanded as a result of the Proposed Project.

Conclusion

The physical conditions, as they relate to water, wastewater treatment facilities, stormwater, natural gas, electricity, and telecommunications, have not changed substantially in the ConnectMenlo EIR study area since preparation of the ConnectMenlo EIR. The Proposed Project would not result in a substantial change

[54] The current Ravenswood Substation operates as an existing Transmission Substation and is not equipped with distribution system infrastructure.

[55] In 2019, the City of Menlo Park adopted local amendments to the State Building Code that require electricity to be the only fuel source for new buildings (not natural gas). This ordinance (Menlo Park Municipal Code Section 12.16) applies only to newly constructed buildings (i.e., from the ground up) and does not include additions or remodels.

in the ConnectMenlo project, a change in circumstances, or a disclosure of new information of substantial importance that shows new or substantially more severe significant effects than those originally analyzed in the ConnectMenlo EIR; therefore, the Proposed Project would be within the scope of the ConnectMenlo project covered by the ConnectMenlo EIR, and there would be no new specific effects as a result of the Proposed Project. The Proposed Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects beyond the construction impacts discussed throughout this document. Impact UT-1 would be ***less than significant***, consistent with the ConnectMenlo EIR. No mitigation is required.

Impact UT-2: Water Supply. The Project would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. (LTS)

The Proposed Project would be within the maximum development potential studied in ConnectMenlo, the water demand of the Proposed Project is included in the further refined land uses and development potential studied in the ConnectMenlo EIR as well as the MPMW's 2015 and 2020 UWMP water demand analyses. Furthermore, the water supply evaluation (WSE) that was prepared as part of the ConnectMenlo process considered the development potential created by the ConnectMenlo General Plan Update and the refined land uses studied in the associated EIR. The ConnectMenlo EIR determined that there would be an increase in water demand as a result of buildout of ConnectMenlo. The ConnectMenlo EIR concluded that the MPMW's water supply would be adequate and able to meet increased demands in normal years as well as the additional demand generated by the increase in development associated with implementation of ConnectMenlo. This analysis of water supply availability for the Proposed Project is based on information and analysis provided from the 2020 MPMW's UWMP and the WSA prepared for this Proposed Project.

As required by the City, a water budget was prepared for the Proposed Project and is discussed below. The water budget divided water use for the Proposed Project between interior and exterior water usage during operation of the Project. A City standard project condition to ensure compliance with the approved water budget for the Proposed Project (refer to Chapter 2, *Project Description*), would require that 12 months after certification of occupancy, the building owner(s) would submit the data and information necessary to allow the City to compare actual water use to the allocation in the approved water budget. If actual water consumption exceeds the water budget, a water conservation program, as approved by the City's public works director, would be implemented. Also, because the Proposed Project includes more than 250,000 square feet of gross floor area in its proposed new buildings, an alternate water source assessment is required and has been prepared. The alternate water source assessment describes the use of an alternate water source for all City-approved non-potable applications and given the size of the Proposed Project, recycled water would be utilized for all City-approved non-potable applications.

A summary of the water demands for the Proposed Project, as estimated by the Project Sponsor and evaluated by the City's consultant in preparation of the WSA, is provided in Table 3.15-1. As shown, the total projected water demand for the Proposed Project, inclusive of the main Project Site and Hamilton Avenue Parcels North and South, is approximately 155 mg/yr. Approximately 63 percent of the total water demand is for potable water; the remaining 37 percent is for non-potable water. The demand for non-potable water will be met with recycled water on the main Project Site. As shown in Table 3.15-1, the existing potable water demand at the main Project Site is estimated to be approximately 19 mg/yr and is assumed to be entirely replaced by the Proposed Project demand. Therefore, the net increase in potable water demand for the Proposed Project is estimated to be 79 mg/yr.

Table 3.15-1. Projected Water Demand for Proposed Project (mg/yr)

Water Use	Proposed Project
Indoor Potable	98
Toilet Flushing (non-potable)	21
Cooling (non-potable)	9
Irrigation (non-potable)	27
Total Projected Water Demand	**155**
Projected Water Demand (potable)	98 (63%)
Projected Water Demand (non-potable)	57 (37%)
Existing Potable Water Use at Proposed Project Site[a]	19
Net increase in Potable Water Demand[b]	**79**

Source: Peninsula Innovation Partners, LLC., and West Yost, 2022.

[a] Existing potable water demand at the main Project Site based on 2015 data (18.2 mg/yr plus 6 percent for unaccounted for water) and is assumed to be replaced by the Proposed Project.

[b] Assumes the existing potable water demand at the main Project Site is replaced by the Proposed Project demand.

Project Interior Water Use

The Proposed Project would use water for indoor uses on the main Project Site (i.e., in the proposed residential, retail/restaurant, office and accessory, hotel uses). The water demands for the Hamilton Avenue Parcels North and South include retail, food service, and a reconstructed service and fueling station. Estimated water use for the Proposed Project considers office, retail/restaurant, residential, and hotel demands for plumbing fixtures, including water closets, urinals, public lavatories, kitchen faucets, and showerheads, as calibrated to comply with 2019 CALGreen standards and LEED frequency of fixture use and duration times. Water demands for offices include restrooms and the occasional shower user. The water use associated with the proposed onsite accessory spaces is based on data from similar facilities. Included are estimates for meals per day, restroom use, and shower water. Residential water use is based on an average of two occupants per unit. Hotel water use is based on the average of two occupants per room and considers water for hotel laundry, hotel kitchen, and icemakers. Retail spaces have water demands associated with restrooms for employees and customers. Restaurants have a high water demand for activities including cooking, cleaning, and consumption. Finally, a 10 percent "leakage factor" is added to the water budget for water losses attributed to on-site leaks, loose pipe connections, and unintentional running water. The projected interior water demand, excluding the leakage factor, of the Proposed Project would total 119 mg/yr, or about 0.32 mgd. It is anticipated that recycled water would be used for toilet fixture flushing within all buildings on the main Project Site and possibly for the reconstructed service station and increased square footage on the Hamilton Avenue Parcels.

Project Exterior Water Use

Exterior water use at the Project Site would be needed for cooling and irrigation, amounts which vary based on the season. It is anticipated that retail and residential areas would employ air-based cooling technologies; therefore, water demands for mechanical cooling were estimated only for the office and accessory space. Mechanical cooling technology selection has not yet been finalized and would impact these demands; however, it is estimated that cooling demands for the campus space would, using the high end of the seasonal ranges, result in an annual average demand of 9 mg/yr. The Project would not use single-pass cooling systems or well water, per the requirements of the Zoning Ordinance. The Project

includes approximately 18 acres of irrigated landscaping. The landscape concepts have not yet been finalized; however, assuming compliance with the Maximum Applied Water Allowance, in accordance with the Model Water Efficient Landscape Ordinance, and the potential use of green roofs, the total estimated water demand from irrigation would be approximately 27 mg/yr. It is anticipated that recycled water would be used for the Project Site's irrigation needs and may be used for mechanical cooling applications. Also, per the Zoning Ordinance, potable water would not be used for decorative features, unless the water recirculates.

The WSA for the Proposed Project summarizes the projected availability of the MPMW's existing and planned future water supplies as well as the MPMW's projected water demands in normal, single, and multiple dry years through 2040. Because MPMW purchases all of its water from SFPUC, and the availability of water to SFPUC would be affected by implementation of the Bay-Delta Plan Amendment, the WSA for the Project considered two scenarios, one assuming the Bay-Delta Plan Amendment is implemented and one assuming that the Bay-Delta Plan Amendment is not implemented. Pursuant to California Water Code Section 10910(c)(4) and the technical analyses described in the WSA for the Proposed Project, MPMW found that there is adequate water supply for the Proposed Project during normal years. As described previously, ConnectMenlo identifies the maximum level of development that could occur in the ConnectMenlo study area, including potential bonus-level increased development. The ConnectMenlo EIR further studied the maximum development potential by more specific land uses. MPMW and the Planning Division are actively tracking the projected water demands of all projects in the ConnectMenlo study area on a cumulative basis to ensure that development remains not only below the maximum level permitted in ConnectMenlo and analyzed in the ConnectMenlo EIR but within the MPMW's service abilities. The Proposed Project, if approved, would be included in this cumulative development total, which would be below the maximum development level permitted.

MPMW, a member of agency of BAWSCA, purchases water solely from the SFPUC RWS. As such, MPMW's water supply is largely dependent upon the reliability of the SFPUC's water supply. The reliability of the SFPUC RWS supply is highly dependent on the assumption of whether or not the 2018 Bay-Delta Plan Amendment is implemented, which is analyzed further below.

The WSA for the Proposed Project summarizes the projected availability of MPMW's existing and planned future water supplies as well as MPMW's projected water demands in normal, single, and multiple dry years through 2040. The WSA determined that water demand within the MPMW service area is not expected to exceed MPMW water supplies during normal water years to 2040. During single and multiple dry years water demand is similarly expected to meet MPMW water supplies through the anticipated procurement of a new recycled water source at the Bayfront Recycled Water Facility by 2030, continued mandatory water demand management program with prohibitions, and implementation of the Water Shortage Contingency Plan (WSCP), discussed above. Should the Bay-Delta Plan Amendment be implemented starting in 2023, MPMW expects its supply to meet demand during normal water years, however, significant shortfalls during dry and multiple dry years may occur, requiring stricter water demand reductions of the WSCP, as discussed below.

Bay-Delta Plan Amendment Implementation

The Bay-Delta Plan Amendment was adopted in December 2018 by the State Water Resources Control Board (SWRCB) to establish water quality objectives to maintain the health of the Bay-Delta ecosystem. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the Bay-Delta. The Bay-Delta Plan Amendment requires the release of 40 percent of the "unimpaired flow" on

the three tributaries from February through June in every year type, whether wet, normal, dry, or critically dry. The implementation of the Bay-Delta Plan Amendment significantly impacts the SFPUC RWS supply reliability in dry years; however, the actual implementation of the Bay-Delta Plan Amendment is uncertain[56].

If the Bay-Delta Plan Amendment is implemented, SFPUC will be able to meet its contractual obligations to its wholesale customers as presented in the SFPUC 2020 UWMP in normal years but would experience significant supply shortages in dry years. In single dry years, supply shortages would range from 36 to 46 percent. In multiple dry years, supply shortages would range from 36 to 54 percent. Implementation of the Bay-Delta Plan Amendment will require rationing in all single dry and multiple dry years through 2045.

If the Bay-Delta Plan Amendment is not implemented SFPUC would be able to meet 100 percent of the projected purchases of its wholesale customers, including MPMW, during all year types through 2045 except during the fourth and fifth consecutive dry years for base year 2045 when 15 percent wholesale supply shortages are projected.

In June 2021, in response to various comments from wholesale customers regarding the reliability of the RWS as described in SFPUC's 2020 UWMP, the SFPUC provided a memorandum describing SFPUC's efforts to remedy the potential effects of the Bay-Delta Plan Amendment which include: pursuing a Tuolumne River voluntary agreement; evaluating the drought planning scenario in light of climate change; pursuing alternative water supplies; litigation with the State over the Bay-Delta Plan Amendment; and litigation with the State over the proposed Don Pedro Federal Energy Regulatory Commission Water Quality Certification. The SFPUC has initiated an Alternative Water Supply Planning Program to ensure that San Francisco can meet the water needs of its retail and wholesale customers, address shortages in projected dry years, and limit rationing to a maximum 20 percent system-wide, in accordance with adopted SFPUC policies. This program, which is in its early planning stages, is intended to meet future water supply challenges and vulnerabilities (e.g., environmental flow needs and other regulatory changes; earthquakes, disasters, and emergencies; increases in population and employment; climate change). Because the region faces future challenges, both known and unknown, the SFPUC is considering a suite of diverse, non-traditional supplies and leveraging regional partnerships to meet retail and wholesale customer needs through 2045.

Water Supply Reliability

In normal years MPMW expects that its water supplies would be adequate to satisfy projected normal year demands. However, MPMW anticipates that its available purchases from the SFPUC RWS would experience dry year supply reductions under implementation of the Bay-Delta Plan Amendment, which significantly reduces dry year allocations for all SFPUC wholesale customers. Recycled water is estimated to be available during all hydrologic years at a volume that meets MPMW's projected recycled water demands. Table 3.15-2 shows MPMW's projected supplies during normal, single dry, and multiple dry years through 2040 based on the assumptions in the MPMW 2020 UWMP, which assumes implementation of the Bay-Delta Plan Amendment by 2023. Based on the SFPUC's analysis, similar water supply quantities would be available to MPMW in 2045 under the various hydrologic conditions.

[56] As noted in the regional water system supply reliability memorandum and the UWMP 2020 memorandum, included as Appendix B to the WSA for the Proposed Project, the SFPUC is actively pursuing all options to resolve the potential effects of the Bay-Delta Plan Amendment. It remains committed to creating benefits for the Tuolumne River while meeting water supply level-of-service goals and objectives for retail and wholesale customers, such as MPMW.

Table 3.15-2. MPMW's Projected Normal, Single Dry, and Multiple Dry-Years Water Supplies (with Bay Delta Plan Amendment)

	Projected Water Supply (mg)[a]			
Hydrologic Condition[b]	**2025**	**2030**	**2035**	**2040**
Normal Year	1,678	1,750	1,750	1,750
Single Dry Year	877	978	1,018	1,062
Multiple Dry Years – Year 1	877	978	1,018	1,062
Multiple Dry Years – Year 2	760	854	877	927
Multiple Dry Years – Year 3	760	854	877	927
Multiple Dry Years – Year 4	760	854	877	832
Multiple Dry Years – Year 5	760	854	824	832

Source: West Yost. 2022. *Willow Village Project Water Supply Assessment*. Prepared for Menlo Park Municipal Water District.

a. Includes projected potable water supply from the SFPUC RWS and projected recycled water supply (48 mg/yr in 2025 and 120 mg/yr for 2030 to 2040).

b. The estimates do not account for climate change impacts on the SFPUC RWS and potential delays in completion of the WSIP.

Table 3.15-3 shows MPMW's projected supplies during normal, single dry, and multiple dry years through 2040 assuming that the Bay-Delta Plan Amendment is not implemented. In the event that the Bay-Delta Plan Amendment is not implemented, the SFPUC has indicated that it would be able to meet 100 percent of the wholesale projected purchases, including those for MPMW, during all year types through 2045 except during the fourth and fifth consecutive dry years for base year 2045 when MPMW would likely experience a 16.5 percent supply shortfall.

Table 3.15-3. MPMW's Projected Normal, Single Dry, and Multiple Dry-Years Water Supplies (without Bay Delta Plan Amendment)

	Projected Water Supply (mg)[a]			
Hydrologic Condition[b]	**2025**	**2030**	**2035**	**2040**
Normal Year	1,678	1,750	1,750	1,750
Single Dry Year	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 1	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 2	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 3	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 4	1,344	1,465	1,530	1,603
Multiple Dry Years – Year 5	1,344	1,465	1,530	1,603

Source: West Yost. 2022. *Willow Village Project Water Supply* Assessment. Prepared for Menlo Park Municipal Water District.

a. Includes projected potable water supply from the SFPUC RWS (based on projected purchases) and projected recycled water supply (48 mg/yr in 2025 and 120 mg/yr for 2030 to 2040).

b. A 16.5 percent reduction in supply from the SFPUC RWS is projected for MPMW in the fourth and fifth years of multiple dry year drought, but not until 2045.

Conclusion

In summary, if the Bay-Delta Plan Amendment is implemented, the total projected water supplies determined to be available for the Proposed Project in normal years will meet the projected water demand associated with the Proposed Project, in addition to MPMW's existing and planned future uses, through 2040. However, with the implementation of the Bay-Delta Plan Amendment, significant supply shortfalls are projected in dry years for agencies that receive water supplies from the SFPUC RWS, as well as other agencies whose water supplies would be affected by the amendment. For MPMW, supply shortfalls are projected in single dry years (ranging from 27 to 32 percent) and in multiple dry years (ranging from 27 to 44 percent) through 2040. Based on SFPUC's analysis, similar supply shortfalls would occur through 2045.

If supply shortfalls do occur, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its WSCP.[57] With the MPMW's Water Shortage Contingency Plan (WSCP) in place, the shortages in single and multiple dry years would be managed through demand reductions of 50 percent or greater in Stages 5 and 6. The projected single dry year shortfalls would require implementation of Stage 3 or Stage 4 of the MPMW WSCP, and the projected multiple dry year shortfalls would require implementation of Stage 3, 4, or 5 of the MPMW WSCP. In accordance with the zoning ordinance, the CALGreen code, and City water use regulations, the Proposed Project would incorporate green and sustainable building practices (e.g., ultra-low-flow fixtures within the building) and implement water conservation measures, both in the design of the base building and tenant spaces as well as daily operations, employee practices, and landscaping choices. Also, MPMW is pursuing emergency groundwater resources through the Emergency Water Storage/Supply Project. If water supplies from the RWS are reduced or unavailable, the Emergency Water Storage/Supply Project would have the capacity to provide MPMW with up to 4.32 mgd from two or three wells at separate locations. The Proposed Project on-site water system has been evaluated to ensure the Proposed Project would meet fire flow requirements and not negatively affect the fire flow in the neighboring life sciences district. The Project would utilize recycled water for all City-approved non-potable applications (e.g. irrigation, mechanical cooling, and toilet flushing), which would offset the demand for potable water and contribute to MPMW's efforts to reduce future supply shortages. According to the WSA, the proposed project would utilize recycled water for approximately 37 percent (57 mg/yr) of the total anticipated water demand for the Proposed Project. Furthermore, the water demand associated with buildout of ConnectMenlo, which the Proposed Project is within, is included in the 2020 UWMP, and indicates that the City would have water resources available to serve anticipated growth, including the growth anticipated from buildout of ConnectMenlo and the buildout of the specific land uses studied in the associated EIR. The Proposed Project would not exacerbate MPMW's anticipated supply shortages and therefore would not cause MPMW to increase customer water use restrictions beyond those anticipated in the 2020 UWMP. The Proposed Project also would be subject to the same water conservation and water use restrictions as other water users within the MPMW system under ConnectMenlo, including annual compliance with the approved water budget. The Proposed Project would utilize a significant amount of recycled water for non-potable applications to reduce its potable water demand from MPMW. If shortfalls occur with or without the Bay Delta Plan, the Water Shortage Contingency Plan (which is applicable to all

[57] A main focus of MPMW's planned demand reduction measures is to increase public outreach and keep customers informed of the water shortage emergency and actions they can take to reduce consumption. The City will utilize its emergency supply well(s) as supply augmentation during WSCP Stages 5 and 6. Other actions that the City will take will include coordination with other agencies, implementing drought surcharge, increasing water waste patrols, etc. Additional information on MPMW's WSCP is provided in Chapter 8 of MPMW's 2020 UWMP.

customers) would ensure that MPMW could deliver water to its customers during the dry year and multiple dry year shortfalls. Therefore, adequate water supplies would be available to serve the Proposed Project and reasonably foreseeable future development (including buildout of ConnectMenlo) during normal, dry, and multiple dry years, with implementation of applicable stages of water use reductions from the Water Shortage Contingency Plan during dry and multiple dry years. Impact UT-2 would be ***less than significant*** consistent with the ConnectMenlo EIR. No Mitigation is required.

Impact UT-3: Generation of Wastewater. The Proposed Project would not result in a determination by the wastewater treatment providers that they have inadequate capacity to serve the Proposed Project's projected demand in addition to the providers' existing commitments. (LTS)

The WBSD provides wastewater collection and conveyance services for MPMW, which conveys the majority of raw wastewater to the SVCW WWTP. According to the 2020 MPMW UWMP, the total volume of wastewater collected by the WBSD from the MPMW service area in 2020 was approximately 873 mg, or an average of about 2.4 mgd.

The Proposed Project would be consistent with the type and intensity of development as well as the population projections assumed for the Project Site in ConnectMenlo and the ConnectMenlo EIR. The Proposed Project would generate approximately 0.27 mgd (115 mg/yr) of wastewater at the Project Site. Given the current wastewater generated at the Project Site is estimated to be approximately 0.05 mgd (17 mg/yr), this is an increase of approximately 0.22 mgd wastewater generated compared with existing conditions, which is a negligible amount given the capacity of the existing system. Therefore, there would be adequate wastewater treatment capacity available to serve the Project's projected demand in addition to the provider's existing commitments.

As stated above under Impact UT-1, operation of the SVCW WWTP and its wastewater conveyance system is governed by the waste discharge requirements found in RWQCB Order Number R2-2018-00XX (NPDES No. CA0038369). This order has a dry-weather facility design flow of 29 mgd and a peak wet-weather design flow of 71 mgd. The NPDES permit does not have a limitation on flow quantity. As noted in the ConnectMenlo EIR, SVCW reports that SVCW WWTP has a capacity limit of 80 mgd; however, in order to utilize the full plant capacity of 80 mgd, certain pump station and pipe improvements are necessary. Therefore, the WWTP design is not necessarily limited to the peak wet-weather flow of 71 mgd mentioned in the NPDES permit, but for the purpose of this analysis 71 mgd is considered the maximum flow under current conditions. Therefore, the WWTP design is not necessarily limited to the peak wet-weather flow of 71 mgd. As reported by the RWQCB, from October 2012 through August 2017, the plant treated an average of 13.5 mgd, with a maximum instantaneous flow of 50 mgd. Both rates are well within the 29 mgd average dry-weather design flow and 71 mgd peak wet-weather design flow. Under its Stage 2 expansion program, SVCW will complete the necessary pump station and pipe improvements to utilize the full 80 mgd of plant capacity as needed.

Assuming that 90 percent[58] of the total amount of non-irrigation water used by the Proposed Project would become wastewater, and the Project's non-irrigation water demand is estimated at 0.3 mgd (or 128 mg/yr),[59] the estimated wastewater generation rate for the Proposed Project would be approximately 0.27 mgd (or 115 mg/yr). This increase in wastewater generation would not be significant relative to the currently available excess dry-weather design flow capacity of 15.5 mgd (i.e., 29 mgd design flow minus

[58] ConnectMenlo EIR assumes 90 percent of indoor water becomes wastewater. It is used here for consistency.

[59] Total indoor water use = Project net increase of potable water of 0.22 mgd + 0.06 mgd of water for toilet flushing (non-potable) + 0.02 mgd water for cooling (non-potable) = 0.3 mgd.

13.5 mgd current average flow = 15.5 mgd) or its excess wet-weather design flow capacity of 57.5 mgd (i.e., 71 mgd design flow minus 13.5 mgd current average flow) at the SVCW WWTP. Estimated wastewater flows from the Proposed Project would therefore represent a very small percentage of the total daily wastewater capacities of the SVCW WWTP. Likewise, wastewater generation from the Project (i.e., maximum of approximately 115 mg/yr) would not be significant relative to current average collection rates at the WBSD.

Conclusion

Based on existing SVCW WWTP and WBSD collection and processing capacity, it is not expected that the Proposed Project would cause a determination by either of the wastewater treatment providers that they have inadequate capacity to serve the Proposed Project's projected demand in addition to existing commitments. Impact UT-3 would be ***less than significant*** consistent with the ConnectMenlo EIR. No mitigation required.

Impact UT-4: Generation of Solid Waste. The Project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. (LTS)

The California Integrated Waste Management Act of 1989 (AB 939) requires municipalities to adopt an integrated waste management plan to establish objectives, policies, and programs related to waste disposal, management, source reduction, and recycling. In addition, Senate Bill 1383, passed in 2016, established a target that calls for a 50 percent reduction in organic waste by 2020 and 75 percent by 2025. The City of Menlo Park has been working to meet these standards. As noted above, in 2020, the service area experienced a 52 percent diversion rate by recycling and composting waste, while Menlo Park had a diversion rate of approximately 57 percent.[60]

In total, construction of the Proposed Project would generate approximately 125,000 cubic yards of debris from structure demolition, of which approximately 101,000 cubic yards would be generated during Phase 1 and 24,000 cubic yards during Phase 2. Main Project Site excavation and grading activities are anticipated to generate approximate 175,000 cubic yards of excess soil, which will require offsite disposal. All soil and debris, including contaminated soil, would most likely be off-hauled to Ox Mountain Landfill (approximately 22.3 miles from the Project Site).

The Proposed Project would be required to comply with the City's Construction and Demolition Recycling Ordinance, which calls for salvage or recycling at least 60 percent of construction-related solid waste. Therefore, construction of the Proposed Project is not expected to have a significant impact on existing landfills.

Operation of the Proposed Project would result in the generation of solid waste, beyond existing conditions, but would continue to meet state and local standards for solid waste and recycling. The Proposed Project would generate 4,332 net new employees and an estimated 3,520 new residents at the main Project Site who would generate waste. As part of the sustainability features of the Project (refer to Chapter 2, Project Description), a zero-waste management plan would be prepared to achieve a 90 percent diversion rate by 2035 for the waste stream generated during the occupancy phase of the Proposed Project. The Project would achieve the state and local requirements for waste reduction through

[60] Recology San Mateo County. 2021. *Annual Report to the SBWMA for Year 2020.* Available: https://rethinkwaste.org/wp-content/uploads/2021/02/Recology-Annual-Report-2020.pdf. Accessed: February 15, 2022.

implementation of the Proposed Project's zero waste management plan. Operational waste would be separated and sorted into salvage, recycle, and reuse materials for proper disposal, donation, and sale. The solid waste generated at the main Project Site would be collected by Recology San Mateo and hauled to Shoreway. Shoreway is permitted to receive 3,000 tons of refuse per day. Once collected and sorted at Shoreway, solid waste would be transported to Ox Mountain, which is permitted to receive 3,598 tons per day. Solid waste generated by operation of the Proposed Project would represent a small percentage of the permitted capacity of Shoreway and Ox Mountain. The implementation of the required zero waste management plans for all new buildings and uses on the main Project Site would further reduce waste from the occupancy phase of the building. As such, Shoreway and Ox Mountain would have adequate capacity for the Proposed Project. Therefore, operation of the Proposed Project is not expected to have a significant impact on existing landfills.

Conclusion

The Proposed Project would be served by a landfill with sufficient permitted capacity to accommodate its solid waste disposal needs. In addition, the Proposed Project is within the amount of potential development enabled by ConnectMenlo and further the amount of potential development studied in the ConnectMenlo EIR and, as such, would not result in impacts that were not already evaluated. The Proposed Project would not generate solid waste in excess of state or local standards or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals. Impact LU-4 would be ***less than significant*** consistent with the ConnectMenlo EIR. No mitigation is required.

Impact UT-5: Compliance with Solid Waste Regulations. The Project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste (LTS)

Construction and operation of the Proposed Project would comply with all applicable statutes and regulations related to solid waste. State law (AB 341 and AB 939) requires businesses to recycle and cities to divert 50 percent of their solid waste from landfills. The Proposed Project would adhere to these laws. In addition, the Proposed Project would be required to adhere to the City's Construction and Demolition Recycling Ordinance and zero-waste management plan requirements during the occupancy phase of the Proposed Project.

Conclusion

The Proposed Project would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. In addition, the Proposed Project is within the amount of development potential enabled by ConnectMenlo and further the amount of potential development studied in the ConnectMenlo EIR and, as such, would not result in impacts that were not already evaluated. Impact UT-5, with regard to compliance with solid waste–related management and reduction statutes and regulations, would be ***less-than-significant*** consistent with the ConnectMenlo EIR. No mitigation required.

Cumulative Impacts

Impact C-UT-1: Cumulative Water Service and Infrastructure Impacts. Cumulative development would result in a less-than-significant cumulative impact on water service and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on water service. (LTS)

Summary of Analysis in the ConnectMenlo EIR

As stated in Chapter 4.14, Utilities and Service Systems, of the ConnectMenlo EIR, the geographic scope of this cumulative analysis is the SFPUC retail and wholesale service area.

Development of past, current, and future projects within the SFPUC retail and wholesale service area have the potential to contribute to additional water demands. However, development projects are subject to State and SFPUC voluntary and mandatory conservation measures to reduce usage, the BAWSCA's long-term water supply strategy to enhance supplies, and the SFPUC's WSIP projects to improve the regional water system reliability and capacity.

The ConnectMenlo EIR determined that, through compliance with existing state and SFPUC conservation measures, development under ConnectMenlo, in combination with other new development within the SFPUC retail and wholesale service area, would not contribute to a significant cumulative impact with respect water service demands. Furthermore, any new or expanded local water distribution facilities would require permitting and review in accordance with CEQA, which would ensure environmental impacts are disclosed and mitigated to the extent possible. The ConnectMenlo EIR determined that implementation of ConnectMenlo would not contribute to a significant cumulative impact on water service, and the cumulative impact would be ***less than significant***.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative water service with the Proposed Project is the SFPUC retail and wholesale service area.

As noted in Chapter 3, Environmental Impact Analysis, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at the 123 Independence Drive Project and East Palo Alto projects, which are also located within the service area. As with the Proposed Project, the entire 123 Independence Drive project (inclusive of the additional unrestricted units) and East Palo Alto projects, as well as other projects within the service area, would be required to comply with existing regulations, including plans, policies, and Zoning Ordinance regulations that promote water conservation and green building best practice. While the projects within East Palo Alto are subject to different Zoning Ordinance requirements and local regulations than the 123 Independence Drive project, water conservation measures from SFPUC, BAWSCA, and State requirements would apply similarly to projects in Menlo Park and East Palo Alto since both cities obtain water supply primarily from the SFPUC RWS. Therefore, these additional projects would not alter the cumulative impact determination as stated in the ConnectMenlo EIR, and the cumulative impact with respect to water service would remain less than significant.

The Proposed Project would not result in a substantial change in the ConnectMenlo project, would not be a cumulatively considerable contributor to a significant cumulative water service impact, and would not cause new or substantially more severe significant cumulative water service impacts than those analyzed in the ConnectMenlo EIR. The Proposed Project would be required to comply with all applicable existing

regulations, including plans, policies, and Zoning Ordinance regulations that promote water conservation and green building best practices. In accordance with Zoning Ordinance, the CALGreen code, and City water use regulations, the Proposed Project would incorporate green and sustainable building practices (e.g., ultra-low-flow fixtures within the building) and implement water conservation measures, both in the design of the base building and tenant spaces as well as daily operations, employee practices, and landscaping choices. In addition, the Proposed Project would be subject to the same water conservation and water use restrictions as other water users within the MPMW system under ConnectMenlo. The Proposed Project would utilize recycled water for City-approved non-potable applications, accounting for approximately 37 percent of the total water usage for the Proposed Project. Therefore, consistent with the conclusions in the ConnectMenlo EIR, the Proposed Project combined with other past, present, and reasonably foreseeable future development would result in a less-than-significant cumulative impact with respect to water service. No mitigation is required.

Impact C-UT-2: Cumulative Wastewater Service and Infrastructure Impacts. Cumulative development would result in a less-than-significant cumulative impact on wastewater service and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on wastewater service. (LTS)

Summary of Analysis in the ConnectMenlo EIR

As stated in Chapter 4.14, Utilities and Service Systems, of the ConnectMenlo EIR, the geographic scope of this cumulative analysis is the WBSD and SVCW service areas.

Development of past, current, and future projects within the WBSD and SVCW service areas have the potential to contribute to additional wastewater demands. However, development projects are subject to applicable policies and Municipal Code regulations that promote water conservation and minimize impacts related to wastewater generation.

The ConnectMenlo EIR determined that, through compliance with General Plan policies and zoning regulations that promote water conservation and minimize impacts related to wastewater generation, development under ConnectMenlo, in combination with other new development within WBSD and SVCW service areas, would not contribute to a cumulative impact with respect to wastewater service demands. Furthermore, the Connect Menlo EIR indicated that the WBSD's CIPs would ensure that the WBSD's wastewater collection system would have sufficient capacity to accommodate the cumulative growth. The ConnectMenlo EIR determined that implementation of ConnectMenlo would not contribute to a significant cumulative impact on wastewater service, and the cumulative impact would be ***less than significant***.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative wastewater service with the Proposed Project is the WBSD and SVCW service areas.

As noted in Chapter 3, Environmental Impact Analysis, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at 123 Independence Drive Project and East Palo Alto projects, which are also located within the service areas. As with the Proposed Project, the 123 Independence Drive project and East Palo Alto projects, as well as other projects within the service areas, would be required to comply with applicable policies and zoning regulations that promote water conservation and minimize impacts related to wastewater generation. Therefore, these additional projects would not alter the cumulative impact determination as stated in the ConnectMenlo EIR, and the cumulative impact with respect to wastewater service would remain less than significant.

The Proposed Project would not result in a substantial change in the ConnectMenlo project, and would not be a cumulatively considerable contributor to a significant cumulative water service impact and would not cause new or substantially more severe significant cumulative wastewater service impacts than analyzed in the ConnectMenlo EIR. The Proposed Project would be required to comply with all applicable existing regulations, including plans, policies, and Municipal Code regulations that promote water conservation and green building best practices. In addition, wastewater generation from the Proposed Project combined with other past, present, and reasonably foreseeable future development would not be significant relative to current average collection rates for the WBSD. Therefore, consistent with the conclusions in the ConnectMenlo EIR, the Proposed Project would result in a less-than-significant cumulative impact with respect to wastewater service. No mitigation is required.

Impact C-UT-3: Cumulative Solid Waste Impacts. Cumulative development would result in a less-than-significant cumulative impact on solid waste service and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on solid waste service. (LTS/M)

Summary of Analysis in the ConnectMenlo EIR

As stated in Chapter 4.14, Utilities and Service Systems, of the ConnectMenlo EIR, the geographic scope of this cumulative analysis includes the landfills that serve the City and other cities in the region.

Development of past, current, and future projects served by the landfills have the potential to contribute to exceedances in landfill capacity. However, development projects are required to comply with state and local regulations that require municipalities to adopt an integrated waste management plan to establish objectives, policies, and programs related to waste disposal, management, source reduction, and recycling.

The ConnectMenlo EIR determined that, implementation of ConnectMenlo when considered with the other jurisdictions that divert solid waste to the same facilities, in particular Ox Mountain Landfill, may eventually experience insufficient future capacity at a specific landfill to accommodate existing or increased population and employment levels. Implementation of Mitigation Measure UTIL-10 requires the City to continue its reduction programs and diversion requirements in an effort to further reduce solid waste that is diverted to the landfill and lower its per capita disposal rate. Furthermore, proposed development in Menlo Park would be required to comply with the City's regulations prepared to reduce solid waste and therefore, reduce impacts related to landfill capacity. For this reason, and because the growth under ConnectMenlo would occur incrementally over a period of 24-years,[61] the ConnectMenlo EIR determined that implementation of ConnectMenlo would not contribute to a significant cumulative impact on solid waste, and the cumulative impact would be ***less than significant with mitigation.***

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative solid waste with the Proposed Project includes the landfills that serve the city and other cities in the region.

[61] Although the ConnectMenlo Final EIR assumed a buildout horizon of 2040, the maximum development potential may be reached sooner than anticipated. However, the ConnectMenlo Final EIR evaluated the maximum development potential that could occur at any given time and did not consider the phased buildout of the development potential; therefore, no new or additional impacts are anticipated as a result of the expedited buildout.

As noted in Chapter 3, Environmental Impact Analysis, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units at 123 Independence Drive Project and East Palo Alto projects, which are also located within the service areas. As with the Proposed Project, the 123 Independence Drive project and East Palo Alto projects, as well as other projects within the service areas, would be required to comply with state and local regulations that require municipalities to adopt an integrated waste management plan to establish objectives, policies, and programs related to waste disposal, management, source reduction, and recycling. Therefore, these additional projects would not alter the cumulative impact determination as stated in the ConnectMenlo EIR, and the cumulative impact with respect to solid waste service would remain less than significant.

The Proposed Project would not result in a substantial change in the ConnectMenlo project, would not be a cumulatively considerable contributor to a significant cumulative solid waste impact, and would not cause new or substantially more severe significant cumulative solid waste impacts than those analyzed in the ConnectMenlo EIR. The Proposed Project would be required to comply with Senate Bill 1383, passed in 2016, established a target that calls for a 50 percent reduction in organic waste by 2020 and 75 percent by 2025. Furthermore, the Proposed Project would be required to comply with the City's Construction and Demolition Recycling Ordinance, which calls for salvage or recycling at least 60 percent of construction-related solid waste. As part of the zoning ordinance amendments associated with the ConnectMenlo General Plan Update and in response to the mitigation measure from Impact UTIL-10 from the ConnectMenlo program level EIR, the City adopted zero waste requirements for private development projects in the O (Office), LS (Life Science), and R-MU (Residential Mixed Use) zoning districts. Accordingly, the Proposed Project would be required to prepare a zero waste management plan for the occupancy phase of the Proposed Project with the goal of 90 percent diversion of waste from landfills by 2035. Therefore, the Proposed Project combined with other past, present, and reasonably foreseeable future development would result in a less-than-significant cumulative impact with respect to solid waste. No mitigation is required.

Impact C-UT-4: Cumulative Stormwater Service and Infrastructure Impacts. Cumulative development would result in a less-than-significant cumulative impact on stormwater service, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on stormwater service and infrastructure. (LTS)

Summary of Analysis in the ConnectMenlo EIR

As stated in Chapter 4.14, Utilities and Service Systems, of the ConnectMenlo EIR, the geographic scope for the cumulative analysis is the San Francisquito Creek watershed.

Development of past, current, and future projects within the San Francisquito Creek watershed have the potential to alter stormwater quality, stormwater flows, drainage, impervious surfaces, and flooding. However, development projects are subject to federal, state, and local standards pertaining to water quality. As a result, there is no significant cumulative impact with ConnectMenlo.

The ConnectMenlo EIR determined that, through compliance with existing state and local regulations, as well as general plan design guidelines, Menlo Park Municipal Code requirements, and other applicable City requirements, development under ConnectMenlo in combination with other new development within the San Francisquito watershed would not contribute to a significant cumulative impact with respect to stormwater service. Furthermore, all cumulative projects would be subject to similar permit requirements and would be required to comply with City ordinances and to be consistent with ConnectMenlo as well as numerous water quality regulations that control construction related and

operational discharge of stormwater. ConnectMenlo EIR determined that implementation of ConnectMenlo would not contribute to a significant cumulative impact on stormwater, and the cumulative impact would be ***less than significant***.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative stormwater service with the Proposed Project is the San Francisquito Creek watershed.

As noted in Chapter 3, Environmental Impact Analysis, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units in the 123 Independence Drive Project and East Palo Alto projects, which are also located within the San Francisquito Creek watershed. As with the Proposed Project, the 123 Independence Drive project and East Palo Alto projects, as well as other projects within the San Francisquito Creek watershed, would be required to comply with federal, state, and local standards pertaining to water quality. Therefore, these additional projects would not alter the cumulative impact determination as stated in the ConnectMenlo EIR, and the cumulative impact with respect to stormwater service would remain less than significant.

The Proposed Project would not result in a substantial change in the ConnectMenlo project, and would not be a cumulatively considerable contributor to a significant cumulative stormwater service impact and would not cause new or substantially more severe significant cumulative stormwater service impacts than analyzed in the ConnectMenlo EIR. The Proposed Project would implement BMPs, and would comply with the General Construction Permit; San Francisco Bay Municipal Separate Storm Sewer System Permit, Provision C.3; and San Mateo Countywide Water Pollution Prevention Program C.3 Stormwater Technical Guidance and implement a SWPPP and other erosion and pollution control measures. Therefore, consistent with the conclusions in the ConnectMenlo EIR, the Proposed Project combined with other past, present, and reasonably foreseeable future development would result in a less-than-significant cumulative impact with respect to stormwater. No mitigation is required.

Impact C-UT-5: Cumulative Natural Gas and Electrical Service Impacts. Cumulative development would result in a less-than-significant cumulative impact on natural gas and electrical, and the Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on natural gas and electrical service and infrastructure. (LTS)

Summary of Analysis in the ConnectMenlo EIR

As stated in Chapter 4.14, Utilities and Service Systems, of the ConnectMenlo EIR, the geographic scope for the cumulative analysis is the 70,000 square mile PG&E service territory.

Development of past, current, and future projects within the PG&E service territory have the potential to increase energy demands (natural gas and electricity). However, development projects would be required to comply with applicable state and local regulations pertaining to energy conservation. Furthermore, as noted in the ConnectMenlo EIR, PG&E routinely updates its long-range plans to incorporate potential growth in its service area.

The ConnectMenlo EIR determined that, through compliance with existing state and local regulations, as well as general plan design guidelines, Menlo Park Municipal Code requirements, and other applicable City requirements, development under ConnectMenlo in combination with other new development within the PG&E service territory would not contribute to a cumulative impact with respect to natural gas and electrical service; the cumulative impact would be ***less than significant***.

Cumulative Impacts with the Proposed Project

Consistent with the ConnectMenlo EIR, the geographic context for cumulative natural gas and electrical service with the Proposed Project is the 70,000 square mile PG&E service territory.

As noted in Chapter 3, Environmental Impact Analysis, of this EIR, in addition to the buildout projections considered in the ConnectMenlo EIR, the cumulative scenario for this EIR also includes the additional unrestricted units under the 123 Independence Drive and East Palo Alto projects, which are also within PG&E's service territory. As with the Proposed Project, the 123 Independence Drive project and East Palo Alto projects, as well as other projects within the PG&E service territory, would be required to comply with federal, state, and local standards pertaining to energy conservation. Therefore, these additional projects would not alter the cumulative impact determination as stated in the ConnectMenlo EIR, and the cumulative impact with respect to natural gas and electrical service would remain less than significant.

The Proposed Project would not result in a substantial change in the ConnectMenlo project, and would not be a cumulatively considerable contributor to a significant cumulative natural gas and electrical service impact and would not cause new or substantially more severe significant cumulative natural gas and electrical service impacts than analyzed in the ConnectMenlo EIR. The Proposed Project would meet 100 percent of its energy demand (electricity and natural gas), consistent with the requirements of Menlo Park Municipal Code Sections 15.43.140 (for the Office portion) and 16.45.130 (for the Residential Mixed-Use portion), through a combination of the purchase of 100 percent renewable electricity from Peninsula Clean Energy and implementation of a reach code–mandated onsite renewable energy system. Therefore, consistent with the conclusions in the ConnectMenlo EIR, the Proposed Project combined with other past, present, and reasonably foreseeable future development would result in a less-than-significant cumulative impact with respect to natural gas and electrical service. No mitigation is required.

Impact C-UT-6: Cumulative Telecommunication Impacts. The Proposed Project would not be a cumulatively considerable contributor to any significant cumulative impact on telecommunication facilities and infrastructure. (LTS)

Cumulative Impacts with the Proposed Project

The geographic context for cumulative telecommunication service with the Proposed Project is the service area for telecommunication providers, this includes Atherton Fiber, Sonic, XFINITY from Comcast, AT&T, Earthlink, Wave Broadband, Viasat Internet, Zayo, Lumen, Verizon, and HughesNet.

Development of past, current, and future projects within the telecommunications service area have the potential to increase demand. However, similar to the Proposed Project, cumulative development of underground conduits and overhead cables to facilitate telecommunications services would be required to comply with applicable federal, state, and local standards pertaining to underground and overhead utility infrastructure. For these reasons, the Proposed Project, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative telecommunications demand and facilities impact. The cumulative impact would be ***less than significant***. No mitigation is required.

Chapter 4
Other CEQA Considerations

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15162.2, this chapter discusses significant environmental effects that cannot be avoided as identified in this draft environmental impact report (EIR); significant irreversible environmental changes, including those related to energy and the consumption of nonrenewable resources; and growth-inducing impacts. For a complete summary of the potential environmental impacts that could occur from implementation of the Willow Village Master Plan Project (Proposed Project), refer to the *Executive Summary* chapter. For an evaluation of alternatives that could reduce or avoid significant environmental effects of the Proposed Project, refer to Chapter 6, *Alternatives*.

4.1 Significant and Unavoidable Environmental Impacts

CEQA Guidelines Section 15126.2(c) requires EIRs to include a discussion of the significant environmental effects that cannot be avoided if the Proposed Project is implemented. The following impacts are considered significant and unavoidable; that is, no feasible mitigation is available to reduce the Project's impacts to a less-than-significant level. Additional details about these impacts are provided in the respective sections of Chapter 3, *Environmental Impact Analysis,* of this Draft EIR.

- **Impact AQ-1:** Project operations would disrupt or hinder implementation of the Bay Area Air Quality Management District's (BAAQMD's) 2017 Clean Air Plan. Prior to adoption of the 2017 Clean Air Plan, the General Plan and M-2 Area Zoning Update (ConnectMenlo) EIR determined that emissions of criteria air pollutants and precursors associated with the operation of new development under ConnectMenlo would generate a substantial net increase in emissions that would exceed the BAAQMD regional significance thresholds and that operational impacts would be significant and unavoidable. Similarly, Project operations would exceed BAAQMD's operational reactive organic gasses (ROG) threshold (see Impact AQ-2 below). The Proposed Project would not result in a substantial change in the ConnectMenlo project and would not cause new or substantially more severe significant impacts than those analyzed in the ConnectMenlo EIR. However, as discussed under Impact AQ-2, below, implementation of Mitigation Measure AQ-1.2 would decrease the Proposed Project's full build-out operational ROG emissions, but there is no feasible mitigation available to reduce the Proposed Project's operational ROG emissions to a level below the BAAQMD threshold. The Proposed Project's ROG emissions would remain above the BAAQMD ROG threshold after implementation of all feasible mitigation measures.
- **Impact AQ-2:** Operation of the Proposed Project would generate levels of net ROG that would exceed BAAQMD's ROG threshold. As discussed above, the ConnectMenlo EIR determined that emissions of criteria air pollutants and precursors associated with operation of new development under ConnectMenlo would result in significant and unavoidable impacts. The Proposed Project would implement Mitigation Measure AQ-1.2, which would require use of super-compliant architectural coatings during operations at all buildings. However, ROG emissions from consumer products constitute most of the operational ROG emissions associated with the Proposed Project. The City of Menlo Park (City) and Project Sponsor would have minimal control over what

consumer products Project users would purchase. There are no additional mitigation measures to reduce ROG from consumer products. Thus, although the Proposed Project would not result in a substantial change in the ConnectMenlo project and would not cause new or substantially more severe significant impacts than those analyzed in the ConnectMenlo EIR, net mitigated operational ROG emissions would still exceed BAAQMD's ROG threshold after implementation of all feasible mitigation measures.

- **Impact C-AQ-1**: Cumulative development in the San Francisco Bay Area Air Basin (SFBAAB) would result in a significant unavoidable cumulative impact with respect to air quality as a result of an exceedance of BAAQMD criteria pollutant thresholds, even with implementation of all feasible mitigation. The ConnectMenlo EIR determined that criteria air pollutant emissions generated by cumulative development would exceed BAAQMD's project-level significance thresholds and that cumulative impacts related to criteria air pollutants under ConnectMenlo would be significant and unavoidable. The Proposed Project would not result in a substantial change in the ConnectMenlo project and would not cause new or substantially more severe significant impacts than those analyzed in the ConnectMenlo EIR. As a result of its operational ROG emissions, in excess of the BAAQMD ROG threshold, even after implementation of all feasible mitigation (see Impact AQ-2 above), the Proposed Project would be a cumulatively considerable contributor to a significant and unavoidable cumulative impact on air quality with respect to criteria pollutants.
- **Impact NOI-1:** Impacts related to construction during the day, construction during non-exempt daytime hours, construction during the night, potential intersection improvements, and construction of offsite improvements would be significant. The ConnectMenlo EIR determined that future projects in Menlo Park could result in construction-related noise levels that would exceed noise limits; however, with implementation of mitigation measures and compliance with the City Noise Ordinance, impacts would be less than significant. With respect to the Proposed Project, noise impacts on offsite uses from construction, including the construction of certain offsite improvements, would remain significant, even after implementation of feasible mitigation measures. In addition, construction noise impacts on onsite land uses during early morning and evening hours would be significant, even after implementation of feasible mitigation measures. Thus, the Proposed Project would cause a new or substantially more severe significant impact than that analyzed in the ConnectMenlo EIR.
- **Impact NOI-2:** Offsite vibration levels may exceed applicable vibration-related annoyance thresholds at nearby sensitive uses during daytime and nighttime construction on the site. The impacts would be significant, even after implementation of feasible mitigation. Likewise, construction vibration from offsite improvements would exceed annoyance thresholds. The impacts would be significant, even after mitigation. The ConnectMenlo EIR determined that future projects in Menlo Park could expose people to or generate excessive ground-borne vibration or ground-borne noise levels, but that with implementation of mitigation measures, impacts would be less than significant. Thus, the Proposed Project could cause a new or substantially more severe significant impact than that analyzed in the ConnectMenlo EIR.

4.2 Significant and Irreversible Environmental Changes

CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the project. Specifically, Section 15126.2(d) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

On the main Project Site, the Proposed Project would construct approximately 1.8 million square feet (sf) of nonresidential uses (excluding the proposed hotel), including up to 1.6 million sf of office and accessory uses,[1] and up to approximately 200,000 sf of commercial/retail space. The Proposed Project would also include up to approximately 1,730 multi-family residential units, an up to 193-room hotel, and approximately 20 acres of open spaces, which include up to approximately 8 acres of publicly accessible parks, bike paths, and trails.

To support realignment of the Hamilton Avenue right-of-way and provide access to the new Elevated Park, the Proposed Project would demolish and reconstruct an existing Chevron gas station (with a potential increase in approximately 1,000 sf) at Hamilton Avenue Parcel South and enable the potential addition of up to 6,700 sf of retail uses on Hamilton Avenue Parcel North.

Offsite transportation and utility improvements would be constructed to serve the Proposed Project. These include various intersection improvements, which may be required per the City's transportation impact analysis guidelines; expansion of the Pacific Gas and Electric (PG&E) Ravenswood substation; installation of a new conduit to connect the Ravenswood substation to the main Project Site; construction of a sanitary sewer force main and recycled water line in the same trench in Hamilton Avenue; and an extension of the sanitary sewer line in Willow Road from O'Brien Drive to the proposed southwest sanitary sewer pump station.

As discussed in Section 3.5, *Energy*, during construction, the Proposed Project would consume an estimated 283 million British thermal units (BTUs) of electricity, 345,274 million BTUs of diesel, and 111,204 million BTUs of gasoline. In total, Project construction would consume 456,761 million BTUs of energy.

During operation, the Proposed Project's energy demand (using 2026 with-Project conditions) is estimated as follows:

- **Electricity**: The Project would consume 277,518 million BTUs of electricity per year, which represents an increase in electricity demand of 231,509 million BTUs per year compared to existing conditions (i.e., 46,009 million BTUs per year).

[1] Accessory uses could include the following types of spaces: meeting/collaboration space, orientation space, training space, event space, incubator space, a business partner center, an event building (including pre-function space, collaboration areas, and meeting/event rooms), a visitors center, product demonstration areas, a film studio, gathering terraces and private gardens, and space for other Meta accessory uses. Accessory uses could occur in spaces located anywhere throughout the Campus District.

- **Natural Gas**: The Project would consume 3,806 million BTUs of natural gas per year, which represents a decrease in natural gas demand of 26,468 million BTUs per year compared to existing conditions (i.e., 30,274 million BTUs per year).
- **Other Fuel:** In total, the Project would consume 454,476 million BTUs of gasoline and diesel fuel per year. This represents an increase in demand of 235,273 million BTUs per year compared to existing conditions (i.e., 144, 546 million BTUs per year of gasoline and 74,657 million BTUs per year of diesel).

Buildout of the Proposed Project would increase operational energy consumption on the Project Site by approximately 440,316 million BTUs compared with existing conditions. However, energy use per sf would decrease to 0.20 million BTU per sf compared with the existing condition, which is 0.29 million BTU per sf, despite the increase in building area.

To the extent that electricity for the Proposed Project would come from sources that can be renewed, such as hydropower, sun, wind, and geothermal, it would not represent an irreversible use of resources. To the extent that electricity for the Proposed Project comes from non-renewable sources, such as natural gas, coal, and nuclear, it would represent an irreversible use of those resources.

As discussed in Section 3.2, *Aesthetics*, construction of the Proposed Project would increase the total building area on the main Project Site by more than 2.6 million sf compared to existing conditions. Therefore, building massing and height would increase, resulting in greater visibility of the onsite buildings compared with existing conditions. However, the physical changes would not substantially affect surrounding views. Scenic views would continue to be available from publicly accessible vantage points, between buildings, and over lower-intensity areas. Of the 925 trees on the Project Site, inclusive of Hamilton Avenue Parcels North and South, 821 are proposed for removal, 269 of which qualify as heritage trees. Consistent with Chapter 13.24 of the Menlo Park Municipal Code, the Proposed Project would obtain a permit to remove protected heritage size trees and pay applicable fees. Furthermore, the proposed landscape plan for the main Project Site includes approximately 822 new trees, which is more that the number of trees proposed for removal on the main Project Site. Additional new trees would be planted on Hamilton Avenue Parcels North and South; however, conceptual landscape plans have not been identified at this time. Heritage tree replacements for both the main Project Site and Hamilton Avenue Parcels North and South would meet the City's replacement value requirements, based on the valuation of the existing heritage trees proposed to be removed.

As discussed in Section 3.12, *Hazards and Hazardous Materials*, accidents such as release of hazardous materials, may trigger irreversible environmental damage. Hazardous materials that would be used at the Project Site include materials that are typical in residential and commercial applications, such as solvents, cleaning agents, paints, petroleum fuels, propane, and batteries. These would be used in small, localized amounts. Site occupants could be exposed to hazardous materials under the following scenarios: site cleanup, improper handing or use of hazardous materials or hazardous wastes during occupancy of the Project Site, a transportation accident, environmentally unsound disposal methods, and/or emergencies such as fires or explosions. However, federal, state, and local regulations applicable to the Project, would reduce public health and safety risks. The Project is not expected to create a significant hazard to public health or the environment.

4.3 Growth-Inducing Impacts

CEQA Section 21100(b)(5) specifies that the growth-inducing impacts of a project must be addressed in an EIR. Section 15126.2(e) of the CEQA Guidelines provides the following guidance for assessing growth-inducing impacts of a project:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant, for example, could allow more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can induce growth directly, indirectly, or both. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- Substantial short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- Substantial new permanent employment opportunities (e.g., commercial, industrial, or government enterprises); and/or
- Removal of an obstacle to additional growth and development, such as remove a constraint on a required utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may lead to foreseeable environmental effects. If substantial growth inducement occurs, it could result in secondary environmental effects, such as increased demand for housing, the construction of which could cause environmental effects; demand for other community and public facilities; demand for infrastructure, the construction of which could cause environmental effects; increased traffic and noise; degradation of air or water quality; degradation or loss of plant or animal habitats; conversion of agricultural and open-space land to urban uses; and other effects.

Growth Inducing Impacts of the Proposed Project

Short-term Employment Opportunities

As discussed in Section 3.13, *Population and Housing*, the size of the construction workforce would vary during the different phases of construction, but it is anticipated that the maximum number of construction workers onsite would be between 1,125 and 1,837 in 2024 and 2025. It is anticipated that construction workers would be hired from Bay Area sources. Although some would commute from outside the Bay Area, because of the temporary nature of construction, these workers would not be expected to relocate permanently. Therefore, the Proposed Project would not induce population growth by bringing substantial numbers of construction jobs to the area or result in associated increases in demand for housing.

Permanent Employment Opportunities

Operation of the Proposed Project would generate up to 4,332 net new jobs onsite at full buildout. In addition, the Proposed Project would induce approximately 523 offsite jobs that would serve residents of the proposed housing. Job creation, which is driven by increased demand for products and services, was projected for each industry that would serve the new households. Spending by residents is estimated to generate 642 jobs. Of that total, 119 are estimated to be captured as part of the onsite employment totals for grocery, retail, and dining uses. Although residents are anticipated to meet a significant share of the need within the onsite uses, not all retail categories would be available onsite. Services such as medical care and others would be located offsite. Furthermore, onsite retail and dining would also serve a wider customer base that would include local residents, workers, and hotel guests, in addition to new residents of the Proposed Project.[2] Using the assumption that 5.9 percent of people who live in Menlo Park also work in the city, this would equate to approximately 31 new offsite jobs in Menlo Park.

ABAG estimates that the number of jobs in the city's sphere of influence will grow by approximately 6,065 between 2020 and 2040. Therefore, the number of direct and indirect employees generated by the Proposed Project in Menlo Park would equal approximately 72 percent[3] of the anticipated employment growth in the city from 2020 to 2040, which is within the anticipated employment growth forecasts. Therefore, the number of employees generated by the Proposed Project would not exceed ABAG projections, and the Proposed Project would not result in an increase in city population or demand for housing that would exceed ABAG projections.

Removal of an Obstacle to Additional Growth

Development of infrastructure could remove obstacles to population growth if it would allow for development in an area that was not previously considered feasible for development because of infrastructure limitations. As discussed in Section 3.15, *Utilities and Service Systems*, the Proposed Project would result in the construction of water system infrastructure, sewer infrastructure, and upgrades to the PG&E Ravenswood substation. The Proposed Project is an infill development within an already-developed area of the city. The infrastructure improvements are intended to serve Project-related demand. These improvements would not extend infrastructure into unserved or underserved areas or provide excess infrastructure capacity. Therefore, no indirect impacts related to population growth as a result of expansion of infrastructure would occur.

The Project would also realign Hamilton Avenue to provide an improved onsite circulation pattern. However, existing roadway connections along Hamilton Avenue would be maintained. Therefore, the Proposed Project would not result in roadway improvements that would provide access to a previously inaccessible area, as such, no indirect impacts related to population growth would occur.

[2] Keyser Marston Associates. 2021. *Willow Village Master Plan Project Housing Needs Assessment.* July.

[3] The 4,332 net jobs at the Project Site + 31 new jobs in the city induced by the onsite residents/6,065 new jobs in the city between 2020 and 2040 × 100 = 72 percent of anticipated employment growth in the city's sphere of influence.

Chapter 5
Variants

Introduction

This EIR includes an environmental analysis of variants to the Willow Village Master Plan Project (Proposed Project). Variants are variations of the Proposed Project at the same Project Site, with the same objectives, background, and development controls but with a specific variation. With the exception of the Increased Residential Density Variant (studied for policy purposes in the event the City desires to consider it), the variants are slightly different versions of the Project that could occur based upon the action or inaction of agencies other than the City or of property owners outside the Project Site. Because the variants could increase or reduce environmental impacts, this chapter describes and analyzes the associated environmental impacts for the following four variants to the Proposed Project:

- **No Willow Road Tunnel Variant.** This variant considers a scenario where the Willow Road Tunnel would not be constructed as part of the Proposed Project and Meta trams would continue to use the public street network, Bayfront Expressway, and Willow Road to access the proposed Campus District. Without the Willow Road Tunnel, bikes and pedestrians traveling between the main Project Site and the West/East Campus would need to use at grade crossings. All other development components of the Proposed Project would continue to be proposed under this variant. This variant is analyzed to disclose environmental impacts that would occur if agencies other than the City with jurisdiction over the Willow Road Tunnel do not approve the Willow Road Tunnel. In addition, because this option would avoid significant noise impacts associated with constructing the Willow Road Tunnel, this option is included as an alternative to the Project that could be selected by the City Council, and is thus fully analyzed in Chapter 6, *Alternatives*, of this EIR.
- **Increased Residential Density Variant.** This variant would increase the number of residential dwelling units by approximately 200, for a total of 1,930 residential units at the main Project Site. All other components of the Proposed Project would remain. This variant is analyzed to disclose environmental impacts that would occur in the event that the City Council desires to increase the number of residential units in the Proposed Project.
- **No Hamilton Avenue Realignment Variant.** This variant would alter the proposed circulation network east of Willow Road to accommodate retaining the Willow Road/Hamilton Avenue intersection in its current alignment. The overall development program for the Proposed Project would remain unchanged. This variant is analyzed to disclose environmental impacts that would occur if affected property owners and/or agencies other than the City with jurisdiction over the Hamilton Avenue Realignment do not approve the Hamilton Avenue Realignment.
- **Onsite Recycled Water Variant.** This variant would provide recycled water to the main Project Site through onsite treatment of wastewater. The onsite treatment and production of recycled water would involve capturing wastewater, including blackwater (e.g., water from toilet flushing, food preparation drains), from all proposed buildings. All other proposed features of the Project would remain the same. This variant is analyzed to disclose environmental impacts that would occur if West Bay Sanitary District does not construct its project that would provide recycled water to the main Project Site in time to serve the Proposed Project, and the applicant instead constructs onsite treatment facilities.

These variants would modify limited features or aspects of the Proposed Project to address potential variations in the Proposed Project that could occur. In contrast, the alternatives to the Proposed Project (as described and analyzed in Chapter 6, *Alternatives*) are designed to meet the requirements of CEQA Guidelines Section 15162.6. Alternatives must meet most of the basic Proposed Project objectives and avoid or lessen one or more of the significant environmental impacts of the Proposed Project.

The proposed variants would not change the basic characteristics of the Proposed Project. Rather, each variant would change the design of the Proposed Project in a discrete way. Each variant is analyzed at the same level of detail as the Proposed Project, when warranted, and available for selection by the Project Sponsor and decision-makers as part of an approval action.

Description of Variants Considered

Variant 1: No Willow Road Tunnel Variant

The No Willow Road Tunnel Variant is analyzed to give decision-makers the ability to approve the Project as proposed but also approve a variation without the Willow Road Tunnel. In the event that the California Department of Transportation (Caltrans) does not approve the proposed Willow Road Tunnel, Meta trams would use the public street network, Bayfront Expressway, and Willow Road to access the proposed Campus District. Historically, three Meta tram routes (Teal, Gold, and Orange lines) have serviced the main Project Site. Without the Willow Road Tunnel, the Meta trams would continue to operate as they do currently.

The Teal and Orange lines would travel towards Willow Road within the Bayfront Campus (West Campus), then make a right turn onto Willow Road and enter the main Project Site by making a left turn at either Main Street or Park Street. In the eastbound direction, trams would use Willow Road, then make a left turn onto Bayfront Expressway. The Orange Line enters the West Campus at the transit-only entrance (at Building 20); the Teal Line continues to Chilco Street to access the Chilco transit hub. Without the tunnel connection, the Gold Line that operates between the East Campus and the main Project Site would continue to use Willow Road, as it does currently.

Most bicyclists and pedestrians would use on-street bicycle lanes and sidewalk improvements when accessing the proposed Campus District by traveling through the Willow Road corridor and crossing the Willow Road and Main Street/Hamilton Avenue intersection. Bicyclists and pedestrians desiring to access the San Francisco Bay Trail (Bay Trail) or Meta campuses would use the bicycle/pedestrian trail within the City public utility easement adjacent to and immediately west of Willow Road or the Elevated Park. Bicyclists and pedestrians would access the Elevated Park using publicly accessible stairs and elevators within or adjacent to Hamilton Avenue Parcel North and the Town Square.

Variant 2: Increased Residential Density Variant

The Increased Residential Density Variant is analyzed to give the City an option to approve increased residential density instead of the residential density proposed by the Project Sponsor. This variant would increase the number of residential dwelling units by approximately 200, for a total of up to 1,930 residential units at the main Project Site. No other changes to the Proposed Project would occur under this variant.

To accommodate the additional dwelling units, proposed building heights would increase, but the overall building footprints would remain as proposed under the Project. Two development scenarios for increased heights are being considered, as follows:

- **Scenario 1:** The additional residential units would be distributed within two or three of the currently proposed mixed-use buildings. To accommodate the additional dwelling units, the buildings containing the additional units would be up to 86 feet high. In comparison, the maximum height of the mixed-use buildings under the Proposed Project would range from approximately 53 to 66 feet.
- **Scenario 2:** The additional residential units would be contained in a single building. To accommodate the additional dwelling units, the height of one mixed-use building proposed under the Project would increase from approximately 53 to 66 feet to approximately 120 feet. Because of the increased height, the 120-foot building would be Type 1 concrete construction instead of the Type 3 wood-frame construction proposed as part of the Project.

The additional height under both scenarios would be needed to accommodate the additional units, along with 200 additional parking for the units, for a total of 1,870 parking spaces. The additional parking would not be constructed deeper below ground than the parking proposed as part of the Project and would not require additional ground disturbance during construction. The additional parking needed to accommodate the increased number of dwelling units could be provided by adding an additional floor to the podium or using mechanical parking improvements.

To accommodate the additional unit count, floor area ratio (FAR), density, and height needed to provide the additional units, this variant would require one or a combination of the following:

- Bonus and incentives pursuant to the City's Below-Market-Rate Housing Program (Menlo Park Zoning Code Section 16.96.040);
- Density bonus and/or incentives/concessions/waivers pursuant to the State Density Bonus Law; and/or
- Zoning adjustment from the Conditional Development Permit (CDP).

Variant 3: No Hamilton Avenue Realignment Variant

The No Hamilton Avenue Realignment Variant is analyzed to give decision-makers the ability to approve the Project as proposed but also approve a variation without realignment of Hamilton Avenue. In the event that the Project Sponsor does not receive approval from Caltrans or affected property owners for the modifications to Willow Road necessary to realign Hamilton Avenue, the intersection of Willow Road and Hamilton Avenue would remain at its present location and the Project modifications discussed below would occur.

The overall development program for the Proposed Project would remain unchanged; however, this variant would alter the circulation network east of Willow Road to allow the Willow Road/Hamilton Avenue intersection to maintain its current alignment. As shown on Figure 5-1, Variant 3: Conceptual Vehicular Circulation Plan, under the No Hamilton Avenue Realignment Variant, Main Street would be realigned. Specifically, it would extend east and south from Willow Road to form the western boundary of the Office Campus and create three intersections at North Loop Road, Center Street, and Park Street, then terminate at a roundabout intersection with O'Brien Drive. In addition, West Street would be adjusted to terminate at Willow Road and create a right-in-only/right-out-only, non-signalized intersection. The portion of the West Street right-of-way perpendicular to Willow Road is referred to as Village Avenue under Variant 3.

LEGEND	
	Vehicular Route
	Restricted Vehicular Route
	Sub-grade Vehicular Route
R	Passenger Loading / Drop-off (Metered Parking at Off-Peak Hours)
R	Passenger Loading / Drop-off
	Garage Access
	FB Commuter Shuttle and Tram Only Approach

Note: Proposed primary vehicle route is conceptual and may be subject to change.

Source: Peninsula Innovation Partners, 2022.

Graphics ... 104393 (3-22-2022) JC

ICF

Figure 5-1

Variant 3: Conceptual Vehicular Circulation Plan

The adjustment to the Main Street alignment would result in modifications to the parcels that compose the Town Square and hotel parcel. The modifications would locate both uses between Main Street, West Street, and Parcel 3. As with the Proposed Project, the hotel parcel would be adjacent to the Town Square. The residual area north of Main Street and west of North Loop Road would serve as a landscaped open space for the Campus District.

The existing land uses on Hamilton Avenue Parcels North and South would remain. At Hamilton Avenue Parcel North, the site would continue to house 15,700 square feet (sf) of restaurant/retail uses at 871–883 Hamilton Avenue (Belle Haven Retail Center) and 1401 Willow Road (Jack in the Box restaurant). The Chevron service station at Hamilton Avenue Parcel South would continue to operate at its current location and capacity, with 12 gas pumps, approximately 3,270 sf of retail space, and a 1,500 sf car wash.

Variant 4: Onsite Recycled Water Variant

The Onsite Recycled Water Variant is analyzed to give decision-makers the ability to approve the Project as proposed but also approve a variation with onsite recycled water facilities. In the event that that West Bay Sanitary District (WBSD) does not construct its proposed Bayfront Recycled Water Plant, which would provide recycled water for Willow Village, in time to serve the Proposed Project, the Onsite Recycle Water Variant would provide recycled water at the main Project Site through the onsite treatment of wastewater. Under this variant, the onsite treatment and production of recycled water would involve capturing wastewater, including blackwater (e.g., water from toilet flushing, food preparation drains), from all proposed buildings. As with the Proposed Project, all proposed buildings would have dual plumbing.

The recycled water would be used for irrigation, toilet flushing, and cooling. To meet projected demands, this variant would provide four water reuse facilities (WRFs), as follows:

- Plant #1 – Town Square District: Daily capacity of approximately 12,000 to 18,000 gallons per day (gal/d)
- Plant #2 – Residential/Shopping District: Daily capacity of approximately 50,000 to 65,0000 gal/d
- Plant #3 – Residential/Shopping District: Daily capacity of approximately 35,000 to 65,000 gal/d
- Plant #4 – Campus District: Daily capacity of approximately 120,000 to 150,000 gal/d

Under this variant, one WRF would serve the hotel (Plant #1) and two WRFs (Plants #2 and #3) within the Residential/Shopping District would serve six mixed-use parcels. Campus District wastewater would be collected via a private sewer network and treated at one WRF (Plant #4). Each WRF would require a connection to the WBSD sewer network, which would receive excess wastewater and potentially discharges of flowable wastewater treatment residuals.

Permitting. Coordination with multiple regulatory agencies and stakeholders would be required to permit the WRFs. Permits for the treatment, distribution, and use of recycled water would be required and may come in the form of coverage under existing general waste discharge requirement (WDR) and water reclamation requirement orders issued by the State Water Resources Control Board (State Water Board), and/or through issuance of project-specific permits by the San Francisco Bay Regional Water Quality Control Board (Regional Water Board). Furthermore, the State Water Board Division of Drinking Water (DDW) may review any dual-plumbing design during building code reviews and advise the Regional Water Board during its review of the engineering report to provide technical comments on tertiary filtration and disinfection unit processes. It is anticipated that City reviewers would review the construction documents for compliance with building codes. County public health officials might request some involvement.

As described above, each WRF would have a connection to the WBSD sewer system. Any discharges to WBSD facilities would need to be permitted through and coordinated by WBSD to address impacts on downstream infrastructure.

The proposed onsite WRFs would comply with California's Water Recycling Criteria. Recycled water regulations are outlined in the California Code of Regulations (CCR), Title 17 and Title 22. The WRFs would generate non-potable recycled water, classified as "disinfected tertiary recycled water," which is the highest water quality classification (Title 22, Section 60301.230), allowing for indoor reuse and spray irrigation, among other end uses.

The WRFs with treatment capacities of less than 100,000 gal/d (Plants #1, #2, and #3) would qualify for State Water Board Order WQ 2014-0153-DWQ, General Waste Discharge Requirements for Small Domestic Wastewater Treatment Systems. This order specifies effluent limitations for biochemical oxygen demand and total suspended solids, based on technology performance, and total nitrogen, based on the potential for effluent to degrade the environment. Plant #4 would require an Individual Order, given the treatment capacity required to meet non-potable water demands that exceed 100,000 gal/d. General Orders offer a streamlined permitting process, but Individual Orders are more common.

Impact Assessment

This assessment considers the environmental impacts associated with each variant. For some environmental topics, the impacts under a variant would be the same as those of the Proposed Project. For those topics, further analysis is not needed, as explained in this chapter. However, in some cases, the impacts under a particular variant would differ from the impacts identified for the Proposed Project in Chapter 3, *Environmental Impact Analysis*. The differences between the Proposed Project and the variants are analyzed quantitatively throughout this chapter. Unless otherwise stated, all mitigation measures described in Chapter 3 required to reduce impacts associated with the Proposed Project would be applicable to each of the variants.

Variant 1: No Willow Road Tunnel Variant

As described above, this variant also is included as an alternative to the Proposed Project and is evaluated in Chapter 6, *Alternatives*, of this Draft EIR. The City Council could choose to select the No Willow Road Tunnel Alternative to reduce construction noise impacts, and the Willow Road Tunnel would thus not proceed. If the City Council does not select the No Willow Road Tunnel Alternative, then the No Willow Road Tunnel Variant could be approved as part of the Project in light of the potential that Caltrans does not approve the Willow Road Tunnel.

Environmental Topics Not Requiring Further Analysis

Under Variant 1, the Willow Road Tunnel would not be developed, no ground disturbing activities would occur below grade along Willow Road. The Meta trams would use the public street network, Bayfront Expressway, and Willow Road to access the Project Site. Historically, three Meta tram routes (Teal, Gold, and Orange lines) have serviced the main Project Site. Without the Willow Road Tunnel, the Meta trams would continue to operate as they do currently. This Variant assumes that bicyclists and pedestrians would use on-street bicycle lanes and sidewalk improvements when accessing the proposed Campus District by traveling through the Willow Road corridor and crossing the Willow Road and Main Street/Hamilton Avenue intersection. Bicyclists and pedestrians desiring to

access the San Francisco Bay Trail (Bay Trail) or Meta campuses would use the bicycle/pedestrian trail within the City public utility easement adjacent to and immediately west of Willow Road or the Elevated Park.

Project-related ground-disturbing activities would remain the same on the main Project Site and Hamilton Avenue Parcels North and South. Therefore, environmental impacts related to cultural and tribal cultural resources, geology and soils, and hazards and hazardous materials that could result from Project-related ground-disturbing activities would not change under Variant 1. Land use designations would remain the same; therefore, impacts associated with land use and planning would not change under Variant 1. The number of residential units and employment-generating uses on the main Project Site would remain the same. Therefore, environmental impacts related to population and housing as well as public services that could result from Project-related population growth would not change under Variant 1. Under Variant 1, building heights, massing, and overall development on the main Project Site would remain the same. In addition, development on Hamilton Avenue Parcels North and South would remain unchanged. Therefore, environmental impacts related to aesthetic resources would not change under Variant 1. The amount of impervious surface area introduced to the main Project Site during construction would remain the same; therefore, impacts related to hydrology and water quality would not change. Similarly, there would be no change in the environmental impacts associated with biological resources.

Transportation

TRA-1: Conflict with an applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities (LTS)

Under this variant, most of the pedestrian, bicycle, and transit facilities are expected to be the same as the Proposed Project. The only change to these facilities would be the Meta Trams entering the Project Site via Main Street instead of the Willow Road Tunnel, and pedestrian and bicyclists would use surface streets, rather than surface streets and a grade-separated crossing, to access the main Project site. This variant would continue to comply with existing regulations, including City General Plan policies and zoning regulations, and would provide adequate infrastructure for bicyclists and pedestrians. Therefore, it would be consistent with applicable plans, ordinances, and policies that address the circulation system, as shown in Table 3.3-4 in Section 3.3, *Transportation*; impacts would be ***less than significant.***

TRA-2: Exceed an applicable VMT threshold of significance (LTS/M)

As discussed above, this variant assumes no change in land use on the main Project Site and on the Hamilton Avenue Parcels. Therefore, this variant would have no effect on internalization rates or trip generation rates. The proposed Project TDM measures would achieve the same effectiveness in terms of trip reduction percentages. Furthermore, the change in access and site circulation for the Meta Trams are not expected to have any effect on VMT for any of the proposed land uses (e.g., office, residential, hotel, retail). Variant 1 would be required to comply with Project Mitigation Measure TRA-2 and VMT conclusions would remain the same as under the Proposed Project. The impact would be ***less than significant with mitigation***.

TRA-3: Substantially increase hazards due to a design feature or incompatible uses (LTS/M)

Under this variant, Meta Trams would enter the Project Site via Main Street instead of the Willow Road Tunnel. Variant 1 would not introduce any new design features or incompatible uses that could cause potentially hazardous conditions, although it could result in potential additional conflicts between

vehicles, pedestrians, and bicyclists at surface street intersections; however, off-site multi-model improvements would continue to be required under Variant 1 to address site access for bicyclists, pedestrians, and vehicles. The driveway sight-distance issue at the North Garage would remain the same as under the Proposed Project. Variant 1 would be required to comply with Project Mitigation Measure TRA-3 and the impact conclusion for this variant would remain the same as under the Proposed Project. The impact would be ***less than significant with mitigation***.

TRA-4: Result in inadequate emergency access (LTS)

Under this variant, Meta Trams would enter the Project Site via Main Street instead of the Willow Road Tunnel. However, this would not result in inadequate emergency access. Emergency access to the Project Site and nearby hospitals would be similar to that under the Proposed Project. Therefore, the impact would be ***less than significant.***

Non-CEQA Analysis

Level of Service

Variant 1 would result in a greater increase in average critical delay at the site-accessing intersections of Willow Road and Hamilton Avenue during the a.m. peak hour and Willow Road and Park Street during both peak hours compared to the Proposed Project (see Table 5-1). However, the increase in average critical delay would not create additional deficiencies. Both intersections would continue to be deficient and non-compliant under this variant per City guidelines. Physical improvements are considered infeasible at these intersections because of right-of-way constraints and/or adverse effects on bicyclist and pedestrian travel, as described in Chapter 3.3, *Transportation*.

As identified for the Proposed Project, implementing recommended multi-modal facilities along the corridor (from the City's Transportation Impact Fee program) could shift some motorists to alternative modes of travel and reduce congestion. With implementation of multi-modal improvements, intersection deficiencies could be reduced, partially addressing Variant 1's share of the non-compliant operations along Willow Road.

Because there would be no change to overall trip generation under this variant, the LOS conclusions for other study intersections are expected to remain the same as under the Proposed Project.

Queuing

The additional transit trips at the Hamilton Avenue/Main Street & Willow Road intersection would increase the 95th percentile queue for the westbound left turn from Willow Road to Main Street by 100 feet during the AM and PM peak hours (see Table 5-2). Compared to the Proposed Project, the queue would continue to exceed the proposed storage length. Similar to the Proposed Project, if the westbound left turn lanes on Willow Road become saturated, it is assumed that vehicles would choose to instead enter the project site via Park Street. It is assumed that the demand queue could be accommodated between the left turn lanes at these two intersections on Willow Road.

Table 5-1. Level of Service Comparison for No Willow Road Tunnel Variant

			Near-Term (2025) Conditions							
			No Project		Proposed Project			No Hamilton Avenue Realignment		
#	Intersection	Peak Hour	Avg. Delay (secs)	LOS	Avg. Delay (secs)	LOS	Incr. in Avg. Crit. Delay (secs)	Avg. Delay (secs)	LOS	Incr. in Avg. Crit. Delay (secs)
17	Willow Road and Hamilton Avenue[a]	AM	**OVERSAT**	**F**	**OVERSAT**	**F**	**54.0**	**OVERSAT**	**F**	**67.0**
	Hamilton Avenue Southbound		***64.9***	***E***	***> 120***	***F***	***< 0.8***	***> 120***	***F***	***< 0.8***
	Main Street Northbound		***83.3***	***F***	***113.7***	***F***	***> 120***	***> 120***	***F***	***> 120***
		PM	**OVERSAT**	**F**	**OVERSAT**	**F**	***> 120***	**OVERSAT**	**F**	***> 120***
	Hamilton Avenue Southbound		***> 120***	***F***	***> 120***	***F***	***< 0.8***	***> 120***	***F***	***< 0.8***
	Main Street Northbound		***> 120***	***F***	***> 120***	***F***	***>120***	***> 120***	***F***	***> 120***
18	Willow Road and Park Street (future intersection)[a]	AM	Project Intersection		**OVERSAT**	**F**	**53.0**	**OVERSAT**	**F**	**53.0**
		PM			**OVERSAT**	**F**	**23.1**	**OVERSAT**	**F**	**23.1**
29	O'Brien Drive/Loop Road and Main Street/O'Brien Drive (future intersection)	AM	Project Intersection		7.4	A	7.4	7.4	A	7.4
		PM			9.2	A	9.2	9.3	A	9.2

LOS = level of service

"OVERSAT" indicates that the SimTraffic microsimulation model indicates that the intersection would experience capacity issues where the demand cannot be served by the intersection. Oversaturated intersections would operate at LOS F.

a. Intersections were analyzed using Synchro/SimTraffic software because of the proximity of the intersections. Changes in average delay and critical delay were calculated using Vistro.

Bold indicates substandard level of service

Bold indicates noncompliance. The Proposed Project exceeds thresholds in the City of Menlo Park's Transportation Impact Analysis guidelines.

Table 5-2. Queueing Comparison for No Willow Road Tunnel Variant

	Hamilton Avenue/Main Street and Willow Road				Park Street and Willow Road			
	WB Lane		NB Lane		WB Lane		NB Approach[c]	
Measurement	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Near-Term Plus Project (Proposed Project)								
Volume (vph)	337	284	18	75	205	150	352	720
Lanes	2	2	1	1	2	2	2	2
Volume (vphpl)	169	142	18	75	103	75	176	360
95th % Queue[a] (vehicle)	11	25	2	4	8	2	10	10
95th % Queue[b] (feet)	275	625	50	100	200	50	250	250
Storage (feet/lane)	230	230	225	225	250	250	225	225
Adequate (Y/N)	N	N	Y	Y	Y	Y	N	N
Near-Term Plus Project (No Willow Road Tunnel Variant)								
Volume (vph)	373	320	18	75	205	150	352	720
Lanes	2	2	1	1	2	2	2	2
Volume (vphpl)	187	160	18	75	103	75	176	360
95th % Queue[a] (vehicle)	15	29	2	4	8	2	10	10
95th % Queue[b] (feet)	375	725	50	100	200	50	250	250
Storage (feet/lane)	230	230	225	225	250	250	225	225
Adequate (Y/N)	N	N	Y	Y	Y	Y	N	N

Notes:

WB = westbound; NB = northbound; vph = vehicles per hour; vphpl = vehicles per hour per lane

a. Vehicle queues are from Vistro outputs and are rounded up to the next whole number.

b. Assumes 25 feet per vehicle queued

c. NB approach has one left-turn lane and one shared left-right lane. Volumes represent the total approach volume.

Freeway Segments Analysis, Freeway Ramps and Roadway AADT Analysis

The No Willow Road Tunnel Variant would add 36 shuttle trips in each direction on Willow Road between Hamilton Avenue and Bayfront Expressway, and on Bayfront Expressway west of Willow Road during the AM and PM peak hours. All of the above-mentioned freeway segments are operating at LOS C or above from a volume-to-capacity perspective (see Table 3.3-15 in Chapter 3.3, Transportation). These additional shuttle trips would have a minimal effect on the freeway segment levels of service and would not cause a new adverse freeway segment effect. Therefore, analysis conclusions for freeway ramps under the Proposed Project description would remain the same under this variant.

This variant maintains the same land use intensities compared to the Proposed Project. The shuttle trips that would no longer utilize the Willow Road tunnel would not add traffic onto any of the studied freeway ramps or roadway segments. Therefore, analysis conclusions for freeway ramps and roadway AADT under the Proposed Project would remain the same under this variant.

Air Quality

Impact AQ-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan. Variant 1 would conflict with or obstruct implementation of the applicable air quality plan (SU).

Similar to the Proposed Project, Variant 1 would be consistent with applicable stationary-source control measures, energy control measures, building control measures, and waste control measures included in the Clean Air Plan. Construction activity under Variant 1 would be reduced; however, emissions would not be reduced to a level that would change the significance findings. With implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, Variant 1 would result in less-than-significant impacts related to NO_X emissions and TAC exposures. Variant 1 would also be consistent with transportation control measures with implementation of Mitigation Measure TRA-1. However, operational ROG emissions would remain above the BAAQMD ROG threshold after implementation of all mitigation measures. Therefore, Variant 1 would possibly disrupt or hinder implementation of the current Clean Air Plan, and this impact would be ***significant and unavoidable***.

Impact AQ-2: Cumulatively Considerable Net Increase in Criteria Pollutants. Variant 1 would result in a cumulative net increase in a criteria pollutant for which the Project region is classified as a nonattainment area under an applicable federal or state ambient air quality standard (SU).

Construction

Similar to the Proposed Project, construction of Variant 1 would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X. Unmitigated particulate matter exhaust emissions would not exceed BAAQMD's particulate matter exhaust thresholds. Construction activity under Variant 1 would be reduced; however, emissions would not be reduced to a level that would change the significance findings. After implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, construction criteria pollutant emissions would be below all applicable BAAQMD thresholds. Therefore, construction activities would not result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to federal or state ambient air quality standards. This impact would be ***less than significant with mitigation.***

BAAQMD's CEQA Guidelines consider fugitive dust impacts to be less than significant with application of BMPs, which are included in ConnectMenlo Mitigation Measure AQ-2b1. The BMPs require applicants for future development projects to comply with BAAQMD's basic control measures for reducing construction emissions of PM_{10}. If BMPs are not implemented, dust impacts would be potentially significant. Therefore, BMPs would be required and implemented to reduce impacts from construction-related fugitive dust emissions, including any cumulative impacts. With implementation of ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2, fugitive dust emissions would be reduced, and the impact would be ***less than significant with mitigation*.**

Operation

Operational emissions under Variant 1 would be slightly reduced due to a reduction in landscaping emissions near the Willow Road Tunnel area. However, the change in emissions would be minimal and would not be reduced to a level that would change the significance findings. Further, the travel changes in Tram routes would result in slight changes in the overall distance traveled and amount of time idling, and would not result in a significant measurable amount of emissions associated with their travel. Similar to the Proposed Project, net operation of Variant 1 would not generate levels of NO_X or particulate matter that would exceed BAAQMD-recommended mass emission thresholds. However, operation of Variant 1 would generate levels of ROG that would exceed BAAQMD's ROG threshold. ROG emissions from consumer products would constitute the majority of operational ROG emissions associated with the Proposed Project and Variant 1. Therefore, unmitigated operation of Variant 1 would result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards.

Implementation of Mitigation Measure AQ-1.2 would decrease full-buildout operational ROG emissions under Variant 1. Mitigation Measure AQ-1.2 requires the Project Sponsor to use architectural coatings with a low VOC content at all buildings. However, net mitigated operational ROG emissions would still exceed BAAQMD's ROG threshold. Most of the emissions that would contribute to this exceedance would result from the volume of consumer products used, which is dependent on a project's size. Larger projects have more people who use more consumer products, such as hair spray, deodorant, cleaning products, etc., than smaller projects but are subject to the same mass emissions threshold. The City and Project Sponsor have minimal control over what consumer products users purchase, and there are no additional mitigation measures to reduce ROG from consumer products. Other main contributors to ROG emissions are vehicles. As discussed in the *Transportation* section above, with mitigation, Variant 1 would comply with the City's VMT threshold. Therefore, mitigated operation of Variant 1 would result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards. This impact would be ***significant and unavoidable***.

Construction and Operations

Construction is expected to occur during operation because Variant 1 would be constructed over a period of several years. In years when construction is scheduled to coincide with operation, construction emissions were combined with operational emissions. This analysis conservatively assumed that the buildings constructed in each year of the construction program would be occupied and fully operational upon completion. This is conservative because occupancy and operation of each phase would very likely ramp up over time. Construction and operational emissions under Variant 1 would be reduced due to lack of construction of the Willow Road Tunnel. However, the change in emissions would not be reduced to a level that would change the significance findings.

Similar to the Proposed Project, construction plus operation of Variant 1 would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X. Unmitigated particulate matter emissions would not exceed BAAQMD's particulate matter thresholds. After implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 as well as ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2, construction plus net operational emissions would remain in excess of BAAQMD's recommended threshold for ROG. Therefore, mitigated construction plus operation of Variant 1 would result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards. This impact would be ***significant and unavoidable*****.**

Impact AQ-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations. Variant 1 would expose sensitive receptors to substantial pollutant concentrations (LTS/M).

Localized Carbon Monoxide Hot Spots

Under Variant 1, maximum traffic volumes at the intersections under all scenarios would be less than BAAQMD's recommended screening criterion of 44,000 vehicles per hour, consistent with the Proposed Project. Therefore, implementation of Variant 1 would not result in, or contribute to, a localized concentration of CO that would exceed the applicable NAAQS or CAAQS. The impact would be ***less than significant***.

Toxic Air Contaminants

Asbestos

Under Variant 1, the risk of exposure to asbestos during demolition of the existing hardscape (asphalt and concrete) and buildings on the Project Site would remain the same. Therefore, implementation of Variant 1 would not change environmental impacts related to exposure to asbestos emissions during construction. The impact would be ***less than significant***.

Criteria Air Pollutants

As discussed above under Impact AQ-2, construction emissions as a result of Variant 1 would be below the BAAQMD thresholds of significance. Operational emissions as a result of the variant would be below BAAQMD thresholds of significance for all pollutants, excluding ROG, as summarized above under Impact AQ-2. Results from assessments completed for other similarly sized projects in the SFBAAB have shown that health impacts from exceedances of BAAQMD's ROG and NO_X thresholds would be minimal. As noted above, although only Variant 1 operational ROG emissions would exceed thresholds of significance, emissions of both NO_X and ROG are presented for three projects in the Bay Area for comparison to Variant 1 because NO_X and ROG are the primary precursors to ozone. For example, for the three projects in the Bay Area with ROG and NO_X emissions that ranged from 79 to 458 lbs/day and 125 to 153 lbs/day, respectively, potential health effects were far below background incidence rates for all health endpoints.[1] Variant 1 is estimated to generate reduced amounts of NO_X and ROG compared to the Proposed Project. However, the change in emissions would be minimal and would not be reduced to a level that would change the impact determination. Therefore, similar to the Proposed Project, health impacts would be de minimis.

[1] Ramboll US Corporation. 2022. *CEQA Air Quality, Greenhouse Gas and Health Risk Assessment Technical Report*. February. Accessed: February 21, 2022.

Toxic Air Contaminants and Localized $PM_{2.5}$

Construction plus Operations

Similar to the Proposed Project, the unmitigated health risk results under Variant 1 would not exceed BAAQMD's recommended health risk thresholds for the non-cancer hazard index; however, BAAQMD's cancer risk and annual $PM_{2.5}$ concentration thresholds would be exceeded. Therefore, impacts would be potentially significant without mitigation. Variant 1 would move traffic of trams, bicyclists and pedestrians from the tunnel to the Willow Road corridor. However, this change in location of emissions and potential increase in idling would have de minimis impact on health risks due to the minimal change in location and the distance from sensitive populations.

To mitigate the cancer risk and $PM_{2.5}$ concentration exceedances, Project Mitigation Measure AQ-1.1 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR would be implemented. Similar to the Proposed Project, Variant 1 would trigger the requirement for and be consistent with Mitigation Measure AQ-3b. ConnectMenlo Mitigation Measure AQ-3a would not apply. With implementation of Project Mitigation Measure AQ-1.1 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, the incremental increase in health risks would be less than all BAAQMD-recommended health risk thresholds. Therefore, mitigated construction and operational emissions would not expose sensitive receptors to substantial pollutant concentrations and associated health risks, and impacts would be ***less than significant with mitigation*.**

Operations Only

Similar to the Proposed Project, the unmitigated health risk from operations under Variant 1 would be less than all BAAQMD-recommended health risk thresholds. Variant 1 would trigger the requirement for and be consistent with ConnectMenlo EIR Mitigation Measure AQ-3b. ConnectMenlo Mitigation Measure AQ-3a would not apply. Therefore, unmitigated operational emissions would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be ***less than significant.***

Impact AQ-4: Other Air Emissions. Variant 1 would result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people (LTS/M).

Similar to the Proposed Project, Variant 1 would also contain a wastewater pump station in the southwest corner of the site. Wastewater Pumping Facilities are land uses listed in BAAQMD's Odor Screening Distances Table. Variant 1 would also be required to comply with Project Mitigation Measure AQ-1.4. Therefore, implementation of Variant 1 would not change environmental impacts related to objectionable odors. The impact would be ***less than significant with mitigation*.**

Energy

Impact EN-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources. Variant 1 would not result in potentially significant environmental impacts due to the wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. (LTS)

Construction

Variant 1 would not have an appreciable effect on construction-related energy usage compared to the Proposed Project. Therefore, construction of Variant 1 would not change environmental impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources. Similar to the Proposed Project, construction under Variant 1 would utilize construction equipment with higher-tier engines

(Tiers 3 and 4), include limitations on idling, comply with waste reduction requirements, and use grid power rather than generators once available at the construction site; therefore, construction would result in a ***less-than-significant*** energy impact

Operation

Operational energy consumption under Variant 1 would be the same as the Proposed Project. The change in circulation patterns due to the removal of the Willow Road Tunnel would have a negligible impact on energy use associated with vehicle travel. Therefore, operation of Variant 1 would not change environmental impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources. The impact would be ***less than significant*.**

Impact EN-2: Conflict with Energy Plan. Variant 1 would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (LTS)

Similar to the Proposed Project, Variant 1 would comply with local plans that address energy efficiency to achieve the state's RPS mandates, including PG&E's and PCE's 2020 IRPs and the City's CAP. The City General Plan and Menlo Park Municipal Code also include goals, policies, and requirements related to energy use and energy reductions. Therefore, implementation of Variant 1 would not change environmental impacts related to a potential conflict with state or local plan for renewable energy or energy efficiency. The impact would be ***less than significant*.**

Greenhouse Gas Emissions

Impact GHG-1a: Generation of GHG Emissions during Construction. Construction of Variant 1 would generate GHG emissions that may have a significant impact on the environment. (LTS)

Construction under Variant 1 would be slightly reduced and ***less than significant***. Similar to the Proposed Project, although construction GHG emissions would be less than significant, under Variant 1, the Project Sponsor would comply with feasible and practical construction-related measures suggested in the 2017 Scoping Plan (specifically, the measures in Appendix B to the 2017 Scoping Plan that would be imposed as conditions of approval on the Proposed Project) as applicable, which would further reduce the level of GHGs associated with construction. Construction of the Proposed Project would not generate GHG emissions that could have a significant impact on the environment.

Impact GHG-1b: Generation of GHG Emissions during Operation. Operation of Variant 1 would generate GHG emissions that may have a significant impact on the environment. (LTS/M)

Operational emissions under Variant 1 would be slightly reduced due to a negligible reduction in landscaping emissions near the Willow Road Tunnel area. However, the change in emissions would be minimal and would not be reduced to a level that would change the significance findings. Similar to the Proposed Project, Variant 1 would result in a substantial reduction in natural gas use compared to existing conditions. Therefore, implementation of Variant 1 would not contribute a significant amount of operational non-mobile-source GHG emissions to existing significant cumulative emissions. The impact would be ***less than cumulatively considerable.***

Operation of Variant 1 would result in mobile-source GHG emissions associated with vehicle trips to and from the Project Site (i.e., Project-generated VMT). Similar to the Proposed Project, Variant 1 would develop and implement TDM programs with trip reduction measures that would reduce vehicle traffic in and around the main Project Site. Together, the TDM measures and Mitigation Measure TRA-1 would meet the City's trip and

VMT reduction targets. With implementation of Mitigation Measure TRA-1, operation of Variant 1 would achieve the City's VMT thresholds, thereby reducing associated mobile-source GHG emissions. Therefore, this impact would be ***less than cumulatively considerable with mitigation*.**

Impact GHG-2: Conflicts with Applicable Plans and Policies. Variant 1 would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs. (LTS/M)

Similar to the Proposed Project, the quantitative efficiency of operations associated with Variant 1 would be aligned with the statewide GHG target for 2030 mandated by Senate Bill 32 as well as the Menlo Park Municipal Code, which requires onsite or offsite renewable energy generation, the use of 100 percent renewable electricity, and/or renewable energy credits and/or certified renewable energy offsets. The City's reach code would significantly limit the onsite combustion of natural gas (an exception could be granted from the reach code by the Environmental Quality Commission, or the Council's designed reviewing body, for onsite commercial kitchens to use natural gas in their cooking facilities). If any natural gas is permitted to be used, the amount would remain less than the amount of natural gas used under existing conditions (and the equivalent energy use would be offset per the requirements of the Zoning Ordinance). The Menlo Park Municipal Code requires a minimum of 15 percent of the parking spaces for passenger vehicles to be EV spaces, with another 10 percent designated EVSE, thereby supporting the projected future vehicle fleet. Also, Variant 1 would be consistent with Plan Bay Area 2040 and 2050, which are regional plans to reduce per-service-population VMT in the San Francisco Bay Area.

Mitigation Measures and Summary.

No mitigation measures are required to achieve net-zero non-mobile-source operational emissions. Implementation of Mitigation Measure TRA-1, which is presented in Variant 1 Transportation analysis above, would ensure that operation of Variant 1 would achieve the City's VMT thresholds, thereby reducing associated mobile-source emissions.

Construction and operation of the buildings associated with Variant 1 would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The buildings would meet a net-zero operational GHG threshold. Implementation of Mitigation Measure TRA-1 would ensure that operation of Variant 1 would result in a level of VMT that would meet the City's VMT thresholds. For these reasons, with implementation of Project Mitigation Measure TRA-1, Variant 1 would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions, thereby reducing this impact to ***less than cumulatively considerable with mitigation*.**

Noise

Impact NOI-1a: Construction Noise. Construction of Variant 1 would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (SU)

Main Project Site Construction Noise Impacts to Offsite Uses

Because the general project location and constructions schedule would not undergo large-scale changes with under this Variant, and because the general equipment list would be the same as that proposed for the Project, construction noise impacts from Project site construction would generally be the same under Variant 1. Specifically, construction noise impacts were governed by the worst-case impact distances and equipment types, which would not change under Variant 1.

As was the case for the Project, all proposed construction equipment would be expected to comply with the 85 dBA at 50 feet threshold from the City Municipal Code, except for pile drivers. In addition, during the daytime hours of 8:00 a.m. to 6:00 p.m., construction noise from Project site activities would have the potential to result in a 10-dB increase over the ambient noise level at nearby noise-sensitive uses. Further, outside of the standards daytime hours of 8:00 a.m. to 6:00 p.m., construction noise may exceed the quantitative Municipal Code noise standards at nearby sensitive uses. As a result, construction noise impacts during daytime, early morning, evening and nighttime hours from the Project Site under Variant 1 would be the same as disclosed for the Project and would be **significant**.

Modified ConnectMenlo Mitigation Measure Noise-1C and Project Mitigation Measures NOI-1.1 and NOI-1.2 would apply under Variant 1 and would reduce noise and the severity of construction noise impacts from the Project Site during daytime, early morning, and evening hours. In addition, Project Mitigation Measure NOI-1.2 includes the installation of a temporary construction noise barrier in various locations, including the perimeter of the main Project Site in areas where construction would occur near residential or school land uses. These construction noise barriers would reduce construction noise effects to the nearby residences and schools, and would likely result in reductions in nighttime concrete pour noise. However, even with implementation, individual pile driver equipment noise may also not be reduced to below the 85 dBA threshold at 50 feet, overall noise may exceed the applicable Municipal Code thresholds, and a 10-dB increase over the ambient level may occur at some nearby sensitive uses. Compared to the Proposed Project, construction noise during daytime, early morning, evening and nighttime hours at the project site would be the same as described for the Project, and would not be reduced to a less-than-significant level. Therefore, as was the case for the Proposed Project, construction noise impacts from construction at the main Project Site and the Hamilton Avenue Parcels would be ***significant and unavoidable*** with mitigation for Variant 1.

Offsite Improvements Construction Noise Impacts

Regarding daytime construction noise from off-site improvements, as was the case with the proposed Project, off-site utility and roadway in the project vicinity would be less than significant because work for these improvements would primarily be limited to daytime hours (except for the limited work within Willow Road), and as a result of the short-term nature of the construction work required for these improvements. In addition, for the utility work, construction would progress linearly at a rate of 50 to 100 feet per day and would not expose the same individual receptors to the louder noise levels for an extended duration as a result of the construction location moving on a day-to-day basis. For these reasons, short-term and temporary construction noise generated during daytime hours for off-site improvements would be considered **less than significant**.

Regarding nighttime off-site improvement construction, some off-site improvements would be required to take place during nighttime hours as a result of being within the Caltrans or SamTrans right of way. Specifically, some waterline work would be required during nighttime hours because of its location within Willow Road. Similarly, PG&E feeder line work within University Avenue would be required to take place during nighttime hours. Under Variant 1, however, the Willow Road Tunnel would not be constructed. This is the off-site construction activity under the project that would result in the greatest noise levels because it would require pile driving. Under Variant 1, construction noise impacts from nighttime construction for the Willow Road Tunnel (including from nighttime pile driving) would not take place, resulting in less substantial nighttime construction noise impacts. However, limited nighttime construction activity for off-site improvements within major thoroughfares (Willow Road and University Avenue) would still take place during the nighttime hours of 10:00 p.m. to 7:00 a.m. under this Variant; as a result, noise from nighttime off-site improvement construction would be significant, as was the case with the proposed project.

Implementation of ConnectMenlo Mitigation Measure NOISE-1c and Project Mitigation Measure NOI-1.1 would reduce the amount of construction noise experienced by nearby noise-sensitive receptors from off-site intersection improvement activities from nighttime off-site improvement work. While this Project-specific mitigation measure would reduce construction noise effects to offsite noise-sensitive uses during nighttime hours, it may not be possible at all times and at all locations to reduce noise levels to less-than-significant levels. For example, locating equipment as far as possible from noise-sensitive uses and equipping equipment with mufflers and sound control devices would reduce noise, but may not reduce the noise increase sufficiently due to the close proximity of residences to the off-site improvement work areas. Further, it is likely infeasible to construct temporary noise barriers around the off-site linear construction work areas for the water line or feeder line, or within the SamTrans/Caltrans right-of-way for short-term intersection improvement work. Therefore, and although off-site improvement construction would be relatively short-term, and the more substantial nighttime construction noise impacts from the Willow Road Tunnel would not occur, construction noise impacts from off-site improvements to noise-sensitive land uses during nighttime hours would be ***significant and unavoidable*** under this Variant.

Impact NOI-1b: Operational Noise. Operation of Variant 1 would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (LTS/M)

Operational Traffic Noise

Similar to the Proposed Project, Variant 1 could result in increased traffic noise in the project vicinity. However, there would be no changes in the segment ADT under this Variant as compared to the proposed Project. Therefore, implementation of Variant 1 in lieu of the proposed project would result in the same traffic noise increases in the Project vicinity. As was the case for the proposed project, Variant 1-related traffic increases would not result in traffic noise increases in excess of thresholds along segments with noise-sensitive land uses, and traffic noise impacts would be ***less than significant.***

Mechanical Equipment Noise

Regarding mechanical equipment, similar equipment would be installed at the Project site under Variant 1 as would be installed under the Project. Based on modeling results, noise from mechanical equipment (such as heating and cooling equipment, including chillers, cooling towers, heat pumps, water pumps, etc.) could result in noise levels in excess of applicable thresholds. As described previously, stationary noise sources are regulated by Chapter 8.06 of the Menlo Park Municipal Code which states daytime noise levels are limited to 60 dBA and nighttime noise levels are limited to 50 dBA. In addition, noise levels from rooftop equipment in the City are limited to 50 dBA at 50 feet. Even if shielding from intervening buildings would reduce noise from project mechanical equipment somewhat, modeling for the Project indicates that equipment noise could still exceed the daytime and nighttime criteria described above, as well as the rooftop equipment noise threshold. Impacts from mechanical equipment under Variant 1 would be **significant**.

Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation measure NOI-1.3 would ensure noise from Project mechanical equipment would comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, impacts from mechanical equipment noise under Variant 1 would be ***less than significant with mitigation***.

Emergency Generator Noise

Under Variant 1, emergency generators would be installed as part of the Project. Similar to the Proposed Project, the emergency generators would result in the generation of audible noise during testing. In the City of Menlo Park, noise must comply with section 8.06.030 of the City Municipal Code, which includes maximum allowable noise levels as measured at the receiving residential property. Noise during daytime hours (7:00a.m. to 10:00 p.m.) in the City is generally limited to 60 dBA, and noise during nighttime hours (10:00 p.m. to 7:00a.m.) is generally limited to 50 dBA. Note that Section 8.06.040(b) of the Municipal Code also states that noise from powered equipment used on a temporary, occasional, or infrequent basis during the hours of eight 8:00 a.m. to 6:00 p.m. Monday through Friday shall be limited to 85 dBA at a distance of 50 feet from the source during the hours of 8:00 a.m. and 6:00 p.m. Testing of the Project emergency generators would take place during the weekday daytime hours listed above. Therefore, this analysis assesses the potential for generator testing noise to exceed the 85 dBA threshold at a distance of 50 feet, and the daytime residential property line (or sensitive use property line) threshold of 60 dBA.

Unattenuated combined engine and exhaust noise from the testing of a 500 to 1,750 kW emergency generator can be in the range of 100 to 102 dBA at a distance of 50 feet. This noise level exceeds the powered equipment limit in the City of 85 dBA at 50 feet. In addition, based on these estimated noise levels, overall noise levels at nearby noise-sensitive land uses would likely exceed the daytime 60 dBA threshold (similar to the Proposed Project).

Because noise from generator testing under Variant 1 would exceed the City's criterion of 60 dBA at the nearest sensitive receptors during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from the testing of the South Garage generators would be considered **significant**.

Project Mitigation Measure NOI-1.4, which would also apply under Variant 1, requires the preparation of a Noise Reduction Plan that includes effective attenuation features. Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation Measure NOI-1.4 would ensure noise from emergency generators during testing would comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, noise impacts from Project emergency generator testing would be ***less than significant with mitigation***.

Other Operational Noise Sources

Similar to the Proposed Project, Variant 1 would be similar enough to the Proposed Project that other operational sources of noise (i.e., amplified music and sound from events, dog park noise, loading dock noise, parking garage noise and shuttle and tram noise) would be ***less than significant.***

Impact NOI-2: Generation of excessive groundborne vibration or groundborne noise levels (Significant and Unavoidable with Mitigation)

Construction Vibration Damage Impacts

Similar to the proposed Project, construction on the main Project Site under Variant 1 (east of Willow Road), would result in vibration levels below the applicable damage thresholds at the nearest off-site residential land uses (150 feet west of Willow Road), school land uses (Mid-Peninsula High School, 1,200 feet from pile driving activity and 10 feet from grading activities, and the Open Mind School 190 feet from pile driving activity) and commercial land uses (UPS Customer Center 100 feet east of the Project). Based on the analysis for the Project, construction activities on the main Project Site and

Hamilton Avenue Parcels would result in vibration levels below the applicable damage criteria at all nearby off-site structures. In addition, vibration-related damage impacts from most off-site construction activities (i.e., intersection improvements and waterline work) would result in lower vibration levels due to the types of equipment proposed for use. Overall, vibration-related damage impacts from all Variant 1 construction would be ***less than significant***.

Construction Vibration Annoyance, Daytime

Annoyance related vibration impacts at nearby sensitive uses during daytime hours would be considered significant for the proposed Project, and for Variant 1 which would involve construction activities in the same general areas as the project. Implementation of Project Mitigation Measure NOI-2.1 would reduce vibration-related annoyance effects from pile driving to nearby sensitive uses. In addition, Project Mitigation Measure NOI-2.2 would reduce vibration levels from non-pile driving activity. However, it might not be possible to ensure that vibration levels at all times and in all locations would be reduced to below the applicable annoyance thresholds. Therefore, even with the implementation of Project Mitigation Measures NOI-2.1 and NOI-2.2, daytime annoyance-related vibration impacts would remain significant. Vibration-related annoyance impacts during daytime hours would be ***significant and unavoidable.***

Construction Vibration Annoyance, Nighttime

As discussed in the assessment of on-site nighttime construction, humans are typically considered more sensitive to vibration that occurs during nighttime hours because this is when people generally sleep. A significant vibration impact would be considered to occur when construction activities generate vibration levels that are strongly perceptible (i.e., 0.1 PPV in/sec) at nearby residential land uses during nighttime hours, or when vibration levels exceed the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a for residential land uses during nighttime hours. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.016 in/sec at the nearest residence during nighttime hours, which is more stringent than the Caltrans criterion, and is the main focus of this analysis.

Construction activities on the Project Site during nighttime hours would be limited to concrete pour activities with the Proposed Project and with Variant 1 implementation. At a distance of 150 feet, the nearest sensitive use to project site construction areas, concrete mixers and concrete pumps would generate less vibration than a small bulldozer, which is the piece of equipment in the Federal Transit Administration list of vibration source levels with the lowest level of vibration. A small bulldozer would result in a PPV of approximately 0.0002 inch per second at a distance of 150 feet, which is well below the strongly perceptible threshold (i.e., PPV of 0.1 inch per second) (refer to Table 4.11-5) as well as the 0.016 PPV in/sec limit from ConnectMenlo EIR Mitigation measure Noise-2a at the nearest residence during nighttime hours. Vibration-related annoyance impacts from the Project site would be ***less than significant*** during nighttime hours.

Regarding nighttime construction of off-site improvements, with Project Implementation, construction for the Willow Road Tunnel during nighttime hours (which would involve pile driving) was determined to result in significant vibration-related annoyance impacts during nighttime hours. Under this Variant, nighttime construction with pile drivers for this off-site improvement would not take place. Equipment required for other off-site improvements during nighttime hours would not be vibration-intensive, and would result in less than significant vibration-related annoyance impacts. Therefore, nighttime vibration-related annoyance impacts from off-site improvements would be ***less than significant*** for Variant 1.

Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose of people residing or working in the project area to excessive noise levels (No Impact)

Because the footprint for the project site would generally be the same under Variant 1 as under the Proposed Project, impacts related to aircraft noise would be the same under Variant 1. Implementation of Variant 1 would not expose people working or residing in the Project to excessive noise levels from either a public or public use airport or private airstrip. There would be ***no impact*** related to excessive aircraft noise levels under this Variant.

Utilities and Service Systems

Impact UT-1: Construction or Relocation of Utilities. Variant 1 would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. (LTS)

Similar to the Proposed Project, Variant 1 would include construction of water system, sewer infrastructure, and PG&E Ravenswood substation upgrades. Therefore, implementation of Variant 1 would not change environmental impacts related to utility expansions.

Water

The total net increase in potable water demand under Variant 1 is estimated to be approximately 0.22 mgd,[2] which is the same as the Proposed Project. Water for Variant 1 would be treated at one of three WTPs: the SFPUC's Tesla Treatment Facility, the Sunol Valley WTP, or the Harry Tracy WTP. The Tesla Treatment Facility has the capacity to treat 315 mgd. The Sunol Valley WTP has the capacity to treat 160 mgd. The Harry Tracy WTP has the capacity to treat approximately 140 mgd. Therefore, the three WTPs have adequate capacity to treat water for Variant 4. Variant 4 would not change the environmental impacts related to the relocation or construction of expanded water treatment facilities. The impact would be ***less than significant.***

Similar to the Proposed Project, Variant 1 would construct a 16-inch-diameter pipeline within Park Street, Main Street, and East Loop Road and a 12-inch-diameter pipeline connection to the existing 12-inch-diameter pipeline in O'Brien Drive, north of the SFPUC easement, to meet onsite fire-flow requirements. Therefore, implementation of Variant 1 would not change the environmental impacts related to the installation of new or expanded water lines. The impact would be ***less than significant.***

Wastewater

The net amount of water use by Variant 1 is estimated to be 0.35 mgd (128 mg/year); this number includes indoor potable water use, toilet flushing, and cooling. The estimate does not include water used for irrigation (refer to Table 5-3). Assuming 90 percent of the net amount of non-irrigation water would become wastewater, the estimated net increase in wastewater generation would be approximately 0.27 mgd (or 115 mg/yr). The recycled water would be used for irrigation, toilet flushing, and cooling. This would reduce the amount of water that would be treated offsite. Therefore, Variant 1 would not require the relocation of existing or construction of new or expanded MPMW wastewater treatment facilities, but it

[2] Total Variant 1 potable water demand of 98 mg/yr minus existing potable water use of 19 mg/year = 79 mg/yr (0.22 mgd) net increase in water demand.

Table 5-3. Projected Water Demand for Variant 1 (mg/yr)

Water Use	Variant 1
Indoor Potable	98
Toilet Flushing (non-potable)	21
Cooling (non-potable)	9
Irrigation (non-potable)	27
Total Projected Water Demand	**155**
Projected Water Demand (potable)	98 (63%)
Projected Water Demand (non-potable)	57(37%)
Existing Potable Water Use at Proposed Project Site[a]	19
Net Increase in Potable Water Demand[b]	**79**

Source: Peninsula Innovation Partners, LLC., and West Yost, 2022.

[a] Existing potable water demand at the Project Site based on 2015 data (18.2 mg/yr plus 6 percent for unaccounted for water) and assumed to be replaced by the Proposed Project.

[b] Assumes the existing potable water demand at the Project Site is replaced by Variant 1 demand.

would result in the construction of four onsite WRFs. Impacts of constructing the WRFs would be mitigated to less than significant by implementation of mitigation measures designed to mitigate the impacts of constructing the Proposed Project, including Project Mitigation Measure AQ-1.4 which would reduce objectionable odors associated with the wastewater pump station. Therefore, implementation of Variant 4 would not change the environmental impacts related to the relocation of existing or construction of new or expanded wastewater treatment facilities. The impact would be ***less than significant.***

Similar to the Proposed Project, Variant 1 would construct new or expanded sewer lines near the Project Site. Therefore, implementation of Variant 1 would not change the environmental impacts related to the installation of new or expanded sewer lines. The impact would be ***less than significant.***

Stormwater

Implementation of Variant 1 would result in the same amount of pervious surface on the main Project Site (an increase of approximately 4 percent). Similar to the Proposed Project, Variant 1 would construct a private onsite storm drain system to convey runoff by gravity from all buildings and other areas to the existing City main in Willow Road. Variant 1 would also incorporate onsite stormwater elements to reduce the total volume of stormwater runoff at the Project Site compared with existing conditions. Therefore, Variant 1 would not change the environmental impacts related to the relocation of existing or construction of new or expanded stormwater drainage facilities. The impact would be ***less than significant.***

Electricity and Natural Gas

Similar to the Proposed Project, under Variant 1 PG&E would upgrade the Ravenswood substation[3] and provide offsite improvements to support distribution-level electrical service to the main Project Site from this substation. Therefore, Variant 1 would not change the environmental impacts related to the relocation of existing or construction of new or expanded electrical facilities. The impact would be ***less than significant.***

[3] The current Ravenswood substation operates as a transmission substation and is not equipped with distribution system infrastructure.

Variant 1 would install new or expanded gas lines on the main Project Site, similar to the Proposed Project. No offsite natural gas facilities would need to be constructed or expanded as a result of Variant 1. Therefore, Variant 1 would not change the environmental impacts related to the relocation of existing or construction of new or expanded natural gas facilities. The impact would be ***less than significant.***

Telecommunications

Similar to the Proposed Project, Variant 1 may extend or relocate telecommunications lines. Therefore, Variant 1 would not change the environmental impacts related to the relocation of existing or construction of new or expanded telecommunication facilities. The impact would be ***less than significant.***

Impact UT-2: Water Supply. Variant 1 would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. (LTS)

A summary of the water demands for Variant 1, as estimated by the Project Sponsor and evaluated by the City's consultant in preparation of the WSA, is provided in Table 5-3. Similar to the Proposed Project, the total projected water demand for Variant 1 is approximately 155mg/yr. Approximately 63 percent of the total water demand is potable water demand; the remaining 37 percent is non-potable water demand would be met by recycled water on the main Project Site . As shown in Table 5-3, the existing potable water demand at the main Project Site is estimated to be approximately 19 mg/yr. Therefore, the net increase in potable water demand for Variant 1 is estimated to be 79mg/yr.

Similar to the Proposed Project, Variant 1 would be within the maximum development potential studied in ConnectMenlo, and the water demand of the Variant 1 is included in the further refined land uses and development potential studied in the ConnectMenlo EIR as well as the MPMW's 2015 and 2020 UWMP water demand analyses. Further, the water supply evaluation (WSE) that was prepared as part of the ConnectMenlo process considered the development potential created by the ConnectMenlo General Plan Update and the refined land uses studied in the associated EIR. The ConnectMenlo EIR determined that there would be an increase in water demand as a result of buildout of ConnectMenlo. The ConnectMenlo EIR concluded that the MPMW's water supply would be adequate and able to meet increased demands in normal years as well as the additional demand generated by the increase in development associated with implementation of ConnectMenlo

Similar to the Proposed Project, if the Bay-Delta Plan Amendment is implemented, the total projected water supply determined to be available for Variant 1 in normal years would meet the projected water demand associated with Variant 1, in addition to MPMW's existing and planned future uses, through 2040. However, with implementation of the Bay-Delta Plan Amendment, significant supply shortfalls are projected in dry years for agencies that receive water supplies from the SFPUC RWS as well as other agencies whose water supplies would be affected by the amendment. For MPMW, supply shortfalls are projected in single dry years (ranging from 27 to 32 percent) and in multiple dry years (ranging from 27 to 44 percent) through 2040. Based on SFPUC's analysis, similar supply shortfalls would occur through 2045.

If supply shortfalls do occur, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its WSCP.[4] With the MPMW's WSCP in place, the shortages in single and multiple dry years would be managed through demand reductions of

[4] A main focus of MPMW's planned demand reduction measures is to increase public outreach and keep customers informed of the water shortage emergencies and actions they can take to reduce consumption. The City will use its emergency supply well(s) as supply augmentation during WSCP Stages 5 and 6. Other actions that the City will take will include coordinating with other agencies, implementing a drought surcharge, increasing water waste patrols, etc. Additional information on MPMW's WSCP is provided in Chapter 8 of MPMW's 2020 UWMP.

50 percent or greater in Stages 5 and 6. The projected shortfalls in single dry years would require implementation of Stage 3 or Stage 4 of the MPMW WSCP, and the projected shortfalls in multiple dry years would require implementation of Stage 3, 4, or 5 of the MPMW WSCP. Similar to the Proposed Project, Variant 1 would utilize recycled water for all City-approved non-potable applications (e.g. irrigation, mechanical cooling, and toilet flushing), which would offset the demand for potable water and contribute to MPMW's efforts to reduce future supply shortages and would implement water conservation measures, both in the design of the base building and tenant spaces as well as daily operations, employee practices, and landscaping choices. Furthermore, the water demand associated with buildout of ConnectMenlo, which the Variant 1 is within, is included in the 2020 UWMP, and Variant 1 therefore would not exacerbate MPMW's anticipated supply shortages or cause MPMW to increase customer water use restrictions beyond that anticipated in its 2020 UWMP. As with the Proposed Project, Variant 1 also would be subject to the same water conservation and water use restrictions as other water users within the MPMW system under ConnectMenlo, including annual compliance with the approved water budget. Therefore, Variant 1 would not change the environmental impacts related to adequate water supplies. The impact would be ***less than significant.***

Impact UT-3: Generation of Wastewater. Variant 1 would not result in a determination by the wastewater treatment providers that they have inadequate capacity to serve Variant 1's projected demand in addition to the providers' existing commitments. (LTS)

Variant 1 would generate approximately 0.27 mgd (or 115 mg/yr) of wastewater at the Project Site, similar to the Proposed Project. Under existing conditions, the Project Site generates approximately 0.05 mgd (17 mg/yr) of wastewater. The net increase in wastewater generated by Variant 1 would be approximately 0.26 mgd. An increase of approximately 0.26 mgd, compared with existing conditions, is negligible, given the capacity of the existing system.. The recycled water would be used for irrigation, toilet flushing, and cooling. Therefore, there would be adequate wastewater treatment capacity available to serve the projected demand in addition to the provider's existing commitments. Based on existing SVCW WWTP and WBSD collection and processing capacity, it is not expected that Variant 1 would result in a determination by either wastewater treatment provider that it would have inadequate capacity to serve projected demand under Variant 1 in addition to existing commitments. The impact would be ***less than significant***.

Impact UT-4: Generation of Solid Waste. Variant 1 would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. (LTS)

Construction debris generated from structure demolition would be slightly reduced under Variant 1 compared to the Proposed Project. The number of residential units and employment-generating uses on the main Project Site would remain the same and there would be a slight reduction because the Willow Road Tunnel would not be constructed. Implementation of the required zero-waste management plans for all new buildings and uses on the main Project Site would reduce waste from the occupancy phase. As such, Shoreway and Ox Mountain would have adequate capacity for Variant 1. Therefore, Variant 1 would be served by a landfill with adequate permitted capacity to accommodate its solid waste disposal needs. The impact would be ***less than significant.***

Impact UT-5: Compliance with Solid Waste Regulations. Variant 1 would comply with federal, state, and local management and reduction statutes and regulations related to solid waste (LTS)

Construction debris generated from structure demolition would remain the same under Variant 1 compared to the Proposed Project. There would be a slight reduction of earthwork activity associated with this variant because the Willow Road Tunnel would not be constructed. However, this would not reduce the overall amount of solid waste generation during construction and operation. The number of residential units and employment-generating uses on the Project Site would also remain the same. Implementation of the required zero-waste management plans for all new buildings and uses on the main Project Site would reduce waste from the occupancy phase. As such, Shoreway and Ox Mountain would have adequate capacity for Variant 1. Therefore, Variant 1 would be served by a landfill with sufficient permitted capacity to accommodate its solid waste disposal needs. The impact would be ***less than significant.***

Cumulative Analysis

Cumulative impacts are evaluated throughout the Draft EIR. Overall, under Variant 1 the removal of the Willow Road Tunnel would decrease the level of ground-disturbing activities and related emissions. However, the reduction in ground disturbing activities and related emissions would not reduce Project-specific impact determinations. Therefore, the cumulative contribution under Variant 1 is the same as under the Proposed Project.

Variant 2: Increased Residential Density Variant

Environmental Topics Not Requiring Further Analysis

Under Variant 2, building heights would increase to accommodate additional dwelling units, but overall building footprints would remain the same. No other changes to the Proposed Project would occur under this variant. Furthermore, Project-related ground-disturbing activities would remain the same; therefore, environmental impacts related to cultural and tribal cultural resources, geology and soils, and hazards and hazardous materials that could result from Project-related ground-disturbing activities would not change under Variant 2. Land use designations and the overall site configuration would remain the same, therefore, impacts associated with land use and planning would not change under Variant 2. The amount of impervious surface area introduced to the Project Site during construction would remain the same; therefore, impacts related to hydrology and water quality would not change. Similarly, there would be no change in the environmental impacts associated with biological resources.

Aesthetics

Impact AES-1: Substantial Adverse Effect on Scenic Vistas (LTS)

Menlo Park does not have any officially designated scenic views or vistas. However, in areas surrounding the Project Site, scenic resources that could be associated with scenic vistas are the Santa Cruz Mountains, San Francisco Bay Conservation and Development Commission (BCDC) Public Shoreline Trail, the Bay Trail, and Bayfront Expressway. These areas offer expansive views of the natural setting, including a mountain range, marsh, the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge), salt ponds, and San Francisco Bay, which is farther north.

Under Variant 2, proposed building heights would increase to accommodate additional dwelling units. As noted above, two development scenarios for increased heights are considered. Under Scenario 1, the height of the residential buildings containing the additional units could be up to 86 feet. Under Scenario 2, the building height of one mixed-use building would increase to approximately 120 feet. As demonstrated by the photo-montages described below, scenic views would continue to be available from publicly accessible vantage points, between buildings, and over lower-intensity areas.

Viewpoint 1: Kavanaugh Drive and Clarence Court Looking Northwest toward the Project Site

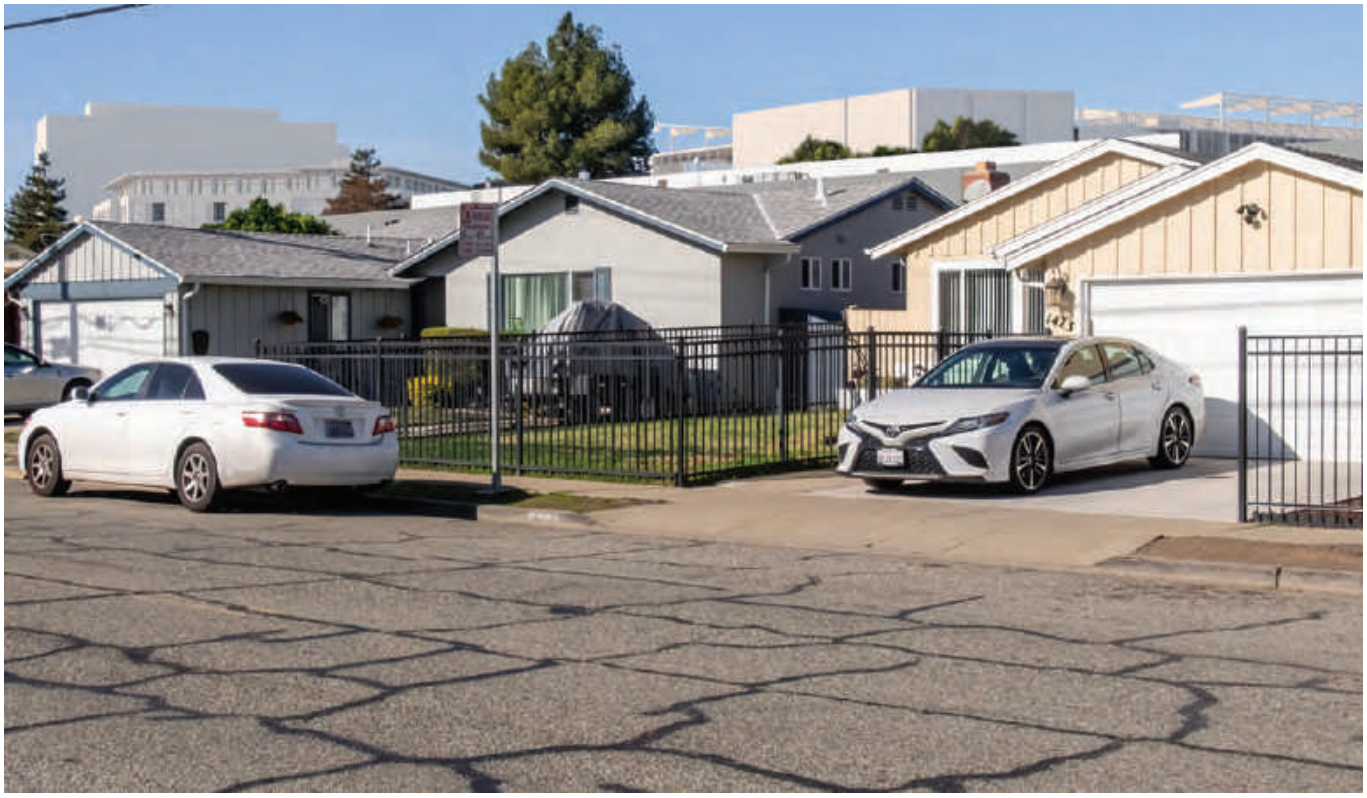
Viewpoint 1 provides views of a residential neighborhood in East Palo Alto. Sensitive viewers at this viewpoint include individuals traveling along Kavanaugh Drive and Clarence Court. As shown in Figure 5-2a, Viewpoint 1: Kavanaugh Drive and Clarence Court, from this vantage point, views of single-family homes, neighborhood streets, and vehicles are available in the foreground. In the middleground, the roofline of an office/warehouse building at 1330 O'Brien Drive in Menlo Park is visible above the single-family homes. Scenic vistas are not available from this vantage point because of the flat topography and intervening structures.

As shown in Figure 5-2b, the foreground and background views would remain the same, but the middleground views would be altered. As with the Proposed Project, the South Garage on the southeast corner of the main Project Site, depicted with an illustrative height of approximately 86 feet, would be visible above the roofline of existing single-family homes. Residential buildings (RS5 and RS7), depicted with an illustrative height of approximately 86 feet, as proposed for the southern portion of the main Project Site under Scenario 1, would also be visible. Although the proposed buildings would be taller than existing buildings, the buildings would not constitute a significant feature in the area. Furthermore, given that scenic vistas are not available in the background, no substantial adverse changes are anticipated.

Viewpoint 2: Willow Road Looking North toward the Project Site

Viewpoint 2 provides views along Willow Road, looking north toward Hamilton Avenue. Sensitive viewers at this viewpoint include individuals traveling along Willow Road. As shown in Figure 5-3a, Viewpoint 2: Willow Road (north), from this vantage point, the roadway, vegetated median, and the Mid-Peninsula High School building are visible in the foreground. Visible features in the middleground include mature trees within the vegetated median along Willow Road, an onsite building (MPK57) at 1350 Willow Road, and surface parking. Scenic vistas are not available from this vantage point because of the flat topography, mature trees, and surrounding development.

a. Existing



b. Proposed

Graphics ... 00040.18 (3-9-2022) JC

Figure 5-2
Viewpoint 1: Kavanaugh Drive and Clarence Court

a. Existing

b. Proposed

Graphics ... 00040.18 (3-9-2022) JC

Figure 5-3
Viewpoint 2: Willow Road (north)

As shown in Figure 5-3b, foreground and background views would remain the same, but middleground views would be altered. The Publicly Accessible Park and residential building (RS2), depicted with an illustrative height of approximately 120 feet, would be visible east of Willow Road under Scenario 2. In this portion of Willow Road, the park would serve as a visual buffer, setting back the majority of proposed buildings from the street. As with the Proposed Project, the hotel (TS1), depicted with an illustrative height of approximately 84 feet, would be seen in the distance. Farther to the north, the Elevated Park overcrossing above Willow Road would be visible to the viewer, as with the Proposed Project. Although the proposed buildings would be taller than existing buildings, the buildings would be generally compatible with surrounding development because development would be within the maximum and average height parameters of the City Zoning Ordinance, with the exception of mixed-use/residential buildings that would exceed the maximum height limit, extending up to a 120 feet in overall maximum height if one building accommodates the additional units and up to 86 feet in maximum height for multiple buildings if accommodated across more than one building. The increased maximum height would be enabled through an adjustment through the CDP, incentives pursuant to the City's Below-Market-Rate Housing Program (Menlo Park Zoning Code Section 16.96.040), and/or density bonus and/or incentives/concessions/waivers pursuant to the State Density Bonus Law. Furthermore, given that scenic vistas are not available from this vantage point, no substantial adverse changes are anticipated.

Summary

As demonstrated by the photo-montages, Variant 2 would construct buildings and associated structures with additional height, bulk, and massing compared with existing conditions. However, increased development would affect only a small portion of the overall vista, as viewed from the Bay Trail, Bayfront Expressway, BCDC Public Shoreline Trail, and surrounding roadways. Scenic views would continue to be available from publicly accessible vantage points, between buildings, and over lower-intensity areas. Therefore, similar to the Proposed Project, impacts under Variant 2 would be ***less than significant*.**

Impact AES-2: Conflict with Applicable Zoning and Other Regulations Governing Scenic Quality (LTS)

Under Variant 2, building heights would increase, but the zoning districts and land use designations would remain the same. On the main Project Site, Variant 2 would comply with applicable City Zoning Ordinance development regulations (Sections 16.43.050 and 16.45.050) and design standards (Sections 16.43.130 and 16.45.120). The proposed increase in height would be subject to approval of a CDP or through the allowance through the City's density bonus from the BMR Ordinance and/or allowances from State Density Bonus Law. As with the Proposed Project, on Hamilton Avenue Parcels North and South, Variant 2 would be in compliance with the maximum FAR for the Neighborhood Commercial District, Special (C-2-S) zoning designation, including requirements regarding setbacks, heights, distances between buildings, lot coverage, parking, and landscaping, established by the Planning Commission for the parcels. As with the Proposed Project, consistent with City General Plan policies, Variant 2 would develop a mixed-use neighborhood (Policy LU-2.3), provide a minimum of 360,000 sf of publicly accessible open space (Policy LU-6.2), redevelop an existing industrial site and an existing retail site (Policy LU-6.11), plant replacement trees (Policy LU-6.8), and install well-designed bicycle and pedestrian facilities (Policy OSC1.12). Therefore, similar to the Proposed Project, impacts under Variant 2 would be ***less than significant***.

Impact AES 3: New Sources of Light and Glare (LTS)

Similar to the Proposed Project, Variant 2 would include nighttime lighting along the perimeter of the site as well as internal circulation routes for bicyclists, pedestrians, and vehicles. Proposed buildings would include safety lighting along pathways and near entrances. Project lighting would be visible to individuals traveling along Willow Road and Bayfront Expressway as well as recreationalists who use the Bay Trail during evening hours. Proposed lighting under Variant 2 would be required to comply with the Building Energy Efficiency Standards outlined in CCR Title 24, Parts 1 and 6. Specifically, all fixtures would be energy efficient and designed to reduce glare and unnecessary light spillage. With respect to daytime glare, Variant 2 would be required to comply with the City's bird-safe design requirements, as set forth in Section 16.43.140(6) and 16.45.130(6) of the Menlo Park Municipal Code. Similar to the Proposed Project, Variant 2 would avoid the installation of highly reflective glass and instead install opaque glass or treated glass that would reduce daytime glare. Therefore, similar to the Proposed Project, impacts under Variant 2 would be ***less than significant***.

Transportation

Under Variant 2, the number of residential dwelling units would increase by approximately 200, for a total of 1,930 residential units at the main Project Site. To accommodate the additional dwelling units, proposed building heights would increase, but the site plan would remain as under the Proposed Project. Parking would be provided in accordance with applicable City requirements.

Impact TRA-1: Conflict with an applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities (LTS)

The proposed pedestrian, bicycle, and transit facilities would remain the same under Variant 2. Similar to the Proposed Project, Variant 2 would comply with existing regulations, including City General Plan policies and zoning regulations. Therefore, Variant 2 would be consistent with applicable plans, ordinances, and policies concerning the circulation system (see Table 3.3-4 in Section 3.3, *Transportation*). Impacts would be ***less than significant.***

Impact TRA-2: Exceed an applicable VMT threshold of significance (LTS/M)

Trip Generation

The additional 200 units assumed under Variant 2 would be expected to have a minimal effect on internalization rates. As a conservative approach, it is assumed that the Proposed Project's trip generation rates and trip reduction percentages can be applied to this variant. Furthermore, it is assumed that Project Transportation Demand Management (TDM) measures would achieve the same effectiveness in terms of trip reduction percentages. As shown in Table 5-4, below, this variant would generate 33,111 daily trips, including 2,455 trips during the a.m. peak hour and 2,789 trips during the p.m. peak hour. Compared to the Proposed Project, this variant would increase the number of daily trips by 874, including 59 a.m. peak-hour trips and 70 p.m. peak-hour trips.

As discussed above, it is assumed that the additional 200 units would have a minimal effect on internalization and trip generation rates. Project TDM measures would achieve the same effectiveness in terms of trip reduction percentages. Furthermore, the population-per-household ratio is assumed to remain the same as that of the Proposed Project. Lastly, although the increase in housing could theoretically reduce the average trip length slightly, it is not expected to have a measurable effect on the

Table 5-4. Trip Generation Estimates for Increased Residential Density Variant

Land Use	ITE Land Use Code[a]	Size	Unit	Daily Rate[1]	Daily Total	AM Peak Hour Rate[a]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour Rate[1]	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Campus District													
Office	710	6,950	emps.	3.28	22,796	0.37	2,135	437	2,572	0.40	556	2,224	2,780
TDM Reductions[b]					*(4,559)*		*(765)*	*(137)*	*(902)*		*(171)*	*(939)*	*(1,110)*
Office Trip Cap[b]					**18,237**		**1,370**	**300**	**1,670**		**385**	**1,285**	**1,670**
Residential/Shopping and Town Square Districts													
Residential	221	1,930	d.u.	5.44	10,499	0.36	181	514	695	0.44	518	331	849
Retail	820	200	ksf	37.75	7,550	0.94	117	71	188	3.81	366	396	762
Hotel	310	193	rooms	8.36	1,613	0.47	54	37	91	0.60	59	57	116
Publicly Accessible Park[c]	488	3	fields	71.33	214	0.99	2	1	3	16.43	32	17	49
Subtotal					19,876		354	623	977		975	801	1,776
TDM Reductions[d]					*(3,975)*		*(71)*	*(122)*	*(192)*		*(256)*	*(213)*	*(469)*
Residential/Shopping and Town Square Districts Trips **(MU)**					**15,901**		**283**	**501**	**785**		**719**	**588**	**1,307**
Project Trips *after* TDM Reductions (Campus District + MU)					34,138		1,653	801	2,455		1,104	1,873	2,977
Retail Pass-By Reductions[e]					*(1,027)*		*0*	*0*	*0*		*(92)*	*(96)*	*(188)*
Total New Trips Generated by the Project					**33,111**		**1,653**	**801**	**2,455**		**1,012**	**1,777**	**2,789**
Existing Trip Generation Credit[f]					(11,700)		(699)	(286)	(985)		(250)	(555)	(805)
Net New Trips Generated on Roadway Network					**21,411**		**954**	**515**	**1,470**		**762**	**1,222**	**1,984**

Source: Hexagon 2022.

d.u. = dwelling unit, ksf = 1,000 sf, emps. = employees

a. Daily, a.m., and p.m. peak-hour average rates published in the 2017 ITE *Trip Generation Manual*, 10th edition, were used for each land use.

b. Campus District trip generation and TDM reductions reflect proposed daily, a.m., and p.m. peak-hour trip caps.

c. The publicly accessible park is assumed to be programmable. ITE Land Use "Soccer Field" is analyzed as a proxy. Estimate of the number of soccer fields was based on the size of a standard soccer field. The programmatic design of the park has not been determined. To provide a conservative estimate of potential traffic generation, it is assumed that the park would have play structures and open field areas for warm-ups or casual play. The park is planned for approximately 3.5 acres. Estimate of the number of soccer fields on 3.5 acres of land was based on the size of a standard soccer field.

d. The applicant proposes a TDM plan that achieves a 20% trip reduction for the Residential/Shopping and Town Square Districts for all daily, a.m., and p.m. peak hours. This trip reduction includes reductions due to Project's location efficiency and Project mixed-use characteristics (i.e., internalization).

e. Pass-by trip reduction is based on the average pass-by trip reduction rate published in the ITE *Trip Generation Handbook*, third edition. Hexagon assumes no pass-by trip reduction during the a.m. peak hour and half of the p.m. peak pass-by reduction for daily trip generation.

f. "Existing Use" trip estimates based on driveway counts conducted over 3 days in September 2019, per Facebook Willow Traffic Counts Memorandum, Fehr & Peers, March 26, 2020. The 8:00 to 9:00 a.m. in the a.m. peak period and 4:00 to 5:00 p.m. in the p.m. peak period have been considered peak hours because they have the highest number of trips.

conclusion regarding residential vehicle miles traveled (VMT) per population. Therefore, this variant's residential VMT per population analysis would be the same as the Proposed Project. VMT conclusions for the other land uses on site (office, retail, hotel) would also remain the same as for the Proposed Project. Variant 2 would be required to comply with Project Mitigation Measure TRA-2, and the impact would be ***less than significant with mitigation***.

Impact TRA-3: Substantially increase hazards due to a design feature or incompatible uses (LTS/M)

Under Variant 2, the Willow Village site plan and site access would remain the same. Therefore, implementation of Variant 2 would not change the environmental impacts related to incompatible uses or hazardous design features. Variant 2 would be required to comply with Project Mitigation Measure TRA-3 and the impact would be ***less than significant with mitigation***.

Impact TRA-4: Result in inadequate emergency access (LTS)

Under Variant 2, the proposed site plan, site access, and emergency access would remain the same. Therefore, implementation of Variant 2 would not change environmental impacts related to adequate emergency access. The impact would be ***less than significant***.

Non-CEQA Analysis

Level of Service

The additional 200 units would increase average critical delay at the site-accessing intersections of Willow Road and Hamilton Avenue (during both peak hours), Willow Road and Park Street (during both peak hours), and O'Brien Drive/Loop Road and Main Street/O'Brien Drive (during the p.m. peak hour) compared to the Proposed Project (see Table 5-5). However, the additional increase in average critical delay would not create additional deficiencies. The intersections of Willow Road and Hamilton Avenue as well as Willow Road and Park Street would continue to be deficient and non-compliant under this variant per City guidelines. Physical improvements at these intersections are considered infeasible because of right-of-way constraints and/or adverse effects on bicyclist and pedestrian travel, as described in Chapter 2, *Project Description*.

As identified under the Proposed Project, implementing recommended multi-modal facilities (from the City's Transportation Impact Fee program) along the corridor could shift some motor vehicle traffic to alternative modes of travel and reduce congestion. With implementation of these multi-modal improvements, the intersection deficiencies could be reduced, partially addressing Variant 2's share of the non-compliant operations along Willow Road.

Trips added by the additional 200 units are expected to travel in different directions once they exit the Project Site. Their effect on intersection levels of service (LOS) at non-site-accessing intersections is expected to be minimal. LOS conclusions for the other study intersections are expected to remain the same as under the Proposed Project.

Queuing

The additional 200 housing units would increase the 95th-percentile queue for two turning movements during both the a.m. and p.m. peak hours (see Table 5-6). The 95th-percentile queue for the westbound left turn from Willow Road to Main Street would increase by 25 feet during the a.m. peak hour and 50 feet during the p.m. peak hour compared to the Proposed Project. The 95th-percentile queue for the

Table 5-5. Level-of-Service Comparison for Increased Residential Density Variant

			Near-Term (2025) Conditions							
			No Project		Proposed Project			Increased Residential Density Variant		
#	Intersection	Peak Hour	Avg. Delay (secs)	LOS	Avg. Delay (secs)	LOS	Incr. in Avg. Crit. Delay (secs)	Avg. Delay (secs)	LOS	Incr. in Avg. Crit. Delay (secs)
17	Willow Road and Hamilton Avenue[a]	AM	**OVERSAT**	**F**	**OVERSAT**	**F**	**54.0**	**OVERSAT**	**F**	**56.4**
	Hamilton Avenue Southbound		***64.9***	***E***	***>120***	***F***	***< 0.8***	***> 120***	***F***	***< 0.8***
	Main Street Northbound		***83.3***	***F***	***113.7***	***F***	***> 120***	***> 120***	***F***	***> 120***
		PM	**OVERSAT**	**F**	**OVERSAT**	**F**	**>120**	**OVERSAT**	**F**	***> 120***
	Hamilton Avenue Southbound		***> 120***	***F***	***> 120***	***F***	***< 0.8***	***>120***	***F***	***< 0.8***
	Main Street Northbound		***> 120***	***F***	***> 120***	***F***	***> 120***	***>120***	***F***	***> 120***
18	Willow Road and Park Street (future intersection)[a]	AM	Project Intersection		**OVERSAT**	**F**	**53.0**	**OVERSAT**	**F**	**53.4**
		PM			**OVERSAT**	**F**	**23.1**	**OVERSAT**	**F**	**24.4**
29	O'Brien Drive/Loop Road and Main Street/O'Brien Drive (future roundabout)	AM	Project Intersection		7.4	A	7.4	7.4	A	7.4
		PM			9.2	A	9.2	9.3	A	9.3

Source: Hexagon 2022.

Notes:

LOS = level of service

"OVERSAT" indicates that the SimTraffic microsimulation model indicates that the intersection would experience capacity issues where the demand cannot be served by the intersection. Oversaturated intersections would operate at LOS F.

a. Intersections were analyzed using Synchro/SimTraffic software because of the proximity of these intersections. Changes in average delay and critical delay were calculated using Vistro.

Bold indicates substandard level of service

Bold indicates noncompliance. The Proposed Project exceeds thresholds in the City of Menlo Park's Transportation Impact Analysis guidelines.

Table 5-6. Queueing Comparison for Increased Residential Density Variant

	Hamilton Avenue/Main Street and Willow Road				Park Street and Willow Road			
	WB Lane		NB Lane		WB Lane		NB Approach[c]	
Measurement	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Near Term Plus Project (Proposed Project)								
Volume (vph)	337	284	18	75	205	150	352	720
Lanes	2	2	1	1	2	2	2	2
Volume (vphpl)	169	142	18	75	103	75	176	360
95th % Queue[a] (vehicle)	11	25	2	4	8	2	10	10
95th % Queue[b] (feet)	275	625	50	100	200	50	250	250
Storage (feet/lane)	230	230	225	225	250	250	225	225
Adequate (Y/N)	N	N	Y	Y	Y	Y	N	N
Near Term Plus Project (Increased Residential Density Variant)								
Volume (vph)	342	298	18	75	205	150	375	734
Lanes	2	2	1	1	2	2	2	2
Volume (vphpl)	171	149	18	75	103	75	188	367
95th % Queue[a] (vehicle)	12	27	2	4	8	2	11	11
95th % Queue[b] (feet)	300	675	50	100	200	50	275	275
Storage (feet/lane)	230	230	225	225	250	250	225	225
Adequate (Y/N)	N	N	Y	Y	Y	Y	N	N

Source: Hexagon 2022.

Notes:

WB = westbound; NB = northbound; vph = vehicles per hour; vphpl = vehicles per hour per lane

a. Vehicle queues are from Vistro outputs and are rounded up to the next whole number

b. Assumes 25 feet per vehicle queued

c. NB approach has one left-turn lane and one shared left-right lane. Volumes represent the total approach volume.

northbound left movement from Park Street to Willow Road would increase by 25 feet during both the a.m. and p.m. peak hours compared to the Proposed Project. The queue lengths for these movements would be expected to exceed proposed storage capacity under the Proposed Project and continue to do so under this variant. Similar to the Proposed Project, if the westbound left-turn lanes on Willow Road at Main Street become saturated, it is assumed that drivers would choose to instead enter the Project Site via Park Street. It is assumed that the demand queue could be accommodated between the left-turn lanes at these two intersections on Willow Road. Likewise, if the northbound approach on Park Street becomes saturated, northbound right-turning vehicles could use West Street/Village Avenue and Main Street to travel eastbound on Willow Road.

Roadway Annual Average Daily Traffic Analysis

The additional 200 housing units would generate an additional 874 daily trips compared to the Proposed Project. The annual average daily traffic (AADT) analysis was conducted quantitatively for this variant using the same methodology as that for the Proposed Project. As shown in Table 5-7, below, the AADT analysis conclusions would remain the same as under the Proposed Project.

Air Quality

An air quality, greenhouse gas, and energy analysis (AQ Project Variants Analysis) was prepared for Project variants.[5] The information and conclusions from this document are incorporated into this section. The AQ Project Variants Analysis is provided in Appendix 5. All mitigation measures included as part of the Proposed Project apply to Variant 2 and are referenced in this analysis.

Impact AQ-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan. Variant 2 would conflict with or obstruct implementation of the applicable air quality plan (SU).

Similar to the Proposed Project, Variant 2 would be consistent with the applicable stationary-source control measures, energy control measures, building control measures, and waste control measures included in the Clean Air Plan. However, Variant 2 would exceed the Bay Area Air Quality Management District's (BAAQMD's) construction threshold for oxides of nitrogen (NO_X) and BAAQMD's operational threshold for reactive organic gas (ROG), as shown in Summary Tables 5-6 and 5-7 of the AQ Project Variants Analysis, and BAAQMD's cancer risk threshold, as shown in Summary Table 5-14 of the AQ Project Variants Analysis. To reduce Variant 2 criteria pollutant emissions and the cancer risk, Project Mitigation Measures AQ-1.1 and AQ-1.2, included as part of the Proposed Project, would be implemented as well as General Plan and M-2 Area Zoning Update (ConnectMenlo) Mitigation Measure AQ-2b1 (refer to Section 3.4, *Air Quality*). The AQ Project Variants Analysis fulfills the air quality technical assessment requirements of Mitigation Measure AQ-2b2 from the ConnectMenlo EIR. Project Mitigation Measures AQ-1.1 and AQ-1.2 satisfy the mitigation requirements of ConnectMenlo MM AQ-2b2.

With implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 as well as Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, Variant 2 would result in less-than-significant impacts related to construction NO_X emissions and toxic air contaminant (TAC) exposures. Variant 2 would also be consistent with transportation control measures with implementation of Mitigation Measure TRA-1. However, ROG emissions would remain above the BAAQMD ROG threshold after implementation of all mitigation measures. Operation of Variant 2 would generate 86 lbs of mitigated ROG emissions per day

[5] Ramboll US Corporation. 2022. *CEQA Air Quality, Greenhouse Gas and Health Risk Assessment Technical Report*. February. Accessed: February 21, 2022.

Table 5-7. Roadway AADT Comparison for Increased Residential Density Variant

		Average Daily Traffic for Variant			Compliance Analysis for Variant		Proposed Project		
Roadway	**Classification**	**Existing[a]**	**CU with Project**	**Net Increase in Project Traffic**	**Criteria**	**Compliant?**	**CU with Project**	**Net Increase in Project Traffic**	**Compliant?**
Willow Road, east of Durham Street	Avenue – Mixed Use	28,875	31,329	590	7.B.1(1)	**No**	**31,400**	**550**	**No**
Willow Road, east of Blackburn Avenue	Avenue – Mixed Use	22,962	24,028	441	7.B.1(1)	**No**	**24,050**	**410**	**No**
Middlefield Road, north of Willow Road	Avenue – Mixed Use	18,188	20,023	68	7.B.1(1)	Yes	20,037	64	Yes
Middlefield Road, south of Willow Road	Avenue – Mixed Use	21,058	23,648	302	7.B.1(1)	**No**	**23,687**	**285**	**No**
Marsh Road, east of Bohannon Drive	Mixed-Use Collector	33,128	39,231	678	7.B.2(1)	**No**	**39,213**	**669**	**No**
Hamilton Avenue, south of Madera Avenue	Neighborhood Collector	2,866	3,614	288	7.B.2(3)	Yes	3,589	265	Yes
O'Brien Drive, south of Willow Road	Mixed-Use Collector	7,409	13,949	2,665	7.B.2(2)	**No**	**13,942**	**2,600**	**No**
O'Brien Drive, north of University Avenue	Mixed-Use Collector	4,635	16,648	6,613	7.B.2(3)	**No**	**16,232**	**6,457**	**No**
Adams Drive, north of University Avenue[b]	Mixed-Use Collector	3,265	3,790	78	7.B.2(3)	Yes	3,763	84	Yes
Bay Road, north of Willow Road	Neighborhood Collector	6,362	12,730	854	7.B.2(2)	**No**	**12,637**	**841**	**No**

Notes:

CU = cumulative

[a] Average daily traffic data was obtained from the City of Menlo Park

[b] Average daily traffic was estimated using factors derived from average daily traffic data and peak-hour counts

Bold indicates Project or Variant-generated non-compliance for study roadway

which exceed BAAQMD's ROG threshold. The ROG emissions under Variant 2 are higher when compared to the Proposed Project, which would generate 80 lbs of ROG per day. Construction plus net operational emissions would also remain in excess of BAAQMD's recommended threshold for ROG. Therefore, Variant 2 could disrupt or hinder implementation of the current Clean Air Plan, and this impact would be significant and unavoidable.

Impact AQ-2: Cumulatively Considerable Net Increase in Criteria Pollutants. Variant 2 would result in a cumulative net increase in a criteria pollutant for which the Project region is classified as a nonattainment area under an applicable federal or state ambient air quality standard (SU).

Construction

Construction of Variant 2 would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X, as shown in Table 5-8, below. Unmitigated particulate matter exhaust emissions would not exceed BAAQMD's particulate matter exhaust thresholds. After implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 as well as Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, construction criteria pollutant emissions would be below all applicable BAAQMD thresholds (see Table 5-9). Therefore, construction activities would not result in a cumulatively considerable net increase in criteria air pollutants for which the San Francisco Bay Area Air Basin (SFBAAB) is designated as a nonattainment area with respect to federal or state ambient air quality standards. This impact would be ***less than significant with mitigation.***

BAAQMD's CEQA Guidelines consider fugitive dust impacts to be less than significant with application of best management practices (BMPs), which are included in ConnectMenlo Mitigation Measure AQ-2b1. The BMPs require applicants for future development projects to comply with BAAQMD's basic control measures for reducing construction emissions of particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}). If BMPs are not implemented, dust impacts would be potentially significant. Therefore, BMPs would be required and implemented to reduce impacts from construction-related fugitive dust emissions, including any cumulative impacts. With implementation of ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2, fugitive dust emissions would be reduced, and the impact would be ***less than significant with mitigation*.**

Table 5-8. Estimated Unmitigated Average Daily Construction Emissions of Criteria Air Pollutants and Precursors

	Average Daily Emissions (lbs/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Year 1	2.9	**58**	1.3	1.6
Year 2	4.5	**64**	1.4	1.3
Year 3	19	**124**	5.8	5.4
Year 4	52	53	2.3	2.1
Year 5	**64**	46	2.2	2.0
Year 6	43	14	0.7	0.6
Maximum Average Daily Emissions	**64**	**124**	**5.8**	**5.4**
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	**Yes**	**Yes**	**No**	**No**

Source: Table 43V in the AQ Project Variants Analysis.

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

a. BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions. Fugitive dust emissions would be controlled using best management practices.

Table 5-9. Estimated Mitigated Average Daily Construction Emissions of Criteria Air Pollutants and Precursors

	Average Daily Emissions (lbs/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Year 1	1.5	45	0.4	0.4
Year 2	2.7	45	0.5	0.5
Year 3	10	47	0.8	0.8
Year 4	24	29	0.4	0.4
Year 5	29	22	0.3	0.3
Year 6	19	6.5	0.1	0.1
Maximum Average Daily Emissions	**29**	**47**	**0.8**	**0.8**
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Table 44V in the AQ Project Variants Analysis.

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

[a] BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions. Fugitive dust emissions would be controlled using best management practices.

Operation

Estimated unmitigated daily operational emissions under Variant 2 for the existing year (2019) and the full buildout year (2026) as well as net daily operational emissions are summarized in Tables 5-10, 5-11, and 5-12, below. All emissions from existing operations on the Project Site were calculated for 2019 because data from 2020 and 2021 would not be representative of normal operations, given the reduced activity resulting from the COVID-19 pandemic. As shown in Table 5-12, operation of Variant 2 would not generate levels of NO_X or particulate matter that would exceed BAAQMD-recommended mass emission thresholds. However, operation of Variant 2 would generate 94 lbs of unmitigated ROG emissions per day which exceeds BAAQMD's ROG threshold. The ROG emissions under Variant 2 are higher when compared to the Proposed Project, which would generate 88 lbs of ROG per day before mitigation. ROG emissions from consumer products constitute the majority of operational ROG emissions associated with the Proposed Project. Therefore, unmitigated operation of Variant 2 would result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards.

Implementation of Project Mitigation Measure AQ-1.2 would decrease Variant 2's full-buildout operational ROG emissions, as shown in Table 5-13. Project Mitigation Measure AQ-1.2 requires the Project Sponsor to use architectural coatings with low levels of volatile organic compounds (VOCs) in all buildings. However, as shown in Table 5-14, net mitigated operational ROG emissions would still exceed BAAQMD's ROG threshold. Most of the emissions that would contribute to this exceedance would result from the volume of consumer products used, which is dependent on a project's size. Larger projects have more people who use more consumer products, such as hair spray, deodorant, cleaning products, etc., than smaller projects but are subject to the same mass emissions threshold. The City and Project Sponsor have minimal control over what consumer products users purchase, and there are no additional mitigation measures to reduce ROG from consumer products. Other main contributors to ROG emissions are vehicles. As discussed in the Variant 2 Transportation analysis above, with mitigation, Variant 2 would comply with the City's VMT threshold. However, mitigated operation of Variant 2 would result in a cumulatively considerable net increase in

criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards. This impact would be ***significant and unavoidable.***

Table 5-10. Estimated Unmitigated Average Daily Operational Emissions Existing Conditions (2019)

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Architectural Coatings	3	0	0	0
Consumer Products	19	0	0	0
Landscaping	< 1	< 1	< 1	< 1
Onsite Natural Gas Combustion	1	8	1	1
Vehicle Trips (mobile sources)	27	44	22	5
Backup Diesel Generator	< 1	< 1	< 1	< 1
Total Operational Emissions	**50**	**52**	**23**	**5**

Source: Table 40V included in the AQ Project Variants Analysis.
Notes:
Totals may not add up because of rounding.
lbs/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter
[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 5-11. Variant 2 Estimated Unmitigated Average Daily Operational Emissions Full Buildout Conditions (2026)

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Architectural Coatings	13	0	0	0
Consumer Products	71	0	0	0
Landscaping	2	1	< 1	< 1
Onsite Natural Gas Combustion	< 1	1	< 1	< 1
Vehicle Trips (mobile sources)	56	66	60	12
Backup Diesel Generators	1	7	< 1	< 1
Total Operational Emissions	**144**	**75**	**61**	**13**

Source: Table 40V included in the AQ Project Variants Analysis.
Notes:
Totals may not add up because of rounding.
lbs/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter
[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 5-12. Variant 2 Estimated Net Unmitigated Average Daily Operational Emissions

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Existing Conditions (2019)	50	52	23	5
Full-Buildout Conditions (2026)	144	75	61	13
Total Net Operational Emissions	**94**	**23**	**38**	**7**
BAAQMD Significance Threshold	54	54	82	54
Exceeds Threshold?	**Yes**	**No**	**No**	**No**

Source: Table 40V included in the AQ Project Variants Analysis.

Notes:

Totals may not add up because of rounding.

lbs/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 5-13. Variant 2 Estimated Mitigated Average Daily Operational Emissions Full Buildout Conditions (2026)

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Architectural Coatings	5	0	0	0
Consumer Products	71	0	0	0
Landscaping	2	1	< 1	< 1
Onsite Natural Gas Combustion	< 1	1	< 1	< 1
Vehicle Trips (mobile sources)	56	66	60	12
Backup Diesel Generators	1	7	< 1	< 1
Total Operational Emissions	**136**	**75**	**61**	**13**

Source: Table 41V included in the AQ Project Variants Analysis.

Notes:

Totals may not add up because of rounding.

lbs/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 5-14. Variant 2 Estimated Net Mitigated Average Daily Operational Emissions

	Average Daily Emissions (lbs/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Existing Conditions (2019)	50	52	23	5
Full-Buildout Conditions (2026)	136	75	60	13
Total Net Operational Emissions	**86**	**23**	**38**	**7.4**
BAAQMD Significance Threshold	54	54	82	54
Exceeds Threshold?	**Yes**	**No**	**No**	**No**

Source: Table 41V included in the AQ Project Variants Analysis.
Totals may not add up because of rounding.
lbs/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter
[a.] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Construction and Operations

Construction is expected to occur during operations because Variant 2 would be constructed over a period of several years. In years when construction is scheduled to coincide with operations, construction emissions were combined with operational emissions. This analysis conservatively assumed that the buildings constructed in each year of the construction program would be occupied and fully operational upon completion. This is conservative because occupancy and operation of each phase would very likely ramp up over time. The combined construction and operational emissions were compared with average daily emissions thresholds, using the 365 days per year to average annual emissions for both construction and operations, as shown in Table 5-15 and Table 5-16.

Table 5-15. Variant 2 Estimated Unmitigated Average Daily Construction plus Operational Emissions of Criteria Air Pollutants and Precursors

	Average Daily Emissions (lbs/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Year 1	-50	-50	-23	-5.2
Year 2	-45	11	-21	-3.9
Year 3	-31	**72**	-17	0.2
Year 4	9.5	7.2	-17	-2.2
Year 5	**75**	30	7.8	2.8
Year 6	**110**	25	30	6.3
Full Buildout	**94**	23	38	7.4
Maximum Average Daily Emissions	**110**	**72**	**38**	**7.4**
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	**Yes**	**Yes**	**No**	**No**

Source: Table 43V included in the AQ Project Variants Analysis.
Notes:
Totals may not add up because of rounding.
lbs/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less
[a.] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ evaluate exhaust and fugitive emissions.

Table 5-16. Variant 2 Estimated Mitigated Average Daily Construction plus Operational Emissions of Criteria Air Pollutants and Precursors

	Average Daily Emissions (lbs/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Year 1	-50	-50	-23	-5.2
Year 2	-47	-7.6	-22	-4.7
Year 3	-40	-5.1	-22	-4.4
Year 4	-19	-17	-19	-3.9
Year 5	37	7.0	5.8	1.1
Year 6	**80**	18	30	5.7
Full Buildout	**86**	23	38	7.4
Maximum Average Daily Emissions	**86**	**23**	**38**	**7.4**
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	**Yes**	**No**	**No**	**No**

Source: Table 44V included in the AQ Project Variants Analysis.

Notes:

Totals may not add up because of rounding.

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ evaluate exhaust and fugitive emissions.

As shown in Table 5-15, construction plus operation of Variant 2 would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X. Unmitigated particulate matter emissions would not exceed BAAQMD's particulate matter thresholds. As shown in Table 5-16, after implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 as well as ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2, construction plus net operational emissions would generate a maximum daily average of 86 lbs of mitigated ROG emissions which is in excess of BAAQMD's recommended threshold for ROG. The ROG emissions under Variant 2 are higher when compared to the Proposed Project, which would generate 80 lbs of ROG per day Therefore, mitigated construction plus operation of the Proposed Project would result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards. This impact would be ***significant and unavoidable*.**

Impact AQ-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations. Variant 2 would expose sensitive receptors to substantial pollutant concentrations (SU).

Localized Carbon Monoxide Hot Spots

Under Variant 2, maximum traffic volumes at the intersections under all scenarios would be less than BAAQMD's recommended screening criterion of 44,000 vehicles per hour. Therefore, as with the Proposed Project, implementation of Variant 2 would not result in, or contribute to, a localized concentration of carbon monoxide (CO) that would exceed the applicable National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS). The impact would be ***less than significant***.

Toxic Air Contaminants

Asbestos

Under Variant 2, the exposure to asbestos during demolition of the existing hardscape (asphalt and concrete) and buildings on the Project Site would remain the same. Therefore, implementation of Variant 2 would not change environmental impacts related to exposure to asbestos emissions during construction. The impact would be ***less than significant***.

Criteria Air Pollutants

As discussed above under Impact AQ-2, mitigated construction emissions as a result of Variant 2 would be below the BAAQMD thresholds of significance. Operational emissions as a result of Variant 2 would also be below BAAQMD thresholds of significance for all pollutants, excluding ROG, as summarized above under Impact AQ-2. Results from assessments completed for other similarly sized projects in the SFBAAB have shown that health impacts from exceedances of BAAQMD's ROG and NO_X thresholds would be minimal. As noted above, although only Variant 2's operational ROG emissions would exceed the thresholds of significance, emissions of both NO_X and ROG from three projects in the Bay Area are presented for comparison because NO_X and ROG are the primary precursors to ozone. For example, for the three projects in the Bay Area with ROG and NO_X emissions that ranged from 79 to 458 pounds per day (lbs/day) and 125 to 153 lbs/day, respectively, potential health effects were far below background incidence rates for all health endpoints.[6] Variant 2 is estimated to generate 23 lbs/day of NO_X and 86 lbs/day of ROG (see Table 5-16), which is similar to or below the emission levels of the referenced projects. It is thus anticipated that health impacts would be similarly de minimis.

Toxic Air Contaminants and Localized $PM_{2.5}$

Construction plus Operations

Table 5-17 includes the maximum unmitigated health risks for sensitive receptors near the Project Site. The evaluation of cancer risk was based on a total exposure duration of 30 years. The health impacts associated with construction and operation at onsite sensitive receptors is also included. As shown in Table 5-17, the unmitigated health risk results would not exceed BAAQMD's recommended health risk thresholds for the non-cancer hazard index; however, unlike the Proposed Project, Variant 2 would exceed BAAQMD's cancer risk and annual $PM_{2.5}$ concentration thresholds. Therefore, impacts would be potentially significant without mitigation.

[6] Ibid.

Table 5-17. Estimated Unmitigated Project-Level Health Risk Results from Construction plus Operations

Scenario	Cancer Risk (cases per million)[a]	Non-Cancer Chronic Risk[b]	Annual $PM_{2.5}$ Concentrations ($\mu g/m^3$)[b]
Construction plus Operations (offsite)	58	0.11	0.56
Construction plus Operations (onsite)	175	0.23	1.1
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	**Yes**	**No**	**Yes**

Source: Tables 59V, 60V, and 61V included in the AQ Project Variants Analysis.

Notes:

$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

a. Maximum cancer risk for the onsite Maximally Exposed Individual Receptor (MEIR) is associated with Scenario 3. Maximum cancer risk for the offsite MEIR is associated with Scenario 2.

b. Maximum chronic risk and $PM_{2.5}$ concentration for the onsite MEIR is associated with Scenario 3. Maximum chronic risk and $PM_{2.5}$ concentration for the offsite MEIR is associated with Scenario 1.

To mitigate the cancer risk and exceedances of the $PM_{2.5}$ concentration, Project Mitigation Measure AQ-1.1 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR would be implemented.. Similar to the Proposed Project, Variant 2 would be consistent with Mitigation Measure AQ-3b, and ConnectMenlo Mitigation Measure AQ-3a would not apply. As shown in Table 5-18, with implementation of Project Mitigation Measures AQ-1.1 and Mitigation Measures AQ-2b1, and AQ-2b2 from the ConnectMenlo EIR, the maximum cancer risk of 10.6 in 1 million for new onsite residents would continue to exceed the BAAQMD threshold. Onsite residential units would be equipped with Minimum Efficiency Reporting Value (MERV) filtration systems which are expected to reduce concentrations of diesel particulate matter.[7] However, there is still a possibility that onsite residents would be exposed to substantial pollutant concentrations and associated health risks. The impacts would be ***significant and unavoidable.***

Table 5-18. Variant 2 Estimated Mitigated Project-Level Health Risk Results from Construction plus Operations

Scenario	Cancer Risk (cases per million)[a]	Non-Cancer Chronic Risk[b]	Annual $PM_{2.5}$ Concentrations ($\mu g/m^3$)[b]
Construction plus Operations (offsite)	9.2	0.01	0.18
Construction plus Operations (onsite)	10.6	0.01	0.13
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	**Yes**	**No**	**No**

Source: Tables 59V, 60V, and 61V included in the AQ Project Variants Analysis.

Notes:

$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

a. Maximum cancer risk for the onsite MEIR is associated with Scenario 3. Maximum cancer risk for the offsite MEIR is associated with Scenario 2.

b. Maximum chronic risk and $PM_{2.5}$ concentration for the onsite MEIR is associated with Scenario 3. Maximum chronic risk and $PM_{2.5}$ concentration for the offsite MEIR is associated with Scenario 1.

7 W.J. Fisk, D. Faulkner, J. Palonen, O. Seppanen. 2002. Performance and costs of particle air filtration technologies. Indoor Air 2002: 12: 223-234.

Operations Only

Table 5-19 presents the incremental increase in health risks for maximally affected residential receptors with respect to operational emissions only. As shown in Table 5-19, the unmitigated health risk from Variant 2 operations only would be less than all BAAQMD-recommended health risk thresholds. Variant 2 would trigger the requirement for and be consistent with ConnectMenlo EIR Mitigation Measure AQ-3b, and ConnectMenlo Mitigation Measure AQ-3a would not apply. Therefore, unmitigated operational emissions would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be ***less than significant with mitigation***.

Table 5-19. Variant 2 Estimated Unmitigated Project-Level Health Risk Results from Operations Only

Scenario	Cancer Risk (cases per million)[a]	Non-Cancer Chronic Risk[b]	Annual $PM_{2.5}$ Concentrations ($\mu g/m^3$)[b]
Operations Only (offsite)	3.6	0.004	0.12
Operations Only (onsite)	3.4	0.01	0.11
BAAQMD Significance Threshold	10.0	1.0	0.3
Exceeds Threshold?	**No**	**No**	**No**

Source: Tables 59V, 60V, and 61V included in the AQ Project Variants Analysis.

$\mu g/m^3$ = micrograms per cubic meter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

a. Maximum cancer risk for the onsite MEIR is associated with Scenario 3. Maximum cancer risk for the offsite MEIR is associated with Scenario 4.

b. Maximum chronic risk and $PM_{2.5}$ concentration for the onsite MEIR is associated with Scenario 3. Maximum chronic risk and $PM_{2.5}$ concentration for the offsite MEIR is associated with Scenario 1.

Impact AQ-4: Other Air Emissions. Variant 2 would result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people (LTS/M).

Similar to the Proposed Project, Variant 2 would also contain a wastewater pump station in the southwest corner of the site. Wastewater Pumping Facilities are land uses listed in BAAQMD's Odor Screening Distances Table. Variant 2 would also be required to comply with Project Mitigation Measure AQ-1.4. Therefore, implementation of Variant 2 would not change environmental impacts related to objectionable odors. The impact would be ***less than significant with mitigation***.

Energy

Impact EN-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources. Variant 2 would not result in potentially significant environmental impacts due to the wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. (LTS)

Construction

Under Variant 2, construction-related energy usage would increase slightly due to the increase in dwelling units. However, Variant 2 would not change environmental impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources. Similar to the Proposed Project, construction under Variant 2 would utilize construction equipment with higher-tier engines (Tiers 3 and 4), include limitations on idling, comply with waste reduction requirements, and use grid power rather than

generators once available at the construction site; therefore, construction would result in a ***less-than-significant*** energy impact

Operation

Buildout of Variant 2 would increase energy use associated with construction and operation. However, increases in energy use would be minor. Similar to the Proposed Project, Variant 2 would incorporate energy efficiency measures and comply with the City's reach code. For all new buildings, 100 percent of their respective energy demands would be supplied through a combination of the following: (i) generate energy onsite, (ii) purchase 100 percent renewable electricity through Peninsula Clean Energy (PCE) or Pacific Gas and Electric Company (PG&E) in an amount equal to annual energy demand, (iii) purchase and install local renewable energy generation within Menlo Park in an amount equal to annual energy demand, and/or (iv) purchase certified renewable energy credits and/or certified renewable energy offsets annually in an amount equal to annual energy demand. Variant 2 would also enroll in and use the Energy Star Portfolio Manager for all buildings of 10,000 sf or greater. Therefore, operation of Variant 2 would not change environmental impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources. The impact would be ***less than significant.***

Impact EN-2: Conflict with Energy Plan. Variant 2 would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (LTS)

Similar to the Proposed Project, Variant 2 would comply with local plans that address energy efficiency to achieve the state's Renewables Portfolio Standard (RPS) mandates, including PG&E's and PCE's 2020 Integrated Resource Plans (IRPs) and the City's Climate Action Plan (CAP). The City General Plan and Menlo Park Municipal Code also include goals, policies, and requirements related to energy use and energy reductions. Therefore, implementation of Variant 2 would not change environmental impacts related to a potential conflict with state or local plan for renewable energy or energy efficiency. The impact would be ***less than significant***.

Greenhouse Gas Emissions

Impact GHG-1a: Generation of GHG Emissions during Construction. Construction of Variant 2 would not generate GHG emissions that may have a significant impact on the environment. (LTS)

Construction of Variant 2 would generate 23,528 metric tons of carbon dioxide equivalent ($MTCO_2e$) over the construction period (2021–2026). Similar to the Proposed Project, although construction GHG emissions would be ***less than significant***, under Variant 2, the Project Sponsor would comply with feasible and practical construction-related measures suggested in the 2017 Scoping Plan (specifically, the measures in Appendix B to the 2017 Scoping Plan that would be imposed as conditions of approval on the Proposed Project) as applicable, which would further reduce the level of GHGs associated with construction. Construction of Variant 2 would not generate GHG emissions that could have a significant impact on the environment.

Impact GHG-1b: Generation of GHG Emissions during Operation. Operation of Variant 2 would generate GHG emissions that may have a significant impact on the environment. (LTS/M)

Variant 2 GHG emissions associated with onsite consumption of electricity would be zero with implementation of Menlo Park Municipal Code Sections 16.43.140(2)(A) and 16.45.130(2)(A). Emissions associated with existing conditions (2019), the first year of Variant 2's full-buildout operations (2026), and net conditions (2026 minus 2019) are summarized in Tables 5-20, 5-21, and 5-22, respectively. All GHG emissions from existing operations on the Project Site were calculated for 2019 because data from

2020 and 2021 would not be representative of normal operations, given the reduced activity resulting from the COVID-19 pandemic.

As shown in Table 5-20, operation of the existing onsite buildings, which are to be demolished, generated approximately 2,511 $MTCO_2e$ in 2019. As shown in Table 5-21, operational GHG emissions during the first year of Variant 2's full buildout would be 1,399 $MTCO_2e$ (in 2026). Net operational GHG emissions (2026 minus 2019) would be -1,112 $MTCO_2e$ per year, as shown in Table 5-22.

Table 5-20. Non-Mobile-Source Operational Greenhouse Gas Emissions by Sector for Existing Conditions, 2019 ($MTCO_2e$)

Emissions Source	Annual $MTCO_2e$
Landscape Maintenance (area source)	< 1
Electricity Consumption (onsite)[b]	0
Natural Gas Consumption (onsite)	1,613
Backup Generators (stationary sources)	9
Solid Waste Disposal[a]	397
Water Consumption and Wastewater Treatment	492
***Total Non-Mobile-Source Operational Emissions* (*$MTCO_2e$/year*)**[c]	**2,511**

Source: Table 42 included in the AQ Project Variants Analysis.

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent

a. The level of GHG emissions associated with solid waste disposal accounts for the waste diversion requirements mandated by state regulations (e.g., Assembly Bill 341).

b. The level of GHG emissions associated with onsite consumption of electricity on the main Project Site would be zero with implementation of Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A) and 16.45.130(2)(A).

c. Values may not add up because of rounding.

Table 5-21. Variant 2 Non-Mobile-Source Operational Greenhouse Gas Emissions by Sector for Full Buildout Conditions, 2026 ($MTCO_2e$)

Emissions Source	Annual $MTCO_2e$
Landscape Maintenance (area source)	24
Electricity Consumption (onsite)[b]	[0]
Natural Gas Consumption (onsite)[c]	118
Backup Generators (stationary sources)	399
Solid Waste Disposal[a]	745
Water Consumption and Wastewater Treatment	231
***Total Non-Mobile-Source Operational Emissions* (*$MTCO_2e$/year*)**[d]	**1,399**

Source: Table 42 included in the AQ Project Variants Analysis.

Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent

a. The level of GHG emissions associated with solid waste disposal accounts for the waste diversion requirements mandated by state regulations (e.g., Assembly Bill 341).

b. The level of GHG emissions associated with onsite consumption of electricity would be zero with implementation of Menlo Park Municipal Code Chapter 16, Sections 16.43.140(2)(A) and 16.45.130(2)(A), which requires the Proposed Project to offset fully the GHG emissions associated with all onsite electricity.

c. The level of GHG emissions associated with onsite consumption of natural gas is estimated to be conservative.

d. Values may not add up because of rounding.

Table 5-22. Variant 2 Net Operational Non-Mobile-Source Greenhouse Gas Emissions ($MTCO_2e$)

Total Emissions by Analysis Year	Annual $MTCO_2e$
Full Buildout (2026)	1,399
Total Non-Mobile-Source Net Operational Emissions **(*$MTCO_2e$/year*)**[a]	**-1,112**

Source: Table 42V included in the AQ Project Variants Analysis.
Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent
[a] Values may not add up because of rounding.

Largely, because of the substantial reduction in natural gas use with Variant 2 compared to existing conditions, GHG emissions from Variant 2 would be lower than the baseline condition. Therefore, implementation of Variant 2 would not contribute a significant amount of operational non-mobile-source GHG emissions to existing significant cumulative emissions. The impact would be ***less than cumulatively considerable***.

Operational GHG Emissions from Mobile Sources

As shown in Table 5-23, below, operation of Variant 2 would result in mobile-source GHG emissions, which would be associated with vehicle trips to and from the Project Site (i.e., Project-generated VMT). GHG impacts from vehicles are evaluated using the City's VMT threshold. This threshold provides information on whether a project is consistent with applicable plans, including Plan Bay Area, and goals to reduce GHG emissions by reducing VMT. In addition, using the same VMT threshold for both transportation and mobile-source GHG impacts ensures consistency throughout the EIR.

Table 5-23. Variant 2 Net Operational Mobile-Source Greenhouse Gas Emissions ($MTCO_2e$)

Total Emissions by Analysis Year	Annual $MTCO_2e$
Existing (2019)	16,024
Full Buildout (2026)	38,060
Total Net Operational Mobile-Source Emissions **(*$MTCO_2e$/year*)**[a]	**22,035**

Source: Table 25bV included in the AQ Project Variants Analysis.
Notes: $MTCO_2e$ = metric tons of carbon dioxide equivalent
[a] Values may not add up because of rounding.

Similar to the Proposed Project, Variant 2 would develop and implement TDM programs with trip reduction measures that would reduce vehicle traffic in and around the main Project Site. Together, the TDM measures and Mitigation Measure TRA-1 would meet the City's trip and VMT reduction targets.

Mobile-source GHG emissions resulting from operation of Variant 2 are anticipated to decrease in subsequent years (to buildout year 2026) as older vehicles are replaced with newer, more GHG-efficient vehicles. Ongoing implementation of more stringent fuel efficiency standards and electric-vehicle (EV) integration into the overall vehicle fleet will also decrease GHG emissions. Moreover, by following Menlo Park Municipal Code Section 12.18.080 (Amending California Green Building Standards Code Chapter 5, Section 5.106.5.3), Variant 2 would ensure that 15 percent of the parking stalls for passenger vehicles would be EV ready, thereby supporting the projected future vehicle fleet. Mobile-source GHG emissions under existing (2019), full-buildout (2026), and net (buildout 2026 minus existing 2019) conditions are provided in Table 5-23.

With implementation of Mitigation Measure TRA-1, operation of Variant 2 would achieve the City's VMT thresholds, thereby reducing associated mobile-source GHG emissions. Therefore, this impact would be ***less than cumulatively considerable with mitigation***.

Impact GHG-2: Conflicts with Applicable Plans and Policies. Variant 2 would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs. (LTS/M)

Similar to the Proposed Project, the quantitative efficiency of operations associated with Variant 2 would be aligned with the statewide GHG target for 2030 mandated by Senate Bill 32 as well as the Menlo Park Municipal Code, which requires onsite or offsite renewable energy generation, the use of 100 percent renewable electricity, and/or renewable energy credits and/or certified renewable energy offsets. The City's reach code would significantly limit the onsite combustion of natural gas (an exception could be granted from the reach code by the Environmental Quality Commission (or other Council designated body) for onsite commercial kitchens to use natural gas in their cooking facilities). If any natural gas is permitted to be used, the amount would be less than the amount of natural gas used under existing conditions (and the equivalent energy use would be offset per the requirements of the Zoning Ordinance) The Menlo Park Municipal Code requires a minimum of 15 percent of the parking spaces for passenger vehicles to be EV spaces, with another 10 percent designated electric-vehicle supply equipment (EVSE), thereby supporting the projected future vehicle fleet. Also, Variant 2 would be consistent with Plan Bay Area 2040 and 2050, which are regional plans to reduce per-service-population VMT in the San Francisco Bay Area.

Mitigation Measures and Summary.

No mitigation measures are required to achieve net-zero non-mobile-source operational emissions. Implementation of Mitigation Measure TRA-1, which is presented in Section 3.3, *Transportation*, would ensure that operation of Variant 2 would achieve the City's VMT thresholds, thereby reducing associated mobile-source emissions.

Construction and operation of the buildings associated with Variant 2 would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The buildings would meet a net-zero operational GHG threshold. Implementation of Mitigation Measure TRA-1 would ensure that operation of Variant 2 would result in a level of VMT that would meet the City's VMT thresholds. For these reasons, with implementation of Project Mitigation Measure TRA-1, Variant 2 would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions, thereby reducing this impact to ***less than cumulatively considerable with mitigation*.**

Noise

Impact NOI-1a: Construction Noise. Construction of Variant 2 would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (SU)

Similar to the Proposed Project, Variant 2 would include construction of up to approximately 1.8 million sf of nonresidential uses at the main Project Site in the form of up to approximately 1.6 million sf of office and accessory space and up to approximately 200,000 sf of commercial/retail space, along with up to 193 hotel rooms. However, the number of multi-family housing units would increase from up to 1,730 to up to 1,930

units, which would result in 3,926 additional new onsite residents. The number of estimated employees would not change under Variant 2. The overall project footprint would also remain the same.

Main Project Site Construction Noise Impacts to Offsite Uses

Because the general project location and constructions schedule would not undergo large-scale changes with under this Variant, and because the general equipment list would be the same as that proposed for the Project, construction noise impacts would generally be the same under Variant 2. Specifically, and as was the case for the Project, all proposed construction equipment would be expected to comply with the 85 dBA at 50 feet threshold from the City Municipal Code, except for pile drivers. In addition, during the daytime hours of 8:00 a.m. to 6:00 p.m., construction noise from Project site activities would have the potential to result in a 10-dB increase over the ambient noise level at nearby noise-sensitive uses. During non-daytime hours, construction noise from the Project site would have the potential to exceed the applicable 50 dBA and 60 dBA thresholds for daytime and non-daytime hours (outside of the 8:00 a.m. to 6:00 a.m. hours during which overall construction noise is exempt from the overall quantitative standards in the City Code). In addition, construction noise during these non-daytime hours may also result in a 10-dB increase over ambient at nearby noise sensitive uses. As a result, construction noise impacts from the Project Site and Hamilton Avenue Parcel under Variant 2 would be the same as disclosed for the Project and would be **significant**.

Modified ConnectMenlo Mitigation Measure Noise-1C and Project Mitigation Measures NOI-1.1 and NOI-1.2 would apply under Variant 2 and would reduce noise and would reduce the severity of construction noise impacts from the Project Site and the Hamilton Avenue Parcels during daytime, early morning, and evening hours. In addition, Project Mitigation Measure NOI-1.2 includes the installation of a temporary construction noise barrier in various locations, including the perimeter of the main Project Site and Hamilton Avenue Parcels in areas where construction would occur near residential or school land uses. These construction noise barriers would reduce construction noise effects to the nearby residences and schools. However, these measures may not reduce noise sufficiently in all instances and all locations to prevent a noise increase of 10 dB or more relative to ambient noise levels, or to reduce construction noise outside of the standard daytime hours such that compliance with applicable Municipal Code noise limits is achieved. In addition, individual pile driver equipment noise may also not be reduced to below the 85 dBA threshold at 50 feet. Therefore, as was the case for the Proposed Project, construction noise impacts from construction at the main Project Site and the Hamilton Avenue Parcels would be ***significant and unavoidable*** with mitigation during daytime, early morning, and evening hours for Variant 2.

Off-site Improvements Construction Noise Impacts

Regarding daytime construction noise from off-site improvements, as was the case with the proposed Project, off-site utility and roadway in the project vicinity would be less than significant because work for these improvements would primarily be limited to daytime hours (except for the limited work within Willow Road), and as a result of the short-term nature of the construction work required for these improvements. In addition, for the utility work, construction would progress linearly at a rate of 50 to 100 feet per day and would not expose the same individual receptors to the louder noise levels for an extended duration as a result of the construction location moving on a day-to-day basis. For these reasons, short-term and temporary construction noise generated during daytime hours for off-site improvements would be considered **less than significant**.

Regarding nighttime construction noise from off-site improvements, certain construction would be required to take place during nighttime hours when work is proposed within the Caltrans or SamTrans right of way. Equipment that may be used during these nighttime construction activities include

excavators, hoe rams, loaders, grinders, jackhammers, pavers, rollers, light plants, off-haul trucks, utility trucks, highway striping machines, arrow boards, compressors, auger rigs, generators, vibratory impact hammer, impact pile driver, and cement silos.

Under Variant 2, and as was the case for the Proposed Project, the nearest sensitive land use to the proposed nighttime construction area near the SamTrans right of way are the multi-family residences located at 777 Hamilton Avenue. These residences are approximately 480 feet southwest of the proposed nighttime construction areas within the SamTrans right of way. Additionally, there are multi-family residences approximately 550 feet south of this proposed construction area along Willow Road. The loudest construction subphase that would occur in the SamTrans and Caltrans Corridors is tunnel shoring, during which would include the use of a vibratory hammer and impact pile driver. Tunnel shoring could result in noise levels of approximately 77 dBA L_{eq} at a distance of 480 feet.

Based on the modeling results presented above, noise levels from nighttime construction activities within Willow Road would be expected to exceed the allowable nighttime noise threshold of 50 dBA. In addition, based on the lowest 1-hour nighttime Leq noise level recorded at LT-4, noise level in this neighborhood could be as low as 45.0 dBA Leq (recorded at 2:00 a.m.). Therefore, nighttime construction noise would also likely result in a noise increase of more than 10-dB over ambient noise nighttime levels. Similar to the Proposed Project, construction noise impacts from off-site improvements during the nighttime hours of 10:00 p.m. to 7:00 a.m. would be considered **significant**, and mitigation would be required.

Implementation of Modified ConnectMenlo Mitigation Measure NOISE-1c and Project Mitigation Measure NOI-1.1 would reduce the amount of construction noise experienced by nearby noise-sensitive receptors from off-site intersection improvement activities from construction of the Willow Road Tunnel, and from the nighttime PG&E feeder line construction work (within Willow Road). While this mitigation measure would reduce construction noise effects to offsite noise-sensitive uses during nighttime hours, it may not be possible in all times and at all locations to reduce noise levels to less-than-significant levels. Therefore, similar to the Proposed Project, construction noise impacts under Variant 2 from these off-site improvements to noise-sensitive land uses during nighttime hours would be ***significant and unavoidable.***

Impact NOI-1b: Operational Noise. Operation of Variant 2 would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (LTS/M)

Operational Traffic Noise

Similar to the Proposed Project, Variant 2 could result in increased traffic noise in the project vicinity. Even with a slight increase in housing, traffic noise increases would be relatively minor as compared to the Project. To determine if Variant 2 would result in a substantial increase in traffic noise as compared to the Project, a ratio analysis was conducted based on average daily trip (ADT) traffic data provided by Hexagon Transportation Consultants for Baseline plus Project and Baseline Plus Variant 2 scenarios. Most segments would have the same or approximately the same volume of traffic under either scenario. The largest single-segment percent increase in traffic under Variant 2 (as compared to the Project) was a 4 percent increase which equates to a change in noise of 0.2 dB. In general, human sound perception is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level as it increases or decreases, respectively. Therefore, implementation of Variant 2

would not result in meaningful changes in traffic noise increases in the Project vicinity. Similar to the Proposed Project, Variant 2-related traffic increases would not result in traffic noise increases in excess of thresholds along segments with noise-sensitive land uses, and traffic noise impacts would be ***less than significant.***

Mechanical Equipment Noise

Regarding mechanical equipment, similar equipment would be installed at the Project site under Variant 2 as would be installed under the Project. Based on modeling results, noise from mechanical equipment (such as heating and cooling equipment, including chillers, cooling towers, heat pumps, water pumps, etc.) could result in noise levels in excess of applicable thresholds. As described previously, stationary noise sources are regulated by Chapter 8.06 of the Menlo Park Municipal Code which states daytime noise levels are limited to 60 dBA and nighttime noise levels are limited to 50 dBA. In addition, noise levels from rooftop equipment in the City are limited to 50 dBA at 50 feet. Even if shielding from intervening buildings would reduce noise from project mechanical equipment somewhat, modeling for the Project indicates that equipment noise could still exceed the daytime and nighttime criteria described above, as well as the rooftop equipment noise threshold. Impacts from mechanical equipment under Variant 2 would be **significant**.

Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation measure NOI-1.3 would ensure noise from Project mechanical equipment would comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, impacts from mechanical equipment noise under Variant 2 would be ***less than significant with mitigation***.

Emergency Generator Noise

Under Variant 2, emergency generators would be installed as part of the Project. As was the case for Project emergency generates, these would result in the generation of audible noise during testing. Noise from the operation of emergency generators during an emergency is typically considered to be exempt from local noise limits. However, even though the testing of emergency generators is a short-term (e.g., less than 1 hour) and intermittent process (usually once or twice per month), noise resulting from generator testing must comply with local noise limits for operational equipment noise. Generator testing is typically conducted on a monthly or biweekly basis for periods of 15 to 30 minutes. A similar testing schedule is expected for Variant 2.

In the City of Menlo Park, noise must comply with section 8.06.030 of the City Municipal Code, which includes maximum allowable noise levels as measured at the receiving residential property. Noise during daytime hours (7:00a.m. to 10:00 p.m.) in the City is generally limited to 60 dBA, and noise during nighttime hours (10:00 p.m. to 7:00a.m.) is generally limited to 50 dBA. Note that Section 8.06.040(b) of the Municipal Code also states that noise from powered equipment used on a temporary, occasional, or infrequent basis during the hours of eight 8:00 a.m. to 6:00 p.m. Monday through Friday shall be limited to 85 dBA at a distance of 50 feet from the source during the hours of 8:00 a.m. and 6:00 p.m. Testing of the Project emergency generators would take place during the weekday daytime hours listed above. Therefore, this analysis assesses the potential for generator testing noise to exceed the 85 dBA threshold at a distance of 50 feet, and the daytime residential property line (or sensitive use property line) threshold of 60 dBA.

Unattenuated combined engine and exhaust noise from the testing of a 500 to 1,750 kW emergency generator can be in the range of 100 to 102 dBA at a distance of 50 feet. This noise level exceeds the powered equipment limit in the City of 85 dBA at 50 feet. In addition, based on these estimated noise levels, overall noise levels at nearby noise-sensitive land uses would likely exceed the daytime 60 dBA threshold (as was the case for the Proposed Project).

Because noise from generator testing under Variant 2 would exceed the City's criterion of 60 dBA at the nearest sensitive receptors during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from the testing of the South Garage generators would be considered **significant**.

Project Mitigation Measure NOI-1.4, which would also apply under Variant 2, requires the preparation of a Noise Reduction Plan that includes effective attenuation features. To result in meaningful attenuation from shielding, all walls, enclosures or screens surrounding generators must be solid with no holes or gaps. Attenuation also varies based on the type of material used for the walls or screens. In addition, exhaust noise from generators is not always mitigated by enclosures, because the exhaust may need to be piped to the exterior of the building or enclosure. To reduce exhaust noise, mufflers or critical grade silencers might be needed. Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation Measure NOI-1.4 would ensure noise from emergency generators during testing would comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, noise impacts from Project emergency generator testing would be ***less than significant with mitigation***.

Other Operational Noise Sources

Similar to the Proposed Project, other operational sources of noise under Variant 2 (i.e., amplified music and sound from events, dog park noise, loading dock noise, parking garage noise and shuttle and tram noise) would be ***less than significant.***

Impact NOI-2: Generation of excessive groundborne vibration or groundborne noise levels (Significant and Unavoidable with Mitigation)

Construction Vibration Damage Impacts

Similar to the Proposed Project, under Variant 2 construction for the main Project Site (east of Willow Road), would result in vibration levels below the applicable damage thresholds at the nearest off-site residential land uses (150 feet west of Willow Road), school land uses (Mid-Peninsula High School, 1,200 feet from pile driving activity and 10 feet from grading activities) and commercial land uses (UPS Customer Center 100 feet east of the Project). Based on the analysis for the Project, construction activities on the main Project Site and Hamilton Avenue Parcel would result in vibration levels below the applicable damage criteria at all nearby off-site structures. In addition, vibration-related damage impacts from most off-site construction activities (i.e., intersection improvements and waterline work) would result in lower vibration levels due to the types of equipment proposed for use. Finally, off-site improvement work for the Willow Road Tunnel, which may require pile driving, would take place far enough from nearby structures to ensure vibration-related damage impacts from this work would be less than significant. Overall, vibration-related damage impacts from construction of Variant 2 would be less than significant.

Construction Vibration Annoyance, Daytime

Annoyance related vibration impacts at nearby sensitive uses during daytime hours would be considered significant for the Proposed Project, and for Variant 2 which would involve construction activities in the same general areas as the project. Implementation of Project Mitigation Measure NOI-2.1 would reduce vibration-related annoyance effects from pile driving to nearby sensitive uses. In addition, Project Mitigation Measure NOI-2.2 would reduce vibration levels from non-pile driving activity. However, it might not be possible to ensure that vibration levels at all times and in all locations would be reduced to below the applicable annoyance thresholds. Therefore, even with the implementation of Project Mitigation Measures NOI-2.1 and NOI-2.2, daytime annoyance-related vibration impacts would remain

significant. Vibration-related annoyance impacts during daytime hours would be ***significant and unavoidable.***

Construction Vibration Annoyance, Nighttime

As discussed in the assessment of on-site nighttime construction, humans are typically considered more sensitive to vibration that occurs during nighttime hours because this is when people generally sleep. A significant vibration impact would be considered to occur when construction activities generate vibration levels that are strongly perceptible (i.e., 0.1 PPV in/sec) at nearby residential land uses during nighttime hours, or when vibration levels exceed the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a for residential land uses during nighttime hours. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.016 in/sec at the nearest residence during nighttime hours, which is more stringent than the Caltrans criterion, and is the main focus of this analysis.

Construction activities on the Project Site during nighttime hours would be limited to concrete pour activities under Variant 2, similar to the Proposed Project. At a distance of 150 feet, the nearest sensitive use to project site construction areas, concrete mixers and concrete pumps would generate less vibration than a small bulldozer, which is the piece of equipment in the Federal Transit Administration list of vibration source levels with the lowest level of vibration. A small bulldozer would result in a PPV of approximately 0.0002 inch per second at a distance of 150 feet, which is well below the strongly perceptible threshold (i.e., PPV of 0.1 inch per second) (refer to Table 4.11-5) as well as the 0.016 PPV in/sec limit from ConnectMenlo EIR Mitigation measure Noise-2a at the nearest residence during nighttime hours. Vibration-related annoyance impacts from the Project site would be less than significant during nighttime hours.

Regarding off-site improvement construction activities, the Willow Road Tunnel construction would require the use of excavators, hoe rams, loaders, grinders, jackhammers, pavers, rollers, light plants, off-haul trucks, utility trucks, highway striping machines, arrow boards, compressors, auger rigs, generators, vibratory impact hammer, impact pile driver, and cement silos. The most vibration-intensive of these activities would be tunnel shoring, which would require the installation of piles, and may require the use of an impact pile driver.

The nearest sensitive land use to the proposed nighttime construction area near the SamTrans and Caltrans right of way are the multi-family residences located at 777 Hamilton Avenue. These residences are approximately 480 feet southwest of the proposed nighttime construction areas within the SamTrans and Caltrans right of way. A pile driver can result in a vibration level of 0.018 PPV in/sec at a distance of 480 feet. This vibration level is slightly greater than the maximum allowable vibration level from ConnectMenlo EIR Mitigation Measure NOISE-2a of 0.016 PPV in/sec. Because nighttime construction in the SamTrans and Caltrans right of way may result in vibration levels in excess of the applicable thresholds from the ConnectMenlo EIR, nighttime annoyance-related vibration impacts to nearby residences from off-site construction would be considered ***significant***, and mitigation would be required.

Project Mitigation Measure NOI-2.3, which would apply to Variant 2, would ensure that nighttime pile driving would take place at least 540 feet from the nearest residential land uses, as feasible. If pile installation must take place closer than this distance from occupied residences, alternative methods pile installation methods would be used to reduce vibration levels to below the applicable significance thresholds. However, it may not be possible to ensure that vibration levels at all times and in all locations would be reduced to below the applicable annoyance thresholds if pile driving work must occur closer than 540 feet from residences. Therefore, even with the implementation of Mitigation Measure NOI-2.3,

annoyance-related vibration impacts during nighttime hours would remain significant. Vibration-related annoyance impacts during nighttime hours under Variant 2 would be ***significant and unavoidable.***

Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose of people residing or working in the project area to excessive noise levels (No Impact)

Because the footprint for the Project Site would generally be the same under Variant 2 as under the Project, impacts related to aircraft noise would be the same under Variant 2. Implementation of Variant 2 would not expose people working or residing in the Project to excessive noise levels from either a public or public use airport or private airstrip. There would be ***no impact*** related to excessive aircraft noise levels under this Variant.

Population and Housing

Impact POP-1: Unplanned Population Growth. Variant 2 would not induce substantial unplanned direct or indirect population growth. (LTS)

Similar to the Proposed Project, Variant 2 would include construction of up to approximately 1.8 million sf of nonresidential uses at the main Project Site in the form of up to approximately 1.6 million sf of office and accessory space and up to approximately 200,000 sf of commercial/retail space, along with up to 193 hotel rooms. However, the number of multi-family housing units would increase from up to 1,730 to up to 1,930 units.

At full buildout of Variant 2, the net increase in employees would total 4,336 compared to 4,332 employees generated by the Proposed Project; the current number of onsite employees is 3,666. Similar to the Proposed Project, under Variant 2, Hamilton Avenue Parcels North and South would accommodate approximately 164 employees who would work at the retail and commercial uses, a net increase of approximately 34. In total, the entire Project Site at full buildout would accommodate 8,132 employees, a net increase of 4,336 compared to existing conditions.

Construction

Under Variant 2, the number of construction workers would remain the same. Therefore, implementation of Variant 2 would not change environmental impacts related to indirect population growth during construction. The impact would be ***less than significant***.

Operation

Similar to the Proposed Project, Variant 2 would have impacts on both the supply of and demand for housing (Table 5-24). New residential units would increase the supply of housing. Non-residential components would increase employment and result in a demand for additional housing within commuting distance for workers. Variant 2, would result in added housing supply and housing demand, as follows:

- **Added Housing Supply:** Variant 2 would increase the housing supply through the construction of up to 1,930 units at the main Project Site.
- **Added Housing Demand:** Variant 2 would generate approximately 4,336 jobs onsite at full buildout, which would create a demand for an estimated 2,581 additional housing units, including an estimated demand for 308 housing units for workers in offsite services (e.g., restaurant, retail, educational,

medical, or other facilities). The number of jobs can be translated into an estimate of worker housing demand, based on an average of 1.91 workers per housing unit.[8] Compared to the Proposed Project, Variant 2 would generate 4 new jobs onsite, create a demand for an additional 36 housing units, inclusive of 34 housing units for workers in offsite services and 2 units to accommodate the increase in on-site employment to serve the additional residential units.

Employment Growth

Operation of Variant 2 would generate up to 4,336 net new jobs onsite. In addition, the Proposed Project would induce approximately 588 offsite jobs that would serve residents of the proposed housing. Job creation, which is driven by increased demand for products and services, was projected for each industry that would serve the new households. Using the assumption that 5.9 percent of people who live in Menlo Park also work in the city, this would equate to approximately 34 new offsite jobs in Menlo Park. ABAG estimates that the number of jobs in the city's sphere of influence will grow by approximately 6,065 between 2020 and 2040. Therefore, the number of direct and indirect employees generated by Variant 2 in Menlo Park would equal approximately 72 percent[9] of the anticipated employment growth in the city from 2020 to 2040, which is within the anticipated employment growth forecasts. Therefore, the number of employees generated by Variant 2 would not exceed ABAG projections, and the Proposed Project would not result in an increase in city population or demand for housing that would exceed ABAG projections.

[8] The San Mateo County average is 1.9077 workers per housing unit. For calculations throughout this section, 1.9077 is used for accuracy. However, for rounding purposes, 1.91 is used in the text.

[9] 4,336 net jobs at the Project Site + 34 new jobs in the city induced by the onsite residents/6,065 new jobs in the city between 2020 and 2040 × 100 = 72 percent of anticipated employment growth in the city's sphere of influence.

Table 5-24. Summary of Employment and Housing Induced by Variant 2

	Onsite	Offsite Due to Induced Employment[a]	Total
Regional Totals			
Net New Employment	4,336[b]	588	4,924 employees
Number of Households	2,273	308	2,581 households
Housing Units Constructed	1,930	n/a	1,930 housing units
Net Decrease in Housing Availability in Region[c]	-343	-308	-651 housing units
Menlo Park Share			
Estimated Menlo Park Share of Housing Need[d]	161	19	180 housing units
Housing Units Constructed in Menlo Park	1,930	n/a	1,930 housing units
Net Increase in Housing Availability in Menlo Park	1,769	-19	1,750 housing units
Estimated Population Added in Menlo Park	3,940	n/a[e]	3,940 persons

Source: Keyser Marston Associates. 2022. *Table 1: Increased Residential Density Variant Summary.* Menlo Park, CA.

a. Estimated offsite employment would be induced by the demand from residents of the new onsite housing for additional retail, restaurant, medical, and other services.

b. The net new employment at the Project Site includes seated workers in the Campus District and onsite employees to support seated workers (e.g., employees within hotel, retail, and support services).

c. Housing units constructed under Variant 2 minus number of households induced by the Proposed Project.

d. The estimated Menlo Park share of housing need is based on commute data from Meta that show that 7.4 percent of its employees live and work in Menlo Park as well as commute data from the U.S. Census Bureau that show that an average of 5.9 percent of Menlo Park employees also live in the city.

e. As discussed in more detail below, onsite employment could result in 419 new Menlo Park residents; offsite induced employment could result in 42 new Menlo Park residents. However, because the onsite units added by Variant 2 could accommodate employment-induced residents, they are included in the total Menlo Park population as a result of Variant 2.

Indirect Population Growth from Project Employment

Operation of Variant 2 would generate up to 4,336 net new jobs at the Project Site. Using an average of approximately 1.91 workers per housing unit in San Mateo County, Variant 2 would generate the equivalent of approximately 2,273 new households regionally,[10] compared to the 2,271 new households generated by the Proposed Project. Assuming that 7.1 percent of workers who work at the Project Site would also live in Menlo Park, approximately 161 new households would be generated in the city.[11] With an average 2.60 pph, onsite employment under Variant 2 could generate approximately 419 residents in Menlo Park, which is the same amount generated by the Proposed Project.[12] The residential uses of Variant 2 would result in an indirect demand for 588 new offsite employees throughout the region. Using an average of 1.91 workers per housing unit in San Mateo County, Variant 2 would generate the equivalent of approximately 308 new households regionally, compared to the 274 new households generated by the Proposed Project.[13] Assuming the city average of 5.9 percent of employees who work in the city would also be living in the city, approximately 18 new households would be generated, compared to 16 new households generated by the Proposed Project.[14] With an average 2.60 pph, the Proposed

10 4,336 new jobs/1.9077 workers per housing unit = 2,273 total households.

11 2,273 regional households ×7.1 percent of people who work and live in Menlo Park = 161 new households in Menlo Park.

12 161 new households × 2.60 pph = 419 residents in Menlo Park.

13 588 new jobs/1.9077 workers per housing unit = 308 total households.

14 308 regional households × 5.9 percent of people who work and live in Menlo Park = 18 new households in Menlo Park.

Project's offsite induced employment could generate approximately 46 residents in Menlo Park, compared to 42 generated by the Proposed Project.[15]

In total, onsite and offsite employment induced by onsite residents would result in indirect population growth (i.e., approximately 465 new Menlo Park residents, compared to 461 under the Proposed Project). Approximately 44,530 residents lived within the city's sphere of influence in 2020. According to ABAG projections, the population is projected to increase to approximately 54,920 by 2040. This represents 10,390 additional residents over 20 years. The addition of up to 465 new residents in the city as a result of the onsite employment under Variant 2, as well as indirect offsite employment would represent approximately 4.5 percent of the anticipated population growth within the city between 2020 and 2040, compared to 4.4 percent under the Proposed Project.[16]

Direct Population Growth from Onsite Residences

Variant 2 would provide 1,930 residential units, compared to 1,730 under the Proposed Project. These additional units would be market rate units enabled through the City's density bonus allowance/incentive for the provision of on-site BMR units that allows for one additional market rate unit for each BMR unit provided within the Proposed Project. The increased units may also take advantage of State Density Bonus Law. As such, the additional 200 units would be all market rate units and no additional BMR units would be provided through implementation of Variant 2. This analysis assumes the 308 BMR units provided with the Proposed Project would be carried through Variant 2, including the 15 percent inclusionary BMR requirement for the 1,730 units and the units associated with the commercial linkage fee, including a dedicated senior housing community (120 units). As shown in Table 5-25, the average household size would be approximately 2.04 persons per household (pph). Therefore, the 1,930 dwelling units proposed under Variant 2 would result in a total onsite population of approximately 3,940, compared to 3,520 under the Proposed Project. Based on ABAG projections, the residential population in Menlo Park is expected to increase by 10,390 over the next 20 years. The addition of up to 3,940 new onsite residents in the city as a result of Variant 2 would represent approximately 37.9 percent of the anticipated population growth within the city between 2020 and 2040.[17] Table 5-25, summarizes the onsite population under Variant 2.

Table 5-25. Population from Onsite Residences under Variant 2

	Number of Units	Estimated Household Size[a]	Total Number of People
Studio	500	1	550
1-Bedroom	807	2	1,614
2-Bedroom	516	3	1,548
3-Bedroom	57	4	228
Total for Variant 2	***1,930***	***2.04***	***3,940***

Source: Keyser Marston Associates. 2022. *Table2: Estimated Additional Population in Menlo Park added by Increased Residential Variant*. Menlo Park, CA.

a. Reflects the standard for relating unit size to household size specified in California Health and Safety Code Section 50052.5.

Housing Demand and Growth

[15] 18 new households × 2.60 pph = 46 residents in Menlo Park.

[16] Up to 465 new residents in the city's sphere of influence/10,390 anticipated new residents in the city's sphere of influence between 2020 and 2040 = 4.5 percent of anticipated population growth in the city's sphere of influence.

[17] Up to 3,940 new residents in the city's sphere of influence/10,390 anticipated new residents in the city's sphere of influence between 2020 and 2040 = 37.9 percent of anticipated population growth in the city's sphere of influence.

At full buildout, Variant 2 would induce a demand for 2,273 new households in the region, compared to the 2,271 new households generated by the Proposed Project. In addition, approximately 308 households would be induced in the region by offsite employment, creating a total demand for 2,581 housing units across the region, compared to 2,545 households induced by the Proposed Project. Although Variant 2 would add up to 1,930 new residential units to the housing supply, because of the regional housing demand from the onsite and induced employment under Variant 2, there would be a 651-unit deficit in housing supplied by Variant 2 in Menlo Park compared to demand created by Variant 2.[18] Therefore, Variant 2 is estimated to result in a net decrease in available housing in the region (i.e., approximately 651 units).[19] In comparison, the Proposed Project would result in an 851-unit deficit. However, the approximately 651-unit decrease across the region as a result of Variant 2, induced by onsite and offsite employment, could be accommodated within other allowable construction in the Bayfront Area and housing in the rest of the region. Under ConnectMenlo, approximately 2,770 additional units would be allowable.

According to ABAG projections, the number of households in the Bay Area is expected to grow by 544,735 between 2020 and 2040. Therefore, the 651-unit demand deficit represents only a small fraction of the anticipated housing growth in the region between 2020 and 2040. Furthermore, only 5.9 to 7.4 percent (for a weighted average of 7.1 percent) of the employees who would be induced by Variant 2 would live in the city; therefore, the rest would seek housing elsewhere in the Bay Area. Within Menlo Park, onsite and offsite induced employment would generate a demand for 180 housing units within the city. However, the net increase in housing availability in Menlo Park as a result of Variant 2 would amount to 1,769 units. Therefore, the proposed housing at the Project Site would offset the housing demand from onsite and offsite induced employees who would both live and work in Menlo Park.

Conclusion

The up to 1,930 additional residential units, as well as associated population growth, assuming 1.91 workers per housing unit, with full buildout of Variant 2 represents approximately 43 percent of the 4,500 residential units[20] assumed under full buildout of ConnectMenlo. The net increase in the number of employees (including seated workers) at the Project Site under Variant 2 (i.e., 4,336) represents approximately 79 percent of the 5,500 employees assumed under full buildout of ConnectMenlo. Therefore, Variant 2 would be consistent with the development intensity and associated population increases considered by ConnectMenlo and would not result in residential or employment growth beyond that already analyzed in the ConnectMenlo EIR.

Although it is not known exactly where the offsite generation of approximately 588 jobs would occur as a result of Variant 2 at full buildout, some of which may occur within the Bayfront Area and thus within the ConnectMenlo Study Area, it can be assumed that the majority of the jobs would be dispersed throughout San Mateo County and not just within Menlo Park, given the proximity of the Project Site to other jurisdictions within the county. According to ABAG, San Mateo County is expected to experience continued employment growth, with approximately 72,770 jobs by 2040. The offsite jobs increase under the Variant 2 would therefore represent a small percentage of the employment growth expected in San Mateo County by 2040 and would fall within the range of expected employment growth accounted for by ABAG.

[18] Project demand for 2,581 units minus the Proposed Project's provision of 1,930 units = 651-unit deficit.

[19] Keyser Marston Associates. 2022. *Willow Village Master Plan Project Housing Needs Assessment*. March.

[20] The up to 1,930 additional residential units, as well as associated population growth, assuming 1.91 workers per housing unit, with full buildout of Variant 2 represents approximately 43 percent of 4,500 unrestricted units under the ConnectMenlo General Plan.

Similar to the Proposed Project, Variant 2 is an infill development project within an already-developed area of the city. The employment growth under Variant 2 is accounted for in ConnectMenlo and regional growth plans, such as ABAG projections. The anticipated housing demand in the city can be accommodated in the city and the anticipated housing demand in the region has been anticipated in regional growth plans. The Project Site is an urban infill site and is served by existing infrastructure and services. Therefore, similar to the Proposed Project, Variant 2 would not induce a substantial level of unplanned population growth, either directly or indirectly, resulting in ***less-than-significant*** impacts.

Impact POP-2: Displacement of People or Housing. Variant 2 would not displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere. (LTS)

There is no housing on the Project Site; therefore, similar to the Proposed Project, Variant 2 would not directly displace housing because there is no existing housing on the Project Site. The impact would be ***less than significant.***

Public Services

Variant 2 would provide 1,930 residential units, compared to 1,730 under the Proposed Project. As noted in POP-1, above, this would result in 3,940 onsite residents. The number of estimated employees on-site would increase under Variant 2 from 4,332 to 4,336. Variant 2 would generate 465 new residents from onsite (419) and offsite (46) employees. This equates to a total of 4,405 new residents under Variant 2.

Impact PS-1: Impacts on Fire Services. Variant 2 would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered fire service facilities. (LTS)

Variant 2 is expected to increase fire and medical calls from new Menlo Park residents and onsite employees. The current Menlo Park Fire Protection District (MPFPD) service ratio is 1.20 fire-protection staff members per 1,000 residents in the service population, which is above the MPFPD's goal of one fire-protection staff member per 1,000 residents in the service population. If there were no increase in MPFPD staffing under Variant 2, this ratio would decrease from 1.20 to 1.14 per 1,000 upon implementation, which would continue to exceed the MPFPD's goal of one fire-protection staff member per 1,000 residents in the service population.

Similar to the Proposed Project, to maintain the current staffing ratio under Variant 2 (which exceeds MPFPD's staffing goal), approximately nine new fire-safety employees would need to be hired. However, existing stations are located on infill lots in Menlo Park and neighboring jurisdictions, which are highly developed. Therefore, the anticipated small scale of expansion to accommodate the nine additional personnel would be unlikely to result in significant environmental impacts. As such, if expanded facilities are needed, the physical environmental impacts would most likely be less than significant. Any new facilities would be subject to CEQA review, as applicable, at the time specific facilities are proposed. Therefore, similar to the Proposed Project, Variant 2, would not result in significant adverse physical environmental impacts associated with the provision of new or physically altered fire and emergency service facilities in order to maintain acceptable service ratios, response times, or other performance objectives. Impacts would be ***less than significant***.

Impact PS-2: Impacts on Police Services. Variant 2 would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered police service facilities. (LTS)

New residents under Variant 2 are expected to increase the need for police services. The current Menlo Park Police Department (MPPD) service ratio is approximately 1.0 officers per 1,000 members of the service population, which is below the MPPD's target ratio of 1.7 officers per 1,000 members of the service population. If there were no increase in MPPD officers under Variant 2, this ratio would decrease from 1.0 to 0.92 officer per 1,000 members of the service population. MPPD would need to staff 49 sworn officers, increasing the number of full-time-equivalent police officers by five, consistent with the increase in sworn officers necessary to serve the Proposed Project. The ConnectMenlo EIR indicated that existing facilities would be able to accommodate the additional sworn officers needed to serve full buildout of ConnectMenlo if the MPPD determines that additional officers are necessary.[21] The sworn officers needed to maintain the existing service ratio for Variant 2 would likewise be able to be accommodated within existing facilities. Overall, similar to the Proposed Project, implementation of Variant 2 would not be anticipated to affect service levels or other service indicators to the extent that new or expanded facilities would be required in order to maintain acceptable service ratios, response times, or other performance objectives. The impact would be ***less than significant.***

Impact PS-3: Impacts on School Facilities. Variant 2 would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered school facilities. (LTS)

The 1,930 residential units proposed under Variant 2, would generate 481 elementary school students, 237 middle school students, and 386 high school students.[22] However, similar to the Proposed Project, Variant 2 would also be subject to Senate Bill 50 school impact fees (established by the Leroy F. Greene School Facilities Act of 1998), providing a mechanism to support this demand. Variant 2 would be subject to residential and non-residential school impact fees to fund improvements to school facilities that would be required because of the Proposed Project's impact on school enrollment. These fees are based on the square footage and land use types proposed by a development project.

Although the payment of the school impact fees by Variant 2 could contribute toward the construction or expansion of schools, any actual construction or expansion of school facilities would not be a direct result of Variant 2 and would be required to undergo a separate environmental review process. Similarly, if new housing were built to support induced population growth from non-residential uses proposed under Variant 2, it would be subject to separate environmental review and required to pay the appropriate impact fees to affected school districts. Therefore, impacts related to schools would be ***less than significant***.

[21] City of Menlo Park. 2016. *ConnectMenlo: General Plan Land Use and Circulation Elements and M-2 Area Zoning Update for the City of Menlo Park Public Draft EIR.* Available: https://www.menlopark.org/DocumentCenter/View/10360/ConnectMenloProjectDEIR_060116?bidId=. Accessed: May 10, 2021.

[22] Calculations: 481 elementary students = 1,730 × 0.249; 237 elementary students = 1,730 × 0.123; 386 high school students = 1,730 × 0.2.

Impact PS-4 Impacts on Parks and Recreational Facilities. Variant 2 would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated, nor include the construction of or require construction or expansion of recreational facilities that would have an adverse physical effect on the environment. (LTS)

Deterioration of Recreation Facilities

New residents under Variant 2 would be expected to increase the use of recreational facilities. The current Menlo Park Community Services Department service ratio for parkland is 6.47 acres per 1,000 residents and the City's goal is to have 5 acres of open space per 1,000 residents. If there were no increase in park acreage, Variant 2 would decrease the park service ratio from 6.47 of parkland per 1,000 residents to 5.83 acres. Therefore, implementation of Variant 2 would not change environmental impacts related to the deterioration of recreational facilities; the City would still exceed its service goal of 5 acres of parkland per 1,000 residents under Variant 2. The impact under Variant 2 would be ***less than significant***.

Construction of Recreational Facilities

Variant 2 would not increase the demand for park and recreational facilities such that the construction of new facilities, other than those evaluated throughout this Draft EIR, would be required. Therefore, implementation of Variant 2 would not change environmental impacts related to the construction of recreational facilities. The impact under Variant 2 would be ***less than significant***.

Impact PS-5: Impacts on Library Facilities. Variant 2 would not result in substantial adverse impacts associated with the provision of or the need for new or physically altered library facilities. (LTS)

The Menlo Park Library does not have a numerical service goal for library services. Service needs are assessed by conducting user surveys, monitoring collection use, collecting user feedback on programs and services, and comparing services provided to those provided by other local libraries. Library best practices are also assessed.[23] Existing library projects would expand Menlo Park Library capacity enough to accommodate the new residents under the Proposed Project. Thus, it is likely that the additional residents under Variant 2 would also be accommodated. Similar to the Proposed Project, the impact under Variant 2 would be ***less than significant***.

Utilities and Service Systems

Impact UT-1: Construction or Relocation of Utilities. Variant 2 would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. (LTS)

Similar to the Proposed Project, Variant 2 would include the construction of water system, sewer infrastructure, and PG&E Ravenswood substation upgrades. Therefore, implementation of Variant 2 would not change environmental impacts related to utility expansions.

[23] Reinhart, Sean. Director, Library and Community Services, Menlo Park Library. April 5, 2021—email to Kyle Perata, principal planner, City of Menlo Park.

Water

The total net increase in potable water demand under Variant 2 is estimated to be approximately 0.23 million gallons per day (mgd).[24] Water for Variant 2 would be treated at one of three water treatment plants (WTPs): the San Francisco Public Utilities Commission's (SFPUC's) Tesla Treatment Facility, the Sunol Valley WTP, or the Harry Tracy WTP. The Tesla Treatment Facility has the capacity to treat 315 mgd. The Sunol Valley WTP has the capacity to treat 160 mgd. The Harry Tracy WTP has the capacity to treat approximately 140 mgd. Therefore, the three WTPs have adequate capacity to treat water for Variant 2. Variant 2 would not change the environmental impacts related to relocation of existing or construction of new or expanded water treatment facilities. The impact would be ***less than significant***.

Similar to the Proposed Project, Variant 2 would construct a 16-inch-diameter pipeline within the proposed Park Street, Main Street, and East Loop Road and a 12-inch-diameter pipeline connection to the existing 12-inch-diameter pipeline in O'Brien Drive, north of the SFPUC easement, to meet onsite fire-flow requirements. Therefore, implementation of Variant 2 would not change the environmental impacts related to installation of new or expanded water lines. The impact would be ***less than significant.***

Wastewater

The net amount of total water use by Variant 2 is estimated to be 0.37 mgd (135 million gallons per year [mg/yr]). This does not include water used for irrigation (refer to Table 5-26). Assuming 90 percent of the net amount of total non-irrigation water would become wastewater, the estimated net increase in wastewater generation would be approximately 0.33 mgd (or 122 mg/yr). This increase in wastewater generation would not be significant relative to the currently available excess dry-weather design-flow capacity of 15.5 mgd (i.e., 29 mgd design flow minus 13.5 mgd current average flow = 15.5 mgd) or the excess wet-weather design-flow capacity of 57.5 mgd (i.e., 71 mgd design flow minus 13.5 mgd current average flow = 57.5 mgd). Therefore, there is adequate wastewater treatment capacity to serve Variant 2. Variant 2 would not change the environmental impacts related to relocation of existing or construction of new or expanded wastewater treatment facilities. The impact would be ***less than significant***.

Similar to the Proposed Project, Variant 2 would construct new or expanded sewer lines near the Project Site. Therefore, implementation of Variant 2 would not change the environmental impacts related to the installation of new or expanded sewer lines. The impact would be ***less than significant***.

Stormwater

Implementation of Variant 2 would result in the same amount of pervious surface on the main Project Site (an increase of approximately 4 percent). Similar to the Proposed Project, Variant 2 would construct a private onsite storm drain system to convey runoff by gravity from all buildings and other areas to the existing City main in Willow Road. Variant 2 would also incorporate onsite stormwater elements to reduce the total volume of stormwater runoff at the Project Site compared with existing conditions. Therefore, Variant 2 would not change the environmental impacts related to the relocation of existing or construction of new or expanded stormwater drainage facilities. The impact would be ***less than significant.***

[24] Total Variant 2 potable water demand of 104 mg/yr minus existing potable water use of 19 mg/year = 85 mg/yr (0.23 mgd) net increase in water demand.

Table 5-26. Projected Water Demand for Variant 2 (mg/yr)

Water Use	Variant 2
Indoor Potable	104
Toilet Flushing (non-potable)	22
Cooling (non-potable)	9
Irrigation (non-potable)	27
Total Projected Water Demand	**162**
Projected Water Demand (potable)	104 (64%)
Projected Water Demand (non-potable)	58 (36%)
Existing Potable Water Use at Project Site[a]	19
Net Increase in Potable Water Demand[b]	**85**

Source: Peninsula Innovation Partners, LLC., and West Yost, 2022.

a. Existing potable water demand at the Project Site based on 2015 data (18.2 mg/yr plus 6 percent for unaccounted for water) and assumed to be replaced by Variant 2.

b. Assumes the existing potable water demand at the Project Site would be replaced by the Variant 2 demand.

Electricity and Natural Gas

Similar to the Proposed Project, under Variant 2, PG&E would upgrade the Ravenswood substation[25] and provide offsite improvements to support distribution-level electrical service to the main Project Site from this substation. Therefore, Variant 2 would not change the environmental impacts related to the relocation of existing or construction of new or expanded electrical facilities. The impact would be ***less than significant***.

Variant 2 would install new or expanded gas lines on the main Project Site, similar to the Proposed Project. No offsite natural gas facilities would need to be constructed or expanded as a result of Variant 2. Therefore, Variant 2 would not change the environmental impacts related to the relocation of existing or construction of new or expanded natural gas facilities. The impact would be ***less than significant***.

Telecommunications

Similar to the Proposed Project, Variant 2 may extend or relocate telecommunications lines. Therefore, Variant 2 would not change the environmental impacts related to the relocation of existing or construction of new or expanded telecommunication facilities. The impact would be ***less than significant***.

Impact UT-2: Water Supply. Variant 2 would have sufficient water supplies available to serve Variant 2 and reasonably foreseeable future development during normal, dry, and multiple dry years. (LTS)

A summary of the water demands for Variant 2, as estimated by the Project Sponsor and evaluated by the City's consultant in preparation of the Water Supply Assessment (WSA), which studied Variant 2 as the most conservative scenario regarding water usage, is provided in Table 5-26. As shown, the total

[25] The current Ravenswood substation operates as a transmission substation; it is not equipped with distribution system infrastructure.

projected water demand for Variant 2 is approximately 162 mg/yr. Approximately 64 percent of the total water demand is potable water demand; the remaining 36 percent is non-potable water demand that would be met with recycled water on the main Project Site. As shown in Table 5-26, the existing potable water demand at the main Project Site is estimated to be approximately 19 mg/yr. The net increase in potable water demand under Variant 2 is estimated to be 85 mg/yr.

Similar to the Proposed Project, Variant 2 would be within the maximum development potential studied in ConnectMenlo, and the water demand of Variant 2 is included in the further refined land uses and development potential studied in the ConnectMenlo EIR as well as the MPMW's 2015 and 2020 UWMP water demand analyses. Further, the water supply evaluation (WSE) that was prepared as part of the ConnectMenlo process considered the development potential created by the ConnectMenlo General Plan Update and the refined land uses studied in the associated EIR. The ConnectMenlo EIR determined that there would be an increase in water demand as a result of buildout of ConnectMenlo. The ConnectMenlo EIR concluded that the MPMW's water supply would be adequate and able to meet increased demands in normal years as well as the additional demand generated by the increase in development associated with implementation of ConnectMenlo.

Similar to the Proposed Project, if the amendment to the San Francisco Bay-Delta Water Quality Control Plan (Bay-Delta Plan) regarding the availability and reliability of the Menlo Park Municipal Water District's (MPMW's) water supply (Bay-Delta Plan Amendment) is implemented, the total projected water supply determined to be available for Variant 2 in normal years would meet the projected water demand associated with Variant 2 in addition to MPMW's existing and planned future uses through 2040. However, with implementation of the Bay-Delta Plan Amendment, significant supply shortfalls are projected in dry years for agencies that receive water from the SFPUC Regional Water System (RWS) as well as other agencies whose water supplies would be affected by the amendment. For MPMW, supply shortfalls are projected in single dry years (ranging from 27 to 32 percent) and in multiple dry years (ranging from 27 to 44 percent) through 2040. Based on SFPUC's analysis, similar supply shortfalls would occur through 2045.

If supply shortfalls do occur, MPMW expects to meet them through water demand reductions and other shortage response actions by implementation of its Water Shortage Contingency Plan (WSCP).[26] With the WSCP in place, the shortages in single and multiple dry years would be managed through demand reductions of 50 percent or greater in Stages 5 and 6. The projected shortfalls in single dry years would require implementation of Stage 3 or Stage 4 of the MPMW WSCP, and the projected shortfalls in multiple dry years would require implementation of Stage 3, 4, or 5 of the MPMW WSCP. Similar to the Proposed Project, Variant 2 would utilize recycled water for all City-approved non-potable applications (e.g. irrigation, mechanical cooling, and toilet flushing), which would offset the demand for potable water and contribute to MPMW's efforts to reduce future supply shortages and would implement water conservation measures, both in the design of the base building and tenant spaces as well as daily operations, employee practices, and landscaping choices. Furthermore, the water demand associated with buildout of ConnectMenlo, which Variant 2 is within, is included in the 2020 UWMP, and Variant 2 therefore would not exacerbate MPMW's anticipated supply shortages or cause MPMW to increase customer water use restrictions beyond that anticipated in its 2020 UWMP. As with the Proposed Project, Variant 2 also would

[26] A main focus of MPMWD's planned demand reduction measures is to increase public outreach and keep customers informed of the water shortage emergencies and actions they can take to reduce consumption. The City will use its emergency supply well(s) for supply augmentation during WSCP Stages 5 and 6. Other actions that the City will take include coordinating with other agencies, implementing a drought surcharge, increasing water waste patrols, etc. Additional information on MPMWD's WSCP is provided in Chapter 8 of MPMWD's 2020 Urban Water Management Plan.

be subject to the same water conservation and water use restrictions as other water users within the MPMW system under ConnectMenlo, including annual compliance with the approved water budget. Therefore, Variant 2 would not change the environmental impacts related to water supplies. The impact would be ***less than significant***.

Impact UT-3: Generation of Wastewater. Variant 2 would not result in a determination by the wastewater treatment providers that they have inadequate capacity to serve Variant 2'sprojected demand in addition to the providers' existing commitments. (LTS)

Variant 2 would generate approximately 0.33 mgd (122 mg/yr) of wastewater at the Project Site. Under existing conditions, the Project Site generates approximately 0.05 mgd (17 mg/yr) of wastewater. The net increase in wastewater generated by Variant 2 would be approximately 0.28 mgd.

With the current amount of wastewater generated at the Project Site estimated to be approximately 0.05 mgd (17 mg/yr), an increase of approximately 0.28 mgd is a negligible amount, given the capacity of the existing system. Therefore, there would be adequate wastewater treatment capacity available to serve Variant 2's projected demand in addition to the provider's existing commitments. This increase in wastewater generation would not be significant relative to the currently available excess dry-weather design-flow capacity of 15.5 mgd (i.e., 29 mgd design flow minus 13.5 mgd current average flow = 15.5 mgd) or excess wet-weather design-flow capacity of 57.5 mgd (i.e., 71 mgd design flow minus 13.5 mgd current average flow) at the Silicon Valley Clean Water (SVCW) wastewater treatment plant (WWTP). Estimated wastewater flows from the Proposed Project would therefore represent a very small percentage of the total daily wastewater capacities of the SVCW WWTP. Likewise, wastewater generation from Variant 2 (i.e., maximum of approximately 122 mg/yr) would not be significant relative to current average collection rates of WBSD. Based on existing SVCW WWTP and WBSD collection and processing capacity, it is not expected that Variant 2 would result in a determination by either wastewater treatment provider that it would have inadequate capacity to serve projected demand under Variant 2 in addition to existing commitments. The impact would be ***less than significant***.

Impact UT-4: Generation of Solid Waste. Variant 2 would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. (LTS)

Variant 2 would generate the same amount of construction debris from structure demolition as the Proposed Project. The 4,336 net new employees and estimated 3,940 new residents under Variant 2 would generate solid waste during onsite operations. Similar to the Proposed Project, a zero-waste management plan would be prepared to achieve a 90 percent diversion rate by 2035 for the waste stream generated during the occupancy phase of Variant 2. The solid waste generated would be collected by Recology San Mateo and hauled to Shoreway. Shoreway is permitted to receive 3,000 tons of refuse per day. Once collected and sorted at Shoreway, solid waste would be transported to Ox Mountain, which is permitted to receive 3,598 tons per day. Solid waste generated by operation of Variant 2 would represent a small percentage of the permitted capacity of Shoreway and Ox Mountain. Implementation of the required zero-waste management plans for all new buildings and uses on the main Project Site would further reduce waste from the occupancy phase. As such, Shoreway and Ox Mountain would have adequate capacity for Variant 2. Variant 2 would be served by a landfill with adequate permitted capacity to accommodate its solid waste disposal needs. The impact would be ***less than significant.***

Impact UT-5: Compliance with Solid Waste Regulations. Variant 2 would comply with federal, state, and local management and reduction statutes and regulations related to solid waste (LTS)

Construction and operation of Variant 2 would comply with all applicable statutes and regulations related to solid waste. State law (Assembly Bills 341 and 939) requires businesses to recycle and cities to divert 50 percent of their solid waste from landfills. Similar to the Proposed Project, Variant 2 would adhere to these laws. In addition, Variant 2 would be required to adhere to the City's Construction and Demolition Recycling Ordinance and zero-waste management plan requirements during the occupancy phase. Accordingly, Variant 2 would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. The impact would be ***less than significant***.

Cumulative Analysis

Cumulative impacts are evaluated throughout the Draft EIR. Overall, Variant 2 would increase the number of residential dwelling units and parking spaces. This would result in greater construction and operational emissions but not to a level that would alter most Project-specific impact determinations. However, as noted under Variant 2 Impact AQ-2, operation, and construction plus operation activities, would generate ROG emissions in excess of BAAQMD;s recommended threshold. However, similar to the Proposed Project, Variant 2 would result in significant and unavoidable impacts after implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 as well as ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2. Therefore, the cumulative contribution under Variant 2 is the same as under the Proposed Project.

Variant 3: No Hamilton Avenue Realignment Variant

Environmental Topics Not Requiring Further Analysis

Under Variant 3, Hamilton Avenue would not be realigned, and the existing land uses on Hamilton Avenue Parcels North and South would remain; no additional square footage would be added. This variant assumes no ground-disturbing activities would occur on Hamilton Avenue Parcels North and South. On the main Project Site, Main Street would be realigned to extend east and south from Willow Road to form the western boundary of the Campus District and create three intersections at North Loop Road, Center Street, Park Street, terminating in a roundabout intersection at O'Brien Drive. In addition, West Street would be adjusted to terminate at Willow Road (with the perpendicular portion of the ROW to Willow Road referred to as Village Avenue) and create a right-in-only/right-out-only, non-signalized intersection. No other changes to the Proposed Project would occur under this variant.

Project-related ground-disturbing activities would remain the same on the main Project Site but be reduced on Hamilton Avenue Parcels North and South. Therefore, environmental impacts related to cultural and tribal cultural resources, geology and soils, and hazards and hazardous materials that could result from Project-related ground-disturbing activities would be slightly reduced under Variant 3. Land use designations would remain the same; therefore, impacts associated with land use and planning would not change under Variant 3. The number of residential units and employment-generating uses on the main Project Site would remain the same and would be slightly reduced on the Hamilton Avenue Parcels. Therefore, environmental impacts related to population and housing as well as public services that could result from Project-related population growth would not change under Variant 3. Under Variant 3, building heights, massing, and overall development on the main Project Site would remain the same. In addition, development on Hamilton Avenue Parcels North and South would remain unchanged. Therefore, environmental impacts related to aesthetic resources would not change under Variant 3. The amount of impervious surface area introduced to the main Project Site during

construction would remain the same; therefore, impacts related to hydrology and water quality would not change. Similarly, there would be no change in the environmental impacts associated with biological resources except that off-site wetlands adjacent to the Hamilton Avenue Parcels would be less impacted or not impacted at all.

Transportation

Variant 3 assumes no changes in land use and a reduction in potential development on the Hamilton Avenue Parcels North and South. Utilizing Hamilton Avenue in its current alignment would result in changes to the site plan with respect to circulation, garage access, and parcel layout. Main Street would extend southward from the Hamilton Avenue and Willow Road intersection, connect to North Loop Road, and continue southward as previously proposed. West Street would be realigned to intersect Willow Road as a right-in-only/right-out-only, non-signalized intersection in the location where the realigned Hamilton Avenue would have intersected with Main Street at Willow Road. As such, there would be no direct connection between West Street and Main Street. In addition, there would no longer be a right-in-only/right-out-only driveway on Willow Road for the subgrade mixed-used parking areas. This variant proposes two new driveways for the subgrade mixed-use parking areas at the intersections of Main Street and North Loop Road as well as at the 90-degree bend in West Street.

TRA-1: Conflict with an applicable plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities (LTS)

Under this variant, there would be changes to the Willow Village site plan and some changes to the roadway network, as described above. Bicyclists and pedestrians from the main Project Site would access the Belle Haven neighborhood via the proposed signalized intersection on Willow Road at Park Street and the existing signal at Hamilton Avenue/Main Street. There would no longer be a mid-block crosswalk on Main Street; therefore, the access points for bicyclists and pedestrians between the Residential/Shopping and Town Square Districts and the Campus District would be the proposed pedestrian crossing at the Main Street and East Street intersection and the Park Street and Main Street intersection. However, this variant would continue to comply with existing regulations, including City General Plan policies and zoning regulations, and would provide adequate infrastructure for bicyclists and pedestrians. Therefore, it would be consistent with applicable plans, ordinances, and policies that address the circulation system, as shown in Table 3.3-4 in Section 3.3, *Transportation*; impacts would be ***less than significant.***

TRA-2: Exceed an applicable VMT threshold of significance (LTS/M)

As discussed above, this variant assumes no change in land use on the main Project Site and a reduction in potential square footage on the Hamilton Avenue Parcels. Therefore, this variant would have no effect on internalization rates or trip generation rates. The proposed Project TDM measures would achieve the same effectiveness in terms of trip reduction percentages. Furthermore, the change in access and site circulation are not expected to have any effect on VMT for any of the proposed land uses (e.g., office, residential, hotel, retail). Variant 2 would be required to comply with Project Mitigation Measure TRA-2 and VMT conclusions would remain the same as under the Proposed Project. The impact would be ***less than significant with mitigation***.

TRA-3: Substantially increase hazards due to a design feature or incompatible uses (LTS/M)

Under this variant, there would be changes to the Willow Village site plan and some changes to the roadway network, as described above. The variant would not introduce any new design features or incompatible uses that could cause potentially hazardous conditions. The driveway sight-distance issue

at the North Garage would remain the same as under the Proposed Project. Variant 2 would be required to comply with Project Mitigation Measure TRA-3 and the impact conclusion for this variant would remain the same as under the Proposed Project. The impact would be ***less than significant with mitigation***.

TRA-4: Result in inadequate emergency access (LTS)

Under this variant, there would be changes to the Willow Village site plan and some changes to the roadway network, as described above; however, this would not result in inadequate emergency access. Emergency access to the Project Site and nearby hospitals would be similar to that under the Proposed Project. This variant would have fewer passenger loading/drop-off areas along West Street and Main Street and, therefore, would not be expected to create queuing issues on Willow Road. The routes for the inter-campus tram and the Meta commuter shuttle would be unchanged from existing conditions. The impact would be ***less than significant*.**

Non-CEQA Analysis

Level of Service

Variant 3 would result in a greater increase in average critical delay at the site-accessing intersections of Willow Road and Hamilton Avenue during the a.m. peak hour and Willow Road and Park Street during both peak hours compared to the Proposed Project (see Table 5-27). However, the increase in average critical delay would not create additional deficiencies. Both intersections would continue to be deficient and non-compliant under this variant per City guidelines. Physical improvements are considered infeasible at these intersections because of right-of-way constraints and/or adverse effects on bicyclist and pedestrian travel, as described in Chapter 3.

As identified for the Proposed Project, implementing recommended multi-modal facilities along the corridor (from the City's Transportation Impact Fee program) could shift some motorists to alternative modes of travel and reduce congestion. With implementation of multi-modal improvements, intersection deficiencies could be reduced, partially addressing Variant 3's share of the non-compliant operations along Willow Road.

Because there would be no change to overall trip generation under this variant for the main Project Site and no increase in trips from existing conditions for the Hamilton Avenue Parcels, the LOS conclusions for other study intersections are expected to remain the same as under the Proposed Project.

Queuing

Variant 3 would change the way that some vehicles would be able to access and exit some of the land uses on the main Project Site. This change would decrease the 95th-percentile queue for one turning movement and increase the 95th-percentile queue for three turning movements during the a.m. and p.m. peak hours (see Table 2-28). Most of the changes to the 95th-percentile queue lengths would be fairly minor, and the queues would continue to either fit within or exceed the proposed storage capacity, the same as for the Proposed Project. However, since there would no longer be a connection between West Street and Main Street under this variant, residential and shared parking in Building RS2 and residential parking in Building RS4 would enter the project site via Park Street. For the Proposed Project, these trips would have used Main Street. As a result, the 95th-percentile queue for the westbound left movement from Willow Road to Main Street would decrease by 75 feet during the a.m. peak hour and 300 feet during the p.m. peak hour compared to the Proposed Project. The queue length for this movement would be expected to

Table 5-27. Level of Service Comparison for No Hamilton Avenue Realignment Variant

			Near-Term (2025) Conditions							
			No Project		Proposed Project			No Hamilton Avenue Realignment		
#	Intersection	Peak Hour	Avg. Delay (secs)	LOS	Avg. Delay (secs)	LOS	Incr. in Avg. Crit. Delay (secs)	Avg. Delay (secs)	LOS	Incr. in Avg. Crit. Delay (secs)
17	Willow Road and Hamilton Avenue[a]	AM	**OVERSAT**	**F**	**OVERSAT**	**F**	**54.0**	**OVERSAT**	**F**	**63.9**
	Hamilton Avenue Southbound		***64.9***	***E***	***> 120***	***F***	***< 0.8***	***> 120***	***F***	***< 0.8***
	Main Street Northbound		***83.3***	***F***	***113.7***	***F***	***> 120***	***105.3***	***F***	***111.6***
		PM	**OVERSAT**	**F**	**OVERSAT**	**F**	***> 120***	**OVERSAT**	**F**	***> 120***
	Hamilton Avenue Southbound		***> 120***	***F***	***> 120***	***F***	***< 0.8***	***> 120***	***F***	***< 0.8***
	Main Street Northbound		***> 120***	***F***	***> 120***	***F***	***>120***	***> 120***	***F***	***> 120***
18	Willow Road and Park Street (future intersection)[a]	AM	Project Intersection		**OVERSAT**	**F**	**53.0**	**OVERSAT**	**F**	**54.0**
		PM			**OVERSAT**	**F**	**23.1**	**OVERSAT**	**F**	**27.2**
29	O'Brien Drive/Loop Road and Main Street/O'Brien Drive (future intersection)	AM	Project Intersection		7.4	A	7.4	7.4	A	7.4
		PM			9.2	A	9.2	9.3	A	9.2

LOS = level of service

"OVERSAT" indicates that the SimTraffic microsimulation model indicates that the intersection would experience capacity issues where the demand cannot be served by the intersection. Oversaturated intersections would operate at LOS F.

b. Intersections were analyzed using Synchro/SimTraffic software because of the proximity of the intersections. Changes in average delay and critical delay were calculated using Vistro.

Bold indicates substandard level of service

Bold indicates noncompliance. The Proposed Project exceeds thresholds in the City of Menlo Park's Transportation Impact Analysis guidelines.

Table 5-28. Queueing Comparison for No Hamilton Avenue Realignment Variant

	Hamilton Avenue/Main Street and Willow Road				Park Street and Willow Road			
	WB Lane		NB Lane		WB Lane		NB Approach[c]	
Measurement	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Near-Term Plus Project (Proposed Project)								
Volume (vph)	337	284	18	75	205	150	352	720
Lanes	2	2	1	1	2	2	2	2
Volume (vphpl)	169	142	18	75	103	75	176	360
95th % Queue[a] (vehicle)	11	25	2	4	8	2	10	10
95th % Queue[b] (feet)	275	625	50	100	200	50	250	250
Storage (feet/lane)	230	230	225	225	250	250	225	225
Adequate (Y/N)	N	N	Y	Y	Y	Y	N	N
Near-Term Plus Project (No Hamilton Avenue Realignment Variant)								
Volume (vph)	305	194	18	102	238	242	387	714
Lanes	2	2	1	1	2	2	2	2
Volume (vphpl)	153	97	18	102	119	121	194	357
95th % Queue[a] (vehicle)	8	13	2	5	9	2	11	11
95th % Queue[b] (feet)	200	325	50	125	225	100	275	275
Storage (feet/lane)	230	230	225	225	250	250	225	225
Adequate (Y/N)	Y	N	Y	Y	Y	Y	N	N

Notes:

WB = westbound; NB = northbound; vph = vehicles per hour; vphpl = vehicles per hour per lane

a. Vehicle queues are from Vistro outputs and are rounded up to the next whole number.

b. Assumes 25 feet per vehicle queued

c. NB approach has one left-turn lane and one shared left-right lane. Volumes represent the total approach volume.

exceed the proposed storage capacity under the Proposed Project during both peak hours but would be expected to be accommodated during the a.m. peak hour under this variant. Similar to the Proposed Project, if the westbound left turn lanes on Willow Road at Main Street become saturated, it is assumed that drivers would choose to instead enter the main Project Site via Park Street. It is assumed that the demand queue could be accommodated between the left-turn lanes at these two intersections on Willow Road. Likewise, if the northbound approach on Park Street at Willow Road becomes saturated, northbound right-turning vehicles could use West Street/Village Avenue to travel eastbound on Willow Road.

Freeway Segments, Freeway Ramps and Roadway AADT Analysis

Variant 3 would maintain the same land use intensities as the Proposed Project on the main Project Site and would reduce the intensity on the Hamilton Avenue Parcels by maintaining the existing conditions. Therefore, analysis conclusions for freeway segments, freeway ramps, and roadway AADT under the Proposed Project would remain the same under this variant.

Air Quality

Impact AQ-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan. Variant 3 would conflict with or obstruct implementation of the applicable air quality plan (SU).

Similar to the Proposed Project, Variant 3 would be consistent with applicable stationary-source control measures, energy control measures, building control measures, and waste control measures included in the Clean Air Plan. Construction activity under Variant 3 would be reduced; however, emissions would not be reduced to a level that would change the significance findings. With implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, Variant 3 would result in less-than-significant impacts related to NO_X emissions and TAC exposures. Variant 3 would also be consistent with transportation control measures with implementation of Mitigation Measure TRA-1. However, ROG emissions would remain above the BAAQMD ROG threshold after implementation of all mitigation measures. Therefore, Variant 3 would possibly disrupt or hinder implementation of the current Clean Air Plan, and this impact would be ***significant and unavoidable***.

Impact AQ-2: Cumulatively Considerable Net Increase in Criteria Pollutants. Variant 3 would result in a cumulative net increase in a criteria pollutant for which the Project region is classified as a nonattainment area under an applicable federal or state ambient air quality standard (SU).

Construction

Similar to the Proposed Project, construction of Variant 3 would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X. Unmitigated particulate matter exhaust emissions would not exceed BAAQMD's particulate matter exhaust thresholds. Construction activity under Variant 3 would be reduced; however, emissions would not be reduced to a level that would change the significance findings. After implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, construction criteria pollutant emissions would be below all applicable BAAQMD thresholds. Therefore, construction activities would not result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to federal or state ambient air quality standards. This impact would be ***less than significant with mitigation.***

BAAQMD's CEQA Guidelines consider fugitive dust impacts to be less than significant with application of BMPs, which are included in ConnectMenlo Mitigation Measure AQ-2b1. The BMPs require applicants for future development projects to comply with BAAQMD's basic control measures for reducing construction emissions of PM_{10}. If BMPs are not implemented, dust impacts would be potentially significant. Therefore, BMPs would be required and implemented to reduce impacts from construction-related fugitive dust emissions, including any cumulative impacts. With implementation of ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2, fugitive dust emissions would be reduced, and the impact would be ***less than significant with mitigation*.**

Operation

Operational emissions under Variant 3 would be reduced with the reduction in retail associated with Hamilton Avenue Parcels North and South. However, the change in emissions would be minimal and would not be reduced to a level that would change the significance findings. Similar to the Proposed Project, net operation of Variant 3 would not generate levels of NO_X or particulate matter that would exceed BAAQMD-recommended mass emission thresholds. However, operation of Variant 3 would generate levels of ROG that would exceed BAAQMD's ROG threshold. ROG emissions from consumer products would constitute the majority of operational ROG emissions associated with the Proposed Project and Variant 3. Therefore, unmitigated operation of Variant 3 would result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards.

Implementation of Mitigation Measure AQ-1.2 would decrease full-buildout operational ROG emissions under Variant 3. Mitigation Measure AQ-1.2 requires the Project Sponsor to use architectural coatings with a low VOC content at all buildings. However, net mitigated operational ROG emissions would still exceed BAAQMD's ROG threshold. Most of the emissions that would contribute to this exceedance would result from the volume of consumer products used, which is dependent on a project's size. Larger projects have more people who use more consumer products, such as hair spray, deodorant, cleaning products, etc., than smaller projects but are subject to the same mass emissions threshold. The City and Project Sponsor have minimal control over what consumer products users purchase, and there are no additional mitigation measures to reduce ROG from consumer products. Other main contributors to ROG emissions are vehicles. As discussed in the *Transportation* section above, with mitigation, Variant 3 would comply with the City's VMT threshold. Therefore, mitigated operation of Variant 3 would result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards. This impact would be ***significant and unavoidable***.

Construction and Operations

Construction is expected to occur during operation because Variant 3 would be constructed over a period of several years. In years when construction is scheduled to coincide with operation, construction emissions were combined with operational emissions. This analysis conservatively assumed that the buildings constructed in each year of the construction program would be occupied and fully operational upon completion. This is conservative because occupancy and operation of each phase would very likely ramp up over time. Construction and operational emissions under Variant 3 would be reduced with the reduction in retail associated with Hamilton Avenue Parcels North and South. However, the change in emissions would be minimal and would not be reduced to a level that would change the significance findings.

Similar to the Proposed Project, construction plus operation of Variant 3 would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X. Unmitigated particulate matter emissions would not exceed BAAQMD's particulate matter thresholds. After implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 as well as ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2, construction plus net operational emissions would remain in excess of BAAQMD's recommended threshold for ROG. Therefore, mitigated construction plus operation of Variant 3 would result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to the federal or state ambient air quality standards. This impact would be ***significant and unavoidable*****.**

Impact AQ-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations. Variant 3 would expose sensitive receptors to substantial pollutant concentrations (LTS/M).

Localized Carbon Monoxide Hot Spots

Under Variant 3, maximum traffic volumes at the intersections under all scenarios would be less than BAAQMD's recommended screening criterion of 44,000 vehicles per hour. Therefore, implementation of Variant 3 would not result in, or contribute to, a localized concentration of CO that would exceed the applicable NAAQS or CAAQS. The impact would be ***less than significant***.

Toxic Air Contaminants

Asbestos

Under Variant 3, the risk of exposure to asbestos during demolition of the existing hardscape (asphalt and concrete) and buildings on the Project Site would remain the same. Therefore, implementation of Variant 3 would not change environmental impacts related to exposure to asbestos emissions during construction. The impact would be ***less than significant***.

Criteria Air Pollutants

As discussed above under Impact AQ-2, construction emissions as a result of Variant 3 would be below the BAAQMD thresholds of significance. Operational emissions as a result of the variant would be below BAAQMD thresholds of significance for all pollutants, excluding ROG, as summarized above under Impact AQ-2. Results from assessments completed for other similarly sized projects in the SFBAAB have shown that health impacts from exceedances of BAAQMD's ROG and NO_X thresholds would be minimal. As noted above, although only Variant 3 operational ROG emissions would exceed thresholds of significance, emissions of both NO_X and ROG are presented for three projects in the Bay Area for comparison to Variant 3 because NO_X and ROG are the primary precursors to ozone. For example, for the three projects in the Bay Area with ROG and NO_X emissions that ranged from 79 to 458 lbs/day and 125 to 153 lbs/day, respectively, potential health effects were far below background incidence rates for all health endpoints.[27] Variant 3 is estimated to generate reduced amounts of NO_X and ROG compared to the Proposed Project. However, the change in emissions would be minimal and would not be reduced to a level that would change the impact determination. Therefore, similar to the Proposed Project, health impacts would be de minimis.

[27] Ramboll US Corporation. 2022. *CEQA Air Quality, Greenhouse Gas and Health Risk Assessment Technical Report*. February. Accessed: February 21, 2022.

Toxic Air Contaminants and Localized $PM_{2.5}$

Construction plus Operations

Similar to the Proposed Project, the unmitigated health risk results under Variant 3 would not exceed BAAQMD's recommended health risk thresholds for the non-cancer hazard index; however, BAAQMD's cancer risk and annual $PM_{2.5}$ concentration thresholds would be exceeded. Therefore, impacts would be potentially significant without mitigation.

To mitigate the cancer risk and $PM_{2.5}$ concentration exceedances, Project Mitigation Measure AQ-1.1 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR would be implemented. Similar to the Proposed Project, Variant 3 would be consistent with Mitigation Measure AQ-3b, and ConnectMenlo Mitigation Measure AQ-3a would not apply. With implementation of Project Mitigation Measure AQ-1.1 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, the incremental increase in health risks would be less than all BAAQMD-recommended health risk thresholds. Therefore, mitigated construction and operational emissions would not expose sensitive receptors to substantial pollutant concentrations and associated health risks, and impacts would be ***less than significant with mitigation*.**

Operations Only

Similar to the Proposed Project, the unmitigated health risk from operations under Variant 3 would be less than all BAAQMD-recommended health risk thresholds. Variant 3 would trigger the requirement for and be consistent with ConnectMenlo EIR Mitigation Measure AQ-3b, and ConnectMenlo Mitigation Measure AQ-3a would not apply. Therefore, unmitigated operational emissions would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be ***less than significant*.**

Impact AQ-4: Other Air Emissions. Variant 3 would result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people (LTS/M).

Similar to the Proposed Project, Variant 3 would also contain a wastewater pump station in the southwest corner of the site. Wastewater Pumping Facilities are land uses listed in BAAQMD's Odor Screening Distances Table. Variant 3 would also be required to comply with Project Mitigation Measure AQ-1.4. Therefore, implementation of Variant 3 would not change environmental impacts related to objectionable odors. The impact would be ***less than significant with mitigation*.**

Energy

Impact EN-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources. Variant 3 would not result in potentially significant environmental impacts due to the wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. (LTS)

Construction

Variant 3 would not have an appreciable effect on construction-related energy usage compared to the Proposed Project. Therefore, construction of Variant 3 would not change environmental impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources. Similar to the Proposed Project, construction under Variant 3 would utilize construction equipment with higher-tier engines (Tiers 3 and 4), include limitations on idling, comply with waste reduction requirements, and use grid power rather than generators once available at the construction site; therefore, construction would result in a ***less-than-significant*** energy impact

Operation

Operational energy consumption under Variant 3 would be reduced with the reduction in retail associated with Hamilton Avenue Parcels North and South. However, the changes in energy usage would be minimal and would not be reduced to a level that would change the significance findings. Therefore, operation of Variant 3 would not change environmental impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources. The impact would be ***less than significant*.**

Impact EN-2: Conflict with Energy Plan. Variant 3 would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (LTS)

Similar to the Proposed Project, Variant 3 would comply with local plans that address energy efficiency to achieve the state's RPS mandates, including PG&E's and PCE's 2020 IRPs and the City's CAP. The City General Plan and Menlo Park Municipal Code also include goals, policies, and requirements related to energy use and energy reductions. Therefore, implementation of Variant 3 would not change environmental impacts related to a potential conflict with state or local plan for renewable energy or energy efficiency. The impact would be ***less than significant*.**

Greenhouse Gas Emissions

Impact GHG-1a: Generation of GHG Emissions during Construction. Construction of Variant 3 would generate GHG emissions that may have a significant impact on the environment. (LTS/M)

Construction under Variant 3 would be slightly reduced; however, emissions would not be reduced to a level that would change the significance findings of ***less than significant***. Similar to the Proposed Project, although construction GHG emissions would be less than significant, under Variant 3 the Project Sponsor would comply with practical and feasible construction-related measures suggested in the 2017 Scoping Plan (specifically, the measures in Appendix B to the 2017 Scoping Plan that would be imposed as conditions of approval on the Proposed Project) as applicable, which would further reduce the level of GHGs associated with construction. The recommended construction-related measures from the 2017 Scoping Plan would be ensured through project conditions. Construction of the Proposed Project would not generate GHG emissions that could have a significant impact on the environment.

Impact GHG-1b: Generation of GHG Emissions during Operation. Operation of Variant 3 would generate GHG emissions that may have a significant impact on the environment. (LTS/M)

Operational emissions under Variant 3 would be reduced with the reduction in retail associated with Hamilton Avenue Parcels North and South. However, the change in emissions would be minimal and would not be reduced to a level that would change the significance findings. Similar to the Proposed Project, Variant 3 would result in a substantial reduction in natural gas use compared to existing conditions. Therefore, implementation of Variant 3 would not contribute a significant amount of operational non-mobile-source GHG emissions to existing significant cumulative emissions. The impact would be ***less than cumulatively considerable.***

Operation of Variant 3 would result in mobile-source GHG emissions associated with vehicle trips to and from the Project Site (i.e., Project-generated VMT). Similar to the Proposed Project, Variant 3 would develop and implement TDM programs with trip reduction measures that would reduce vehicle traffic in and around the main Project Site. Together, the TDM measures and Mitigation Measure TRA-1 would meet the City's trip and VMT reduction targets. With implementation of Mitigation Measure TRA-1, operation of Variant 3 would achieve the City's VMT thresholds, thereby reducing associated mobile-source GHG emissions. Therefore, this impact would be ***less than cumulatively considerable with mitigation*.**

Impact GHG-2: Conflicts with Applicable Plans and Policies. Variant 3 would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs. (LTS/M)

Similar to the Proposed Project, the quantitative efficiency of operations associated with Variant 3 would be aligned with the statewide GHG target for 2030 mandated by Senate Bill 32 as well as the Menlo Park Municipal Code, which requires onsite or offsite renewable energy generation, the use of 100 percent renewable electricity, and/or renewable energy credits and/or certified renewable energy offsets. The City's reach code would significantly limit the onsite combustion of natural gas (an exception could be granted from the reach code by the Environmental Quality Commission, or the Council's designated reviewing body, for onsite commercial kitchens to use natural gas in their cooking facilities). If any natural gas is permitted to be used, the amount would remain less than the amount of natural gas used under existing conditions (and the equivalent energy use would be offset per the requirements of the Zoning Ordinance). The Menlo Park Municipal Code requires a minimum of 15 percent of the parking spaces for passenger vehicles to be EV spaces, with another 10 percent designated EVSE, thereby supporting the projected future vehicle fleet. Also, Variant 3 would be consistent with Plan Bay Area 2040 and 2050, which are regional plans to reduce per-service-population VMT in the San Francisco Bay Area.

Mitigation Measures and Summary.

No mitigation measures are required to achieve net-zero non-mobile-source operational emissions. Implementation of Mitigation Measure TRA-1, which is presented in Variant 3 Transportation analysis above, would ensure that operation of Variant 3 would achieve the City's VMT thresholds, thereby reducing associated mobile-source emissions.

Construction and operation of the buildings associated with Variant 3 would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The buildings would meet a net-zero operational GHG threshold. Implementation of Mitigation Measure TRA-1 would ensure that operation of Variant 3 would result in a level of VMT that would meet the City's VMT thresholds. For these reasons, with implementation of Project Mitigation Measure TRA-1, Variant 3 would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions, thereby reducing this impact to ***less than cumulatively considerable with mitigation*****.**

Noise

Impact NOI-1a: Construction Noise. Construction of Variant 3 would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (SU)

Main Project Site Construction Noise Impacts to Offsite Uses

Because the general project location and constructions schedule would not undergo large-scale changes under this Variant, and because the general equipment list would be the same as that proposed for the Project, construction noise impacts would generally be the same under Variant 3. Specifically, construction noise impacts were governed by project site construction and by off-site improvement area construction, so the worst-case impact distances and equipment types would not change under Variant 3.

As was the case for the Project, all proposed construction equipment would be expected to comply with the 85 dBA at 50 feet threshold from the City Municipal Code, except for pile drivers. In addition, during the daytime hours of 8:00 a.m. to 6:00 p.m., construction noise from Project site activities would have the potential to result in a 10-dB increase over the ambient noise level at nearby noise-sensitive uses. During

non-daytime hours, construction noise from the Project site would have the potential to exceed the applicable 50 dBA and 60 dBA thresholds for daytime and non-daytime hours (outside of the 8:00 a.m. to 6:00 a.m. hours during which overall construction noise is exempt from the overall quantitative standards in the City Code). In addition, construction noise during these non-daytime hours may also result in a 10-dB increase over ambient at nearby noise sensitive uses. As a result, construction noise impacts from the Project Site under Variant 3 would be the same as disclosed for the Project and would be **significant**.

Modified ConnectMenlo Mitigation Measure Noise-1C and Project Mitigation Measures NOI-1.1 and NOI-1.2 would apply under Variant 3 and would reduce noise and would reduce the severity of construction noise impacts from the Project Site during daytime, early morning, and evening hours. In addition, Project Mitigation Measure NOI-1.2 includes the installation of a temporary construction noise barrier in various locations, including the perimeter of the main Project Site in areas where construction would occur near residential or school land uses. These construction noise barriers would reduce construction noise effects to the nearby residences and schools. However, these measures may not reduce noise sufficiently in all instances and all locations to prevent a noise increase of 10 dB or more relative to ambient noise levels, or to reduce construction noise outside of the standard daytime hours such that compliance with applicable Municipal Code noise limits is achieved. In addition, individual pile driver equipment noise may also not be reduced to below the 85 dBA threshold at 50 feet. Therefore, as was the case for the Proposed Project, construction noise impacts from construction at the main Project Site and the Hamilton Avenue Parcels would be ***significant and unavoidable*** with mitigation during daytime, early morning, and evening hours for Variant 3.

Off-site Improvements Construction Noise Impacts

Regarding daytime construction noise from off-site improvements, as was the case with the proposed Project, off-site utility and roadway in the project vicinity would be less than significant because work for these improvements would primarily be limited to daytime hours (except for the limited work within Willow Road), and as a result of the short-term nature of the construction work required for these improvements. In addition, for the utility work, construction would progress linearly at a rate of 50 to 100 feet per day and would not expose the same individual receptors to the louder noise levels for an extended duration as a result of the construction location moving on a day-to-day basis. For these reasons, short-term and temporary construction noise generated during daytime hours for off-site improvements would be considered **less than significant**.

Regarding nighttime construction noise from off-site improvements, certain construction would be required to take place during nighttime hours when work is proposed within the Caltrans or SamTrans right of way. Equipment that may be used during these nighttime construction activities include excavators, hoe rams, loaders, grinders, jackhammers, pavers, rollers, light plants, off-haul trucks, utility trucks, highway striping machines, arrow boards, compressors, auger rigs, generators, vibratory impact hammer, impact pile driver, and cement silos.

Under Variant 3, and as was the case for the Proposed Project, the nearest sensitive land use to the proposed nighttime construction area near the SamTrans right of way are the multi-family residences located at 777 Hamilton Avenue. These residences are approximately 480 feet southwest of the proposed nighttime construction areas within the SamTrans right of way. Additionally, there are multi-family residences approximately 550 feet south of this proposed construction area along Willow Road. The loudest construction subphase that would occur in the SamTrans and Caltrans Corridors is tunnel shoring, during which would include the use of a vibratory hammer and impact pile driver. Tunnel shoring could result in noise levels of approximately 77 dBA L_{eq} at a distance of 480 feet.

Based on the modeling results presented above, noise levels from nighttime construction activities within Willow Road would be expected to exceed the allowable nighttime noise threshold of 50 dBA. In addition, based on the lowest 1-hour nighttime Leq noise level recorded at LT-4, noise level in this neighborhood could be as low as 45.0 dBA Leq (recorded at 2:00 a.m.). Therefore, nighttime construction noise would also likely result in a noise increase of more than 10-dB over ambient noise nighttime levels. As was the case for the proposed project, construction noise impacts from off-site improvements during the nighttime hours of 10:00 p.m. to 7:00 a.m. would be considered **significant**, and mitigation would be required.

Implementation of Modified ConnectMenlo Mitigation Measure NOISE-1c and Project Mitigation Measure NOI-1.1 would reduce the amount of construction noise experienced by nearby noise-sensitive receptors from off-site intersection improvement activities from construction of the Willow Road Tunnel, and from the nighttime PG&E feeder line construction work (within Willow Road). While this mitigation measure would reduce construction noise effects to offsite noise-sensitive uses during nighttime hours, it may not be possible in all times and at all locations to reduce noise levels to less-than-significant levels. Therefore, similar to the Proposed Project, construction noise impacts under Variant 3 from these off-site improvements to noise-sensitive land uses during nighttime hours would be ***significant and unavoidable.***

Impact NOI-1b: Operational Noise. Operation of Variant 3 would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (LTS/M)

Operational Traffic Noise

Similar to the Proposed Project, Variant 3 could result in increased traffic noise in the project vicinity. However, there would be no changes in the segment ADT under this Variant as compared to the proposed Project. Therefore, implementation of Variant 3 would result in the same traffic noise increases in the Project vicinity as the Proposed Project. As was the case for the proposed project, Variant 3-related traffic increases would not result in traffic noise increases in excess of thresholds along segments with noise-sensitive land uses, and traffic noise impacts would be ***less than significant.***

Mechanical Equipment Noise

Regarding mechanical equipment, similar equipment would be installed at the Project site under Variant 3 as would be installed under the Project. Based on modeling results, noise from mechanical equipment (such as heating and cooling equipment, including chillers, cooling towers, heat pumps, water pumps, etc.) could result in noise levels in excess of applicable thresholds. As described previously, stationary noise sources are regulated by Chapter 8.06 of the Menlo Park Municipal Code which states daytime noise levels are limited to 60 dBA and nighttime noise levels are limited to 50 dBA. In addition, noise levels from rooftop equipment in the City are limited to 50 dBA at 50 feet. Even if shielding from intervening buildings would reduce noise from project mechanical equipment somewhat, modeling for the Project indicates that equipment noise could still exceed the daytime and nighttime criteria described above, as well as the rooftop equipment noise threshold. Impacts from mechanical equipment under Variant 3 would be **significant**.

Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation measure NOI-1.3 would ensure noise from Project mechanical equipment would comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, impacts from mechanical equipment noise under Variant 3 would be ***less than significant with mitigation***.

Emergency Generator Noise

Under Variant 3, emergency generators would be installed as part of the Project. Similar to the Proposed Project, the emergency generators would result in the generation of audible noise during testing. In the City of Menlo Park, noise must comply with section 8.06.030 of the City Municipal Code, which includes maximum allowable noise levels as measured at the receiving residential property. Noise during daytime hours (7:00 a.m. to 10:00 p.m.) in the City is generally limited to 60 dBA, and noise during nighttime hours (10:00 p.m. to 7:00 a.m.) is generally limited to 50 dBA. Note that Section 8.06.040(b) of the Municipal Code also states that noise from powered equipment used on a temporary, occasional, or infrequent basis during the hours of eight 8:00 a.m. to 6:00 p.m. Monday through Friday shall be limited to 85 dBA at a distance of 50 feet from the source during the hours of 8:00 a.m. and 6:00 p.m. Testing of the Project emergency generators would take place during the weekday daytime hours listed above. Therefore, this analysis assesses the potential for generator testing noise to exceed the 85 dBA threshold at a distance of 50 feet, and the daytime residential property line (or sensitive use property line) threshold of 60 dBA.

Unattenuated combined engine and exhaust noise from the testing of a 500 to 1,750 kW emergency generator can be in the range of 100 to 102 dBA at a distance of 50 feet. This noise level exceeds the powered equipment limit in the City of 85 dBA at 50 feet. In addition, based on these estimated noise levels, overall noise levels at nearby noise-sensitive land uses would likely exceed the daytime 60 dBA threshold (similar to the Proposed Project).

Because noise from generator testing under Variant 3 would exceed the City's criterion of 60 dBA at the nearest sensitive receptors during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from the testing of the South Garage generators would be considered **significant**.

Project Mitigation Measure NOI-1.4, which would also apply under Variant 3, requires the preparation of a Noise Reduction Plan that includes effective attenuation features. Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation Measure NOI-1.4 would ensure noise from emergency generators during testing would comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, noise impacts from Project emergency generator testing would be ***less than significant with mitigation***.

Other Operational Noise Sources

Similar to the Proposed Project, Variant 3 would be similar enough to the proposed project that other operational sources of noise (i.e., amplified music and sound from events, dog park noise, loading dock noise, parking garage noise and shuttle and tram noise) would be ***less than significant.***

Impact NOI-2: Generation of excessive groundborne vibration or groundborne noise levels (Significant and Unavoidable with Mitigation)

Construction Vibration Damage Impacts

Similar to the proposed Project, construction on the main Project Site under Variant 3 (east of Willow Road), would result in vibration levels below the applicable damage thresholds at the nearest off-site residential land uses (150 feet west of Willow Road), school land uses (Mid-Peninsula High School, 1,200 feet from pile driving activity and 10 feet from grading activities) and commercial land uses (UPS Customer Center 100 feet east of the Project). Based on the analysis for the Project, construction activities on the main Project Site and Hamilton Avenue Parcel would result in vibration levels below

the applicable damage criteria at all nearby off-site structures. In addition, vibration-related damage impacts from most off-site construction activities (i.e., intersection improvements and waterline work) would result in lower vibration levels due to the types of equipment proposed for use. Finally, off-site improvement work for the Willow Road Tunnel, which may require pile driving, would take place far enough from nearby structures to ensure vibration-related damage impacts from this work would be less than significant. Overall, vibration-related damage impacts from all Variant 3 construction would be less than significant.

Construction Vibration Annoyance, Daytime

Annoyance related vibration impacts at nearby sensitive uses during daytime hours would be considered significant for the proposed Project, and for Variant 3 which would involve construction activities in the same general areas as the project. Implementation of Project Mitigation Measure NOI-2.1 would reduce vibration-related annoyance effects from pile driving to nearby sensitive uses. In addition, Project Mitigation Measure NOI-2.2 would reduce vibration levels from non-pile driving activity. However, it might not be possible to ensure that vibration levels at all times and in all locations would be reduced to below the applicable annoyance thresholds. Therefore, even with the implementation of Project Mitigation Measures NOI-2.1 and NOI-2.2, daytime annoyance-related vibration impacts would remain significant. Vibration-related annoyance impacts during daytime hours would be ***significant and unavoidable.***

Construction Vibration Annoyance, Nighttime

As discussed in the assessment of on-site nighttime construction, humans are typically considered more sensitive to vibration that occurs during nighttime hours because this is when people generally sleep. A significant vibration impact would be considered to occur when construction activities generate vibration levels that are strongly perceptible (i.e., 0.1 PPV in/sec) at nearby residential land uses during nighttime hours, or when vibration levels exceed the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a for residential land uses during nighttime hours. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.016 in/sec at the nearest residence during nighttime hours, which is more stringent than the Caltrans criterion, and is the main focus of this analysis.

Construction activities on the Project Site during nighttime hours would be limited to concrete pour activities with project and with Variant 3 implementation. At a distance of 150 feet, the nearest sensitive use to project site construction areas, concrete mixers and concrete pumps would generate less vibration than a small bulldozer, which is the piece of equipment in the Federal Transit Administration list of vibration source levels with the lowest level of vibration. A small bulldozer would result in a PPV of approximately 0.0002 inch per second at a distance of 150 feet, which is well below the strongly perceptible threshold (i.e., PPV of 0.1 inch per second) (refer to Table 4.11-5) as well as the 0.016 PPV in/sec limit from ConnectMenlo EIR Mitigation measure Noise-2a at the nearest residence during nighttime hours. Vibration-related annoyance impacts from the Project site would be less than significant during nighttime hours.

Regarding off-site improvement construction activities, the Willow Road Tunnel Construction would require the use of excavators, hoe rams, loaders, grinders, jackhammers, pavers, rollers, light plants, off-haul trucks, utility trucks, highway striping machines, arrow boards, compressors, auger rigs, generators, vibratory impact hammer, impact pile driver, and cement silos. The most vibration-intensive of these activities would be tunnel shoring, which would require the installation of piles, and may require the use of an impact pile driver.

The nearest sensitive land use to the proposed nighttime construction area near the SamTrans and Caltrans right of way are the multi-family residences located at 777 Hamilton Avenue. These residences are approximately 480 feet southwest of the proposed nighttime construction areas within the SamTrans and Caltrans right of way. A pile driver can result in a vibration level of 0.018 PPV in/sec at a distance of 480 feet. This vibration level is slightly greater than the maximum allowable vibration level from ConnectMenlo EIR Mitigation Measure NOISE-2a of 0.016 PPV in/sec. Because nighttime construction in the SamTrans and Caltrans right of way may result in vibration levels in excess of the applicable thresholds from the ConnectMenlo EIR, nighttime annoyance-related vibration impacts to nearby residences from off-site construction would be considered ***significant***, and mitigation would be required.

Project Mitigation Measure NOI-2.3, which would apply to Variant 3, would ensure that nighttime pile driving would take place at least 540 feet from the nearest residential land uses, as feasible. If pile installation must take place closer than this distance from occupied residences, alternative pile installation methods would be used to reduce vibration levels to below the applicable significance thresholds. However, it may not be possible to ensure that vibration levels at all times and in all locations would be reduced to below the applicable annoyance thresholds if pile driving work must occur closer than 540 feet from residences. Therefore, even with the implementation of Mitigation Measure NOI-2.3, annoyance-related vibration impacts during nighttime hours would remain significant. Vibration-related annoyance impacts during nighttime hours under Variant 3 would be ***significant and unavoidable.***

Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose of people residing or working in the project area to excessive noise levels (No Impact)

Because the footprint for the project site would generally be the same under Variant 3 as under the Proposed Project, impacts related to aircraft noise would be the same under Variant 3. Implementation of Variant 3 would not expose people working or residing in the Project to excessive noise levels from either a public or public use airport or private airstrip. There would be ***no impact*** related to excessive aircraft noise levels under this Variant.

Utilities and Service Systems

Impact UT-1: Construction or Relocation of Utilities. Variant 3 would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. (LTS)

Similar to the Proposed Project, Variant 3 would include construction of water system, sewer infrastructure, and PG&E Ravenswood substation upgrades. Therefore, implementation of Variant 3 would not change environmental impacts related to utility expansions.

Water

The total net increase in potable water demand under Variant 3 is estimated to be approximately 0.20 mgd (75 mg/yr), which is less than the Proposed Project.[28] Compared to the Proposed Project, the water demand would be reduced by 0.01 mgd (4 mg/yr) under Variant 3. Water for Variant 3 would be

[28] Total Variant 3 potable water demand of 94 mg/yr minus existing potable water use of 19 mg/year = 75 mg/yr (0.20 mgd) net increase in water demand.

treated at one of three WTPs: the SFPUC's Tesla Treatment Facility, the Sunol Valley WTP, or the Harry Tracy WTP. The Tesla Treatment Facility has the capacity to treat 315 mgd. The Sunol Valley WTP has the capacity to treat 160 mgd. The Harry Tracy WTP has the capacity to treat approximately 140 mgd. Therefore, the three WTPs have adequate capacity to treat water for Variant 3. Variant 3 would not change the environmental impacts related to the relocation of existing or construction of new or expanded water treatment facilities. The impact would be ***less than significant.***

Similar to the Proposed Project, Variant 3 would construct a 16-inch-diameter pipeline within Park Street, Main Street, and East Loop Road and a 12-inch-diameter pipeline connection to the existing 12-inch-diameter pipeline in O'Brien Drive, north of the SFPUC easement, to meet onsite fire-flow requirements. Therefore, implementation of Variant 3 would not change environmental impacts related to the installation of new or expanded water lines. The impact would be ***less than significant.***

Wastewater

The net amount of total non-irrigation water use by Variant 3 is estimated to be 0.33 mgd (124 mg/year); this number includes indoor potable water use, toilet flushing, and cooling. The estimate does not include water used for irrigation, refer to Table 5-29. Assuming 90 percent of the net amount of total non-irrigation water would become wastewater, the estimated net increase in wastewater generation would be approximately 0.31 mgd (or 112 mg/yr). This increase in wastewater generation would not be significant relative to the currently available excess dry-weather design-flow capacity of 15.5 mgd (i.e., 29 mgd design flow minus 13.5 mgd current average flow = 15.5 mgd) or excess wet-weather design-flow capacity of 57.5 mgd (i.e., 71 mgd design flow minus 13.5 mgd current average flow = 57.5 mgd). Therefore, there is adequate capacity to serve Variant 3. Variant 3 would change the environmental impacts related to the relocation of existing or construction of new or expanded wastewater treatment facilities. The impact would be ***less than significant.***

Table 5-29. Projected Water Demand for Variant 3 (mg/yr)

Water Use	Variant 3
Indoor Potable	94
Toilet Flushing (non-potable)	21
Cooling (non-potable)	9
Irrigation (non-potable)	26
Total Projected Water Demand	**150**
Projected Water Demand (potable)	94 (63%)
Projected Water Demand (non-potable)	56 (37%)
Existing Potable Water Use at Proposed Project Site[a]	19
Net Increase in Potable Water Demand[b]	**75**

Source: Peninsula Innovation Partners, LLC., and West Yost, 2022.

[a] Existing potable water demand at the Project Site based on 2015 data (18.2 mg/yr plus 6 percent for unaccounted for water) and assumed to be replaced by the Proposed Project.

[b] Assumes the existing potable water demand at the Project Site is replaced by Variant 3 demand.

Similar to the Proposed Project, Variant 3 would construct new or expanded sewer lines near the Project Site. Therefore, implementation of Variant 3 would not change the environmental impacts related to installation of new or expanded sewer lines. The impact would be ***less than significant***.

Stormwater

Implementation of Variant 3 would result in the same amount of pervious surface on the main Project Site (an increase of approximately 4 percent). Similar to the Proposed Project, Variant 3 would construct a private onsite storm drain system to convey runoff by gravity from all buildings and other areas to the existing City main in Willow Road. Variant 3 would also incorporate onsite stormwater elements to reduce the total volume of stormwater runoff at the main Project Site compared with existing conditions. In Variant 3, there would be no changes to the Hamilton Avenue Parcels North and South impervious and pervious areas. Therefore, Variant 3 would not change the environmental impacts related to the relocation of existing or construction of new or expanded stormwater drainage facilities. The impact would **be *less than significant.***

Electricity and Natural Gas

Similar to the Proposed Project, under Variant 3 PG&E would upgrade the Ravenswood substation[29] and provide offsite improvements to support distribution-level electrical service to the main Project Site from this substation. Therefore, Variant 3 would not change the environmental impacts related to the relocation of existing or construction of new or expanded electrical facilities. The impact would be ***less than significant.***

Variant 3 would install new or expanded gas lines on the main Project Site, similar to the Proposed Project. No offsite natural gas facilities would need to be constructed or expanded as a result of Variant 3. Therefore, Variant 3 would not change the environmental impacts related to the relocation of existing or construction of new or expanded natural gas facilities. The impact would be ***less than significant.***

Telecommunications

Similar to the Proposed Project, Variant 3 may extend or relocate telecommunications lines. Therefore, Variant 3 would not change the environmental impacts related to the relocation of existing or construction of new or expanded telecommunication facilities. The impact would be ***less than significant.***

Impact UT-2: Water Supply. Variant 3 would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. (LTS)

A summary of the water demands for Variant 3, as estimated by the Project Sponsor and evaluated by the City's consultant in preparation of the WSA, is provided in Table 5-29. As shown, the total projected water demand for Variant 3 is approximately 150 mg/yr, which is less than the Proposed Project by approximately 5 mg/yr. Approximately 63 percent of the total water demand is potable water demand; the remaining 37 percent is non-potable water demand that would be met with recycled water on the main Project Site. As shown in Table 5-29, the existing potable water demand at the main Project Site is estimated to be approximately 19 mg/yr. Therefore, the net increase in potable water demand for Variant 3 is estimated to be 75mg/yr.

Similar to the Proposed Project, Variant 3 would be within the maximum development potential studied in ConnectMenlo, and the water demand of the Variant 3 is included in the further refined land uses and development potential studied in the ConnectMenlo EIR as well as the MPMW's 2015 and 2020 UWMP water demand analyses. Further, the water supply evaluation (WSE) that was prepared as part of the ConnectMenlo process considered the development potential created by the ConnectMenlo General Plan

[29] The current Ravenswood substation operates as a transmission substation and is not equipped with distribution system infrastructure.

Update and the refined land uses studied in the associated EIR. The ConnectMenlo EIR determined that there would be an increase in water demand as a result of buildout of ConnectMenlo. The ConnectMenlo EIR concluded that the MPMW's water supply would be adequate and able to meet increased demands in normal years as well as the additional demand generated by the increase in development associated with implementation of ConnectMenlo

Similar to the Proposed Project, if the Bay-Delta Plan Amendment is implemented, the total projected water supply determined to be available for Variant 3 in normal years will meet the projected water demand associated with Variant 3, in addition to MPMW's existing and planned future uses, through 2040. However, with the implementation of the Bay-Delta Plan Amendment, significant supply shortfalls are projected in dry years for agencies that receive water supplies from the SFPUC RWS as well as other agencies whose water supplies would be affected by the amendment. For MPMW, supply shortfalls are projected in single dry years (ranging from 27 to 32 percent) and in multiple dry years (ranging from 27 to 44 percent) through 2040. Based on SFPUC's analysis, similar supply shortfalls would occur through 2045.

If supply shortfalls do occur, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its WSCP.[30] With the MPMW's WSCP in place, the shortages in single and multiple dry years would be managed through demand reductions of 50 percent or greater in Stages 5 and 6. The projected shortfalls in single dry years would require implementation of Stage 3 or Stage 4 of the MPMW WSCP, and the projected shortfalls in multiple dry years would require implementation of Stage 3, 4, or 5 of the MPMW WSCP. Similar to the Proposed Project, Variant 3 would utilize recycled water for all City-approved non-potable applications (e.g. irrigation, mechanical cooling, and toilet flushing), which would offset the demand for potable water and contribute to MPMW's efforts to reduce future supply shortages and would implement water conservation measures, both in the design of the base building and tenant spaces as well as daily operations, employee practices, and landscaping choices. Furthermore, the water demand associated with buildout of ConnectMenlo, which the Variant 3 is within, is included in the 2020 UWMP, and Variant 3 therefore would not exacerbate MPMW's anticipated supply shortages or cause MPMW to increase customer water use restrictions beyond that anticipated in its 2020 UWMP. As with the Proposed Project, Variant 3 also would be subject to the same water conservation and water use restrictions as other water users within the MPMW system under ConnectMenlo, including annual compliance with the approved water budget. Therefore, Variant 3 would not change the environmental impacts related to adequate water supplies. The impact would be ***less than significant.***

Impact UT-3: Generation of Wastewater. Variant 3 would not result in a determination by the wastewater treatment providers that they have inadequate capacity to serve Variant 3's projected demand in addition to the providers' existing commitments. (LTS)

Variant 3 would generate approximately 0.31 mgd (or 112 mg/yr) of wastewater at the Project Site. Under existing conditions, the Project Site generates approximately 0.05 mgd (17 mg/yr) of wastewater. The net increase in wastewater generated by Variant 3 would be approximately 0.30 mgd. An increase of approximately 0.30 mgd, compared with existing conditions, is negligible, given the capacity of the

[30] A main focus of MPMW's planned demand reduction measures is to increase public outreach and keep customers informed of the water shortage emergencies and actions they can take to reduce consumption. The City will use its emergency supply well(s) as supply augmentation during WSCP Stages 5 and 6. Other actions that the City will take will include coordinating with other agencies, implementing a drought surcharge, increasing water waste patrols, etc. Additional information on MPMW's WSCP is provided in Chapter 8 of MPMW's 2020 UWMP.

existing system. Therefore, there would be adequate wastewater treatment capacity available to serve projected demand in addition to the provider's existing commitments. This increase in wastewater generation would not be significant relative to the currently available excess dry-weather design-flow capacity of 15.5 mgd (i.e., 29 mgd design flow minus 13.5 mgd current average flow = 15.5 mgd) or excess wet-weather design-flow capacity of 57.5 mgd (i.e., 71 mgd design flow minus 13.5 mgd current average flow) at the SVCW WWTP. Estimated wastewater flows from the Proposed Project would therefore represent a very small percentage of the total daily wastewater capacities of the SVCW WWTP. Likewise, wastewater generation from Variant 3 (i.e., maximum of approximately 112 mg/yr) would not be significant relative to current average collection rates at the WBSD. Based on existing SVCW WWTP and WBSD collection and processing capacity, it is not expected that Variant 3 would result in a determination by either wastewater treatment provider that it would have inadequate capacity to serve projected demand under Variant 3 in addition to existing commitments. The impact would be ***less than significant.***

Impact UT-4: Generation of Solid Waste. Variant 3 would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. (LTS)

Construction debris generated from structure demolition would be slightly reduced under Variant 3 compared to the Proposed Project. The number of residential units and employment-generating uses on the main Project Site would remain the same and there would be a slight reduction on the Hamilton Avenue Parcels since existing square footage and uses would remain and not be expanded. Implementation of the required zero-waste management plans for all new buildings and uses on the main Project Site would reduce waste from the occupancy phase. As such, Shoreway and Ox Mountain would have adequate capacity for Variant 3. Therefore, Variant 3 would be served by a landfill with adequate permitted capacity to accommodate its solid waste disposal needs. The impact would be ***less than significant.***

Impact UT-5: Compliance with Solid Waste Regulations. Variant 3 would comply with federal, state, and local management and reduction statutes and regulations related to solid waste (LTS)

Construction and operation of Variant 3 would comply with all applicable statutes and regulations related to solid waste. State law (Assembly Bills 341 and 939) requires businesses to recycle and cities to divert 50 percent of their solid waste from landfills. Similar to the Proposed Project, Variant 3 would adhere to these laws. In addition, Variant 3 would be required to adhere to the City's Construction and Demolition Recycling Ordinance and zero-waste management plan requirements during the occupancy phase. Accordingly, Variant 3 would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. The impact would be ***less than significant.***

Cumulative Analysis

Cumulative impacts are evaluated throughout the Draft EIR. Overall, under Variant 3 the Hamilton Avenue Parcels would remain the same as existing conditions, and there would be an overall reduction in retail uses compared to the Proposed Project, which would decrease the level of ground-disturbing activities and related emissions. However, the reduction in ground disturbing activities and related emissions would not reduce Project-specific impact determinations. Therefore, the cumulative contribution under Variant 3 is the same as under the Proposed Project.

Variant 4: Onsite Recycled Water Variant

Environmental Topics Not Requiring Further Analysis

Under Variant 4, onsite water recycling facilities (WRFs) would be constructed on the main Project Site. In this variant, one WRF would serve the hotel (Plant #1) and two WRFs (Plants #2 and #3) within the Residential/Shopping District would serve the six mixed-use parcels. The Campus District wastewater would be collected via a private sewer network and treated at one WRF (Plant #4). Each WRF would require a connection to the WBSD sewer network, which would receive excess wastewater and potentially discharges of flowable wastewater treatment residuals. As with the Proposed Project, all proposed buildings would include dual plumbing. No other changes to the Proposed Project would occur under this variant.

Project-related ground-disturbing activities would slightly increase under this variant because of the installation and construction of the four WRFs. However, each WRF would be located underneath proposed buildings but within the building footprint proposed under the Project. These ground-disturbing activities are already accounted for and evaluated under the Proposed Project as well as throughout this Draft EIR. Therefore, environmental impacts related to cultural and tribal cultural resources, geology and soils, and hazards and hazardous materials that could result from Project-related ground-disturbing activities would not change under Variant 4. Land use designations would remain the same; therefore, impacts associated with land use and planning would not change under Variant 4. The number of residential units and employment-generating uses on the Project Site would remain the same. Therefore, environmental impacts related to population and housing as well as public services that could result from Project-related population growth would not change under Variant 4. Given that land uses, the overall site plan, and Project-related population growth would not change, impacts related to transportation would remain the same under Variant 4. Under Variant 4, building heights, massing, and overall development on the Project Site would remain the same. Therefore, environmental impacts related to aesthetic resources would not change under Variant 4. The amount of impervious surface area introduced to the Project Site during construction would remain the same; therefore, impacts related to hydrology and water quality would not change. Similarly, there would be no change in the environmental impacts associated with biological resources. Installation of each WRF would not alter operational impact findings related to Air Quality; therefore, Impacts AQ-1, AQ-2, and AQ-3 focus on construction related impacts only. As noted above, given that land uses, the overall site plan, and Project-related population growth would not change, impacts related to transportation and therefore traffic noise would remain the same under Variant 4. Accordingly, traffic noise is not discussed under Impact NOI-1b.

Air Quality

Impact AQ-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan. Variant 4 would conflict with or obstruct implementation of the applicable air quality plan (SU).

Similar to the Proposed Project, Variant 4 would be consistent with the applicable stationary-source control measures, energy control measures, building control measures, and waste control measures included in the Clean Air Plan. Construction activity under Variant 4 would be similar to that under the Proposed Project. Equipment to be used for the installation of WRF's would already be onsite, and construction-related activity would be included in the construction schedule. Therefore, construction emissions are not expected to change, and impact determinations would remain the same. With implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, Variant 4 would result in less-than-significant impacts related to NO_X

emissions and TAC exposures. Variant 4 would also be consistent with the transportation control measures with implementation of Mitigation Measure TRA-1. However, ROG emissions would remain above the BAAQMD ROG threshold after implementation of all mitigation measures. Therefore, Variant 4 would possibly disrupt or hinder implementation of the current Clean Air Plan, and this impact would be ***significant and unavoidable*.**

Impact AQ-2: Cumulatively Considerable Net Increase in Criteria Pollutants. Variant 4 would result in a cumulative net increase in a criteria pollutant for which the Project region is classified as a nonattainment area under an applicable federal or state ambient air quality standard (SU).

Construction

Similar to the Proposed Project, construction of Variant 4 would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X. Unmitigated particulate matter exhaust emissions would not exceed BAAQMD's particulate matter exhaust thresholds. Construction activity under Variant 4 would be similar to that under the Proposed Project. Equipment to be used for the installation of WRF's would already be onsite, and construction-related activity would be included in the construction schedule. Therefore, construction emissions are not expected to change, and impact determinations would remain the same. After implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, construction criteria pollutant emissions would be below all applicable BAAQMD thresholds. Therefore, construction activities would not result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment area with respect to federal or state ambient air quality standards. This impact would be ***less than significant with mitigation.***

BAAQMD's CEQA Guidelines consider fugitive dust impacts to be less than significant with application of BMPs, which are included in ConnectMenlo Mitigation Measure AQ-2b1. The BMPs require applicants for future development projects to comply with BAAQMD's basic control measures for reducing construction emissions of PM_{10}. If BMPs are not implemented, dust impacts would be potentially significant. Therefore, BMPs would be required and implemented to reduce impacts from construction-related fugitive dust emissions, including any cumulative impacts. With implementation of ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2, fugitive dust emissions would be reduced, and the impact would be ***less than significant with mitigation*.**

Construction and Operations

Similar to the Proposed Project, construction is expected to occur during operation because Variant 4 would be constructed over a period of several years. In years when construction is scheduled to coincide with operation, construction emissions were combined with operational emissions. This analysis conservatively assumed that the buildings constructed in each year of the construction program would be occupied and fully operational upon completion. This is conservative because occupancy and operation of each phase would very likely ramp up over time.

Similar to the Proposed Project, construction plus operation of Variant 4 would result in unmitigated emissions that would exceed BAAQMD's recommended thresholds for ROG and NO_X. Unmitigated particulate matter emissions would not exceed BAAQMD's particulate matter thresholds. After implementation of Project Mitigation Measures AQ-1.1 and AQ-1.2 as well as ConnectMenlo Mitigation Measures AQ-2b1 and AQ-2b2, construction plus net operational emissions would remain in excess of BAAQMD's recommended threshold for ROG. Therefore, mitigated construction plus operation of Variant 4 would result in a cumulatively considerable net increase in criteria air pollutants for which the SFBAAB is designated as a nonattainment

area with respect to the federal or state ambient air quality standards. This impact would be ***significant and unavoidable.***

Impact AQ-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations. Variant 4 would expose sensitive receptors to substantial pollutant concentrations (LTS/M).

Localized Carbon Monoxide Hot Spots

Under Variant 4, maximum traffic volumes at the intersections under all scenarios would be less than BAAQMD's recommended screening criterion of 44,000 vehicles per hour, consistent with the Proposed Project. Therefore, implementation of Variant 4 would not result in, or contribute to, a localized concentration of CO that would exceed the applicable NAAQS or CAAQS. The impact would be ***less than significant.***

Toxic Air Contaminants

Asbestos

Under Variant 4, the risk of exposure to asbestos during demolition of the existing hardscape (asphalt and concrete) and buildings on the Project Site would remain the same. Therefore, implementation of Variant 4 would not change environmental impacts related to exposure to asbestos emissions during construction. The impact would be ***less than significant.***

Criteria Air Pollutants

As discussed above under Impact AQ-2, construction emissions as a result of Variant 4 would be below the BAAQMD thresholds of significance. Variant 4 estimated NO_X and ROG emissions are not expected to change compared to the Proposed Project. Therefore, Variant 4 would not change the impact determination and health impacts would be similarly de minimis.

Toxic Air Contaminants and Localized $PM_{2.5}$

Construction plus Operations

Similar to the Proposed Project, the unmitigated health risk results under Variant 4 would not exceed BAAQMD's recommended health risk thresholds for the non-cancer hazard index; however, BAAQMD's cancer risk and annual $PM_{2.5}$ concentration thresholds would be exceeded. Therefore, impacts would be significant without mitigation. With implementation of Mitigation Measure Project AQ-1.1 and Mitigation Measures AQ-2b1 and AQ-2b2 from the ConnectMenlo EIR, the incremental increase in health risks would be less than all BAAQMD-recommended health risk thresholds. Therefore, mitigated construction and operational emissions would not expose sensitive receptors to substantial pollutant concentrations and associated health risks, and impacts would be ***less than significant with mitigation.***

Impact AQ-4: Other Air Emissions. Variant 4 would result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people (LTS/M).

Similar to the Proposed Project, Variant 4 would also contain a wastewater pump station in the southwest corner of the site. Wastewater Pumping Facilities are land uses listed in BAAQMD's Odor Screening Distances Table. Variant 4 would also be required to comply with Project Mitigation Measure AQ-1.4. Therefore, implementation of Variant 4 would not change environmental impacts related to objectionable odors. The impact would be ***less than significant with mitigation.***

Energy

Impact EN-1: Wasteful, Inefficient, or Unnecessary Consumption of Energy Resources. Variant 4 would not result in potentially significant environmental impacts due to the wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation. (LTS)

Construction

Variant 4 would not have an appreciable effect on construction-related energy usage compared to the Proposed Project. Therefore, construction of Variant 4 would not change environmental impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources. Similar to the Proposed Project, construction under Variant 4 would utilize construction equipment with higher-tier engines (Tiers 3 and 4), include limitations on idling, comply with waste reduction requirements, and use grid power rather than generators once available at the construction site; therefore, construction would result in a ***less-than-significant*** energy impact

Operation

Operational energy consumption under Variant 4 would not have an appreciable effect on energy use compared to the Proposed Project. Potential increases in energy use due to operation of onsite WRFs would be offset by the reduction in energy use at the WWTP. Therefore, operation of Variant 4 would not change environmental impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources. The impact would be ***less than significant***.

Impact EN-2: Conflict with Energy Plan. Variant 4 would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. (LTS)

Similar to the Proposed Project, Variant 4 would comply with local plans that address energy efficiency to achieve the state's RPS mandates, including PG&E's and PCE's 2020 IRPs and the City's CAP. The City General Plan and Menlo Park Municipal Code also include goals, policies, and requirements related to energy use and energy reductions. Therefore, implementation of Variant 4 would not change environmental impacts related to a potential conflict with state or local plan for renewable energy or energy efficiency. The impact would be ***less than significant.***

Greenhouse Gas Emissions

Impact GHG-1a: Generation of GHG Emissions during Construction. Construction of Variant 4 would not generate GHG emissions that may have a significant impact on the environment. (LTS)

Construction emissions are not expected to change under Variant 4, and ***less than significant*** impact determinations would remain the same. Similar to the Proposed Project, although construction GHG emissions would be less than significant under Variant 4, the Project Sponsor would comply with practical and feasible construction-related measures suggested in the 2017 Scoping Plan (specifically, the measures in Appendix B to the 2017 Scoping Plan that would be imposed as conditions of approval on the Proposed Project) as applicable, which would further reduce the level of GHGs associated with construction. Construction of the Proposed Project would not generate GHG emissions that could have a significant impact on the environment.

Impact GHG-1b: Generation of GHG Emissions during Operation. Operation of Variant 4 would generate GHG emissions that may have a significant impact on the environment. (LTS/M)

Operational energy consumption under Variant 4 would not have an appreciable effect on energy use compared to the Proposed Project, and impact determinations would remain the same. Similar to the Proposed Project, Variant 4 would result in a substantial reduction in natural gas use compared to existing conditions. Therefore, implementation of Variant 4 would not contribute a significant amount of operational non-mobile-source GHG emissions to existing significant cumulative emissions. The impact would be ***less than cumulatively considerable.***

Operation of Variant 4 would result in mobile-source GHG emissions, which would be associated with vehicle trips to and from the Project Site (i.e., Project-generated VMT). Similar to the Proposed Project, Variant 4 would develop and implement TDM programs with trip reduction measures that would reduce vehicle traffic in and around the main Project Site. Together, the TDM measures and Mitigation Measure TRA-1 would meet the City's trip and VMT reduction targets. With implementation of Mitigation Measure TRA-1, operation of Variant 4 would achieve the City's VMT thresholds, thereby reducing associated mobile-source GHG emissions. Therefore, this impact would be ***less than cumulatively considerable with mitigation*.**

Impact GHG-2: Conflicts with Applicable Plans and Policies. Variant 4 would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs. (LTS/M)

Similar to the Proposed Project, the quantitative efficiency of operations associated with Variant 4 would be aligned with the statewide GHG target for 2030 mandated by Senate Bill 32 as well as the Menlo Park Municipal Code, which requires onsite or offsite renewable energy generation, the use of 100 percent renewable electricity, and/or renewable energy credits and/or certified renewable energy offsets. The City's reach code would significantly limit the onsite combustion of natural gas (an exception could be granted from the reach code by the Environmental Quality Commission, or the City Council's designated reviewing body, for onsite commercial kitchens to use natural gas in their cooking facilities). If any natural gas is permitted to be used, the amount would remain less than the amount of natural gas used under existing conditions. The Menlo Park Municipal Code requires a minimum of 15 percent of the parking spaces for passenger vehicles to be EV spaces, with another 10 percent designated EVSE, thereby supporting the projected future electric vehicle fleet. Also, Variant 4 would be consistent with Plan Bay Area 2040 and 2050, which are regional plans to reduce per-service-population VMT in the San Francisco Bay Area.

Mitigation Measures and Summary.

No mitigation measures are required to achieve net-zero non-mobile-source operational emissions. As with the proposed project, implementation of Mitigation Measure TRA-1 would ensure that operation of Variant 4 would achieve the City's VMT thresholds, thereby reducing associated mobile-source emissions.

Construction and operation of the buildings associated with Variant 4 would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The buildings would meet a net-zero operational GHG threshold. Implementation of Mitigation Measure TRA-1 would ensure that operation of Variant 4 would result in a level of VMT that would meet the City's VMT thresholds. For these reasons, with implementation of Project Mitigation Measure TRA-1, Variant 4 would be consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions, thereby reducing this impact to ***less than cumulatively considerable with mitigation*.**

Noise

Impact NOI-1a: Construction Noise. Construction of Variant 4 would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (SU)

Main Project Site Construction Noise Impacts to Offsite Uses

Because the general project location and constructions schedule would not undergo large-scale changes with under this Variant, and because the general equipment list would be the same as that proposed for the Project, construction noise impacts would generally be the same under Variant 4. As was the case for the Project, all proposed construction equipment would be expected to comply with the 85 dBA at 50 feet threshold from the City Municipal Code, except for pile drivers. In addition, during the daytime hours of 8:00 a.m. to 6:00 p.m., construction noise from Project site activities would have the potential to result in a 10-dB increase over the ambient noise level at nearby noise-sensitive uses. During non-daytime hours, construction noise from the Project site would have the potential to exceed the applicable 50 dBA and 60 dBA thresholds for daytime and non-daytime hours (outside of the 8:00 a.m. to 6:00 a.m. hours during which overall construction noise is exempt from the overall quantitative standards in the City Code). In addition, construction noise during these non-daytime hours may also result in a 10-dB increase over ambient at nearby noise sensitive uses. As a result, construction noise impacts from the Project Site and Hamilton Avenue Parcel under Variant 4 would be the same as disclosed for the Project and would be **significant**.

Modified ConnectMenlo Mitigation Measure Noise-1C and Project Mitigation Measures NOI-1.1 and NOI-1.2 would apply under Variant 4 and would reduce noise and would reduce the severity of construction noise impacts from the Project Site and the Hamilton Avenue Parcels during daytime, early morning, and evening hours. In addition, Project Mitigation Measure NOI-1.2 includes the installation of a temporary construction noise barrier in various locations, including the perimeter of the main Project Site and Hamilton Avenue Parcels in areas where construction would occur near residential or school land uses. These construction noise barriers would reduce construction noise effects to the nearby residences and schools. However, these measures may not reduce noise sufficiently in all instances and all locations to prevent a noise increase of 10 dB or more relative to ambient noise levels, or to reduce construction noise outside of the standard daytime hours such that compliance with applicable Municipal Code noise limits is achieved. In addition, individual pile driver equipment noise may also not be reduced to below the 85 dBA threshold at 50 feet. Therefore, as was the case for the Proposed Project, construction noise impacts from construction at the main Project Site and the Hamilton Avenue Parcels would be ***significant and unavoidable*** with mitigation during daytime, early morning, and evening hours for Variant 4.

Off-site Improvements Construction Noise Impacts

Regarding daytime construction noise from off-site improvements, construction noise impacts from off-site utility and roadway improvements in the project vicinity would be the same as the Proposed Project, and would be less than significant because work for these improvements as a result of the short-term nature of the construction work required for these improvements.

Regarding nighttime construction noise from off-site improvements, certain construction would be required to take place during nighttime hours when work is proposed within the Caltrans or SamTrans right of way. Equipment that may be used during these nighttime construction activities include excavators, hoe rams, loaders, grinders, jackhammers, pavers, rollers, light plants, off-haul trucks, utility

trucks, highway striping machines, arrow boards, compressors, auger rigs, generators, vibratory impact hammer, impact pile driver, and cement silos.

Under Variant 4, and as was the case for the Proposed Project, the nearest sensitive land use to the proposed nighttime construction area near the SamTrans right of way are the multi-family residences located at 777 Hamilton Avenue. These residences are approximately 480 feet southwest of the proposed nighttime construction areas within the SamTrans right of way. Tunnel shoring could result in noise levels of approximately 77 dBA L_{eq} at a distance of 480 feet. Based on the modeling results presented above, noise levels from nighttime construction activities within Willow Road would be expected to exceed the allowable nighttime noise threshold of 50 dBA. In addition, based on the lowest 1-hour nighttime Leq noise level recorded at LT-4, noise level in this neighborhood could be as low as 45.0 dBA Leq (recorded at 2:00 a.m.). Therefore, nighttime construction noise would also likely result in a noise increase of more than 10-dB over ambient noise nighttime levels. As was the case for the proposed project, construction noise impacts from off-site improvements during the nighttime hours of 10:00 p.m. to 7:00 a.m. would be considered **significant**, and mitigation would be required.

Implementation of Modified ConnectMenlo Mitigation Measure NOISE-1c and Project Mitigation Measure NOI-1.1 would reduce the amount of construction noise experienced by nearby noise-sensitive receptors from off-site intersection improvement activities from construction of the Willow Road Tunnel, and from the nighttime PG&E feeder line construction work (within Willow Road). While this mitigation measure would reduce construction noise effects to offsite noise-sensitive uses during nighttime hours, it may not be possible in all times and at all locations to reduce noise levels to less-than-significant levels. Therefore, as was the case for the Proposed Project, construction noise impacts under Variant 4 from these off-site improvements to noise-sensitive land uses during nighttime hours would be ***significant and unavoidable.***

Impact NOI-1b: Operational Noise. Operation of the Variant 4 would generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. (LTS/M)

Mechanical Equipment Noise

Regarding mechanical equipment, similar equipment would be installed at the Project site under Variant 4 as would be installed under the Project, with the addition of potential underground equipment being required for the WRF facilities. Based on modeling results, noise from mechanical equipment (such as heating and cooling equipment, including chillers, cooling towers, heat pumps, water pumps, etc.) could result in noise levels in excess of applicable thresholds. Similarly, noise from mechanical equipment required for the WRF facilities could also exceed quantitative local standards. As described previously, stationary noise sources are regulated by Chapter 8.06 of the Menlo Park Municipal Code which states daytime noise levels are limited to 60 dBA and nighttime noise levels are limited to 50 dBA. In addition, noise levels from rooftop equipment in the City are limited to 50 dBA at 50 feet. Therefore, as is the case for the proposed project, impacts from mechanical equipment under Variant 4 would be **significant**.

Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation measure NOI-1.3 would ensure noise from Project mechanical equipment, including equipment from the WRF facilities under Variant 4, would comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, impacts from mechanical equipment noise under Variant 4 would be ***less than significant with mitigation***.

Emergency Generator Noise

Under Variant 4, emergency generators would be installed as part of the Project. Similar to the Proposed Project, the emergency generators would result in the generation of audible noise during testing. In the City of Menlo Park, noise must comply with section 8.06.030 of the City Municipal Code, which includes maximum allowable noise levels as measured at the receiving residential property. Noise during daytime hours (7:00a.m. to 10:00 p.m.) in the City is generally limited to 60 dBA, and noise during nighttime hours (10:00 p.m. to 7:00a.m.) is generally limited to 50 dBA. Note that Section 8.06.040(b) of the Municipal Code also states that noise from powered equipment used on a temporary, occasional, or infrequent basis during the hours of eight 8:00 a.m. to 6:00 p.m. Monday through Friday shall be limited to 85 dBA at a distance of 50 feet from the source during the hours of 8:00 a.m. and 6:00 p.m. Testing of the Project emergency generators would take place during the weekday daytime hours listed above. Therefore, this analysis assesses the potential for generator testing noise to exceed the 85 dBA threshold at a distance of 50 feet, and the daytime residential property line (or sensitive use property line) threshold of 60 dBA.

Unattenuated combined engine and exhaust noise from the testing of a 500 to 1,750 kW emergency generator can be in the range of 100 to 102 dBA at a distance of 50 feet. This noise level exceeds the powered equipment limit in the City of 85 dBA at 50 feet. In addition, based on these estimated noise levels, overall noise levels at nearby noise-sensitive land uses would likely exceed the daytime 60 dBA threshold (as was the case for the Proposed Project).

Because noise from generator testing under Variant 4 would exceed the City's criterion of 60 dBA at the nearest sensitive receptors during daytime hours, and because generator noise at a distance of 50 feet would exceed the 85 dBA threshold for powered equipment, noise impacts from the testing of the South Garage generators would be considered **significant**.

Project Mitigation Measure NOI-1.4, which would also apply under Variant 4, requires the preparation of a Noise Reduction Plan that includes effective attenuation features. Mitigation Measure NOISE-1b from the ConnectMenlo EIR in combination with Project Mitigation Measure NOI-1.4 would ensure noise from emergency generators during testing would comply with the noise limits outlined in Chapter 8.06 of the Menlo Park Municipal Code. Therefore, noise impacts from Project emergency generator testing would be ***less than significant with mitigation***.

Other Operational Noise Sources

As was the case for the proposed project, Variant 4 would be similar enough to the proposed project that other operational sources of noise (i.e., amplified music and sound from events, dog park noise, loading dock noise, parking garage noise and shuttle and tram noise) would be ***less than significant.***

Impact NOI-2: Generation of excessive groundborne vibration or groundborne noise levels (Significant and Unavoidable with Mitigation)

Construction Vibration Damage Impacts

As is the case for the Proposed Project, Variant 4 construction for the main Project Site (east of Willow Road), would result in vibration levels below the applicable damage thresholds at the nearest off-site residential land uses (150 feet west of Willow Road), school land uses (Mid-Peninsula High School, 1,200 feet from pile driving activity and 10 feet from grading activities) and commercial land uses (UPS Customer Center 100 feet east of the Project). Based on the analysis for the Project, construction activities on the main Project Site and Hamilton Avenue Parcel would result in vibration levels below the applicable

damage criteria at all nearby off-site structures. In addition, vibration-related damage impacts from most off-site construction activities (i.e., intersection improvements and waterline work) would result in lower vibration levels due to the types of equipment proposed for use. Finally, off-site improvement work for the Willow Road Tunnel, which may require pile driving, would take place far enough from nearby structures to ensure vibration-related damage impacts from this work would be less than significant. Overall, vibration-related damage impacts from all Variant 4 construction would be less than significant.

Construction Vibration Annoyance, Daytime

Annoyance related vibration impacts at nearby sensitive uses during daytime hours would be considered significant for the proposed Project, and for Variant 4 which would involve construction activities in the same general areas as the project. Implementation of Project Mitigation Measure NOI-2.1 would reduce vibration-related annoyance effects from pile driving to nearby sensitive uses. In addition, Project Mitigation Measure NOI-2.2 would reduce vibration levels from non-pile driving activity. However, it might not be possible to ensure that vibration levels at all times and in all locations would be reduced to below the applicable annoyance thresholds. Therefore, even with the implementation of Project Mitigation Measures NOI-2.1 and NOI-2.2, daytime annoyance-related vibration impacts would remain significant. Vibration-related annoyance impacts during daytime hours would be ***significant and unavoidable.***

Construction Vibration Annoyance, Nighttime

As discussed in the assessment of on-site nighttime construction, humans are typically considered more sensitive to vibration that occurs during nighttime hours because this is when people generally sleep. A significant vibration impact would be considered to occur when construction activities generate vibration levels that are strongly perceptible (i.e., 0.1 PPV in/sec) at nearby residential land uses during nighttime hours, or when vibration levels exceed the criteria outlined in ConnectMenlo EIR Mitigation Measure NOISE-2a for residential land uses during nighttime hours. According to ConnectMenlo EIR Mitigation Measure NOISE-2a, vibration levels must be limited to a PPV of 0.016 in/sec at the nearest residence during nighttime hours, which is more stringent than the Caltrans criterion, and is the main focus of this analysis.

Construction activities on the project site during nighttime hours would be limited to concrete pour activities with project and with Variant 4 implementation. At a distance of 150 feet, the nearest sensitive use to project site construction areas, concrete mixers and concrete pumps would generate less vibration than a small bulldozer, which is the piece of equipment in the Federal Transit Administration list of vibration source levels with the lowest level of vibration. A small bulldozer would result in a PPV of approximately 0.0002 inch per second at a distance of 150 feet, which is well below the strongly perceptible threshold (i.e., PPV of 0.1 inch per second) (refer to Table 4.11-5) as well as the 0.016 PPV in/sec limit from ConnectMenlo EIR Mitigation measure Noise-2a at the nearest residence during nighttime hours. Vibration-related annoyance impacts from the Project site would be less than significant during nighttime hours.

Regarding off-site improvement construction activities, the Willow Road Tunnel Construction would require the use of excavators, hoe rams, loaders, grinders, jackhammers, pavers, rollers, light plants, off-haul trucks, utility trucks, highway striping machines, arrow boards, compressors, auger rigs, generators, vibratory impact hammer, impact pile driver, and cement silos. The most vibration-intensive of these activities would be tunnel shoring, which would require the installation of piles, and may require the use of an impact pile driver.

The nearest sensitive land use to the proposed nighttime construction area near the SamTrans and Caltrans right of way are the multi-family residences located at 777 Hamilton Avenue. These residences are approximately 480 feet southwest of the proposed nighttime construction areas within the SamTrans and Caltrans right of way. A pile driver can result in a vibration level of 0.018 PPV in/sec at a distance of 480 feet. This vibration level is slightly greater than the maximum allowable vibration level from ConnectMenlo EIR Mitigation Measure NOISE-2a of 0.016 PPV in/sec. Because nighttime construction in the SamTrans and Caltrans right of way may result in vibration levels in excess of the applicable thresholds from the ConnectMenlo EIR, nighttime annoyance-related vibration impacts to nearby residences from off-site construction would be considered ***significant***, and mitigation would be required.

Project Mitigation Measure NOI-2.3, which would apply to Variant 4, would ensure that nighttime pile driving would take place at least 540 feet from the nearest residential land uses, as feasible. If pile installation must take place closer than this distance from occupied residences, alternative methods pile installation methods would be used to reduce vibration levels to below the applicable significance thresholds. However, it may not be possible to ensure that vibration levels at all times and in all locations would be reduced to below the applicable annoyance thresholds if pile driving work must occur closer than 540 feet from residences. Therefore, even with the implementation of Mitigation Measure NOI-2.3, annoyance-related vibration impacts during nighttime hours would remain significant. Vibration-related annoyance impacts during nighttime hours under Variant 4 would be ***significant and unavoidable.***

Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose of people residing or working in the project area to excessive noise levels (No Impact)

Because the footprint for the project site would generally be the same under Variant 4 compared to the Project, impacts related to aircraft noise would be the same under Variant 4. Implementation of Variant 4 would not expose people working or residing in the Project to excessive noise levels from either a public or public use airport or private airstrip. There would be no impact related to excessive aircraft noise levels under this Variant.

Utilities and Service Systems

Impact UT-1: Construction or Relocation of Utilities. Variant 4 would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. (LTS)

Similar to the Proposed Project, Variant 4 would include construction of water system, sewer infrastructure, and PG&E Ravenswood substation upgrades. Therefore, implementation of Variant 4 would not change environmental impacts related to utility expansions. Under Variant 4, the total water wastewater demands would not change.

Water

The total net increase in potable water demand under Variant 4 is estimated to be approximately 0.22 mgd,[31] which is the same as the Proposed Project. Water for Variant 4 would be treated at one of three WTPs: the SFPUC's Tesla Treatment Facility, the Sunol Valley WTP, or the Harry Tracy WTP. The

[31] Total Variant 4 potable water demand of 98 mg/yr minus existing potable water use of 19 mg/year = 79 mg/yr (0.22 mgd) net increase in water demand.

Tesla Treatment Facility has the capacity to treat 315 mgd. The Sunol Valley WTP has the capacity to treat 160 mgd. The Harry Tracy WTP has the capacity to treat approximately 140 mgd. Therefore, the three WTPs have adequate capacity to treat water for Variant 4. Variant 4 would not change the environmental impacts related to the relocation or construction of expanded water treatment facilities. The impact would be ***less than significant.***

Similar to the Proposed Project, Variant 4 would construct a 16-inch-diameter pipeline within Park Street, Main Street, and East Loop Road and a 12-inch-diameter pipeline connection to the existing 12-inch-diameter pipeline in O'Brien Drive, north of the SFPUC easement, to meet onsite fire-flow requirements. Therefore, implementation of Variant 4 would not change the environmental impacts related to the installation of new or expanded water lines. The impact would be ***less than significant.***

Wastewater

The net amount of non-irrigation water use by Variant 4 is estimated to be 0.35 mgd (128 mg/year); this number includes indoor potable water use, toilet flushing, and cooling. The estimate does not include water used for irrigation (refer to Table 5-30). Assuming 90 percent of the net amount of non-irrigation water would become wastewater, the estimated net increase in wastewater generation would be approximately 0.27 mgd (or 115 mg/yr). This increase in wastewater generation would be treated onsite by the four WRFs. The recycled water would be used for irrigation, toilet flushing, and cooling. This would reduce the amount of water that would be treated offsite. Therefore, Variant 4 would not require the relocation of existing or construction of new or expanded MPMW wastewater treatment facilities, but it would result in the construction of four onsite WRFs. Impacts of constructing the WRFs would be mitigated to less than significant by implementation of mitigation measures designed to mitigate the impacts of constructing the Proposed Project, including Project Mitigation Measure AQ-1.4 which would reduce objectionable odors associated with the wastewater pump station. Therefore, implementation of Variant 4 would not change the environmental impacts related to the relocation of existing or construction of new or expanded wastewater treatment facilities. The impact would be ***less than significant.***

Table 5-30. Projected Water Demand for Variant 4 (mg/yr)

Water Use	**Variant 4**
Indoor Potable	98
Toilet Flushing (non-potable)	21
Cooling (non-potable)	9
Irrigation (non-potable)	27
Total Projected Water Demand	**155**
Projected Water Demand (potable)	98 (63%)
Projected Water Demand (non-potable)	57 (37%)
Existing Potable Water Use at Proposed Project Site[a]	19
Net Increase in Potable Water Demand[b]	**79**

Source: Peninsula Innovation Partners, LLC., and West Yost, 2022.

[a] Existing potable water demand at the Project Site based on 2015 data (18.2 mg/yr plus 6 percent for unaccounted for water) and assumed to be replaced by the Variant 4.

[b] Assumes the existing potable water demand at the Project Site is replaced by Variant 4 demand.

Similar to the Proposed Project, Variant 4 would construct new or expanded sewer lines near the Project Site. Therefore, implementation of Variant 4 would not change the environmental impacts related to the installation of new or expanded sewer lines. The impact would be ***less than significant.***

Stormwater

Implementation of Variant 4 would result in the same amount of pervious surface on the main Project Site (an increase of approximately 4 percent). Similar to the Proposed Project, Variant 4 would construct a private onsite storm drain system to convey runoff by gravity from all buildings and other areas to the existing City main in Willow Road. Variant 4 would also incorporate onsite stormwater elements to reduce the total volume of stormwater runoff at the Project Site compared with existing conditions. Therefore, Variant 4 would not change the environmental impacts related to the relocation of existing or construction of new or expanded stormwater drainage facilities. The impact would be ***less than significant.***

Electricity and Natural Gas

Similar to the Proposed Project, under Variant 4, PG&E would upgrade the Ravenswood substation[32] and provide offsite improvements to support distribution-level electrical service to the main Project Site from this substation. Therefore, Variant 4 would not change environmental impacts related to the relocation of existing or construction of new or expanded electrical facilities. The impact would be ***less than significant.***

Variant 4 would install new or expanded gas lines on the main Project Site, similar to the Proposed Project. No offsite natural gas facilities would need to be constructed or expanded as a result of Variant 4. Therefore, Variant 4 would not change the environmental impacts related to the relocation of existing or construction of new or expanded natural gas facilities. The impact would be ***less than significant.***

Telecommunications

Similar to the Proposed Project, Variant 4 may extend or relocate telecommunications lines. Therefore, Variant 4 would not change the environmental impacts related to the relocation of existing or construction of new or expanded telecommunication facilities. The impact would be ***less than significant.***

Impact UT-2: Water Supply. Variant 4 would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. (LTS)

A summary of the water demands for Variant 4, as estimated by the Project Sponsor and evaluated by the City's consultant in preparation of the WSA, is provided in Table 5-30. Similar to the Proposed Project, the total projected water demand for Variant 4 is approximately 155mg/yr. Approximately 63 percent of the total water demand is potable water demand; the remaining 37 percent is non-potable water demand that would be met with recycled water produced by the four WRFs that would be located on the main Project Site. As shown in Table 5-30, the existing potable water demand at the main Project Site is estimated to be approximately 19 mg/yr. Therefore, the net increase in potable water demand for Variant 4 is estimated to be 79mg/yr.

[32] The current Ravenswood substation operates as a transmission substation and is not equipped with distribution system infrastructure.

Similar to the Proposed Project, Variant 4 would be within the maximum development potential studied in ConnectMenlo, and the water demand of the Variant 4 is included in the further refined land uses and development potential studied in the ConnectMenlo EIR as well as the MPMW's 2015 and 2020 UWMP water demand analyses. Further, the water supply evaluation (WSE) that was prepared as part of the ConnectMenlo process considered the development potential created by the ConnectMenlo General Plan Update and the refined land uses studied in the associated EIR. The ConnectMenlo EIR determined that there would be an increase in water demand as a result of buildout of ConnectMenlo. The ConnectMenlo EIR concluded that the MPMW's water supply would be adequate and able to meet increased demands in normal years as well as the additional demand generated by the increase in development associated with implementation of ConnectMenlo

Similar to the Proposed Project, if the Bay-Delta Plan Amendment is implemented, the total projected water supply determined to be available for Variant 4 in normal years would meet the projected water demand associated with Variant 4, in addition to MPMW's existing and planned future uses, through 2040. However, with implementation of the Bay-Delta Plan Amendment, significant supply shortfalls are projected in dry years for agencies that receive water supplies from the SFPUC RWS as well as other agencies whose water supplies would be affected by the amendment. For MPMW, supply shortfalls are projected in single dry years (ranging from 27 to 32 percent) and in multiple dry years (ranging from 27 to 44 percent) through 2040. Based on SFPUC's analysis, similar supply shortfalls would occur through 2045.

If supply shortfalls do occur, MPMW expects to meet these supply shortfalls through water demand reductions and other shortage response actions by implementation of its WSCP.[33] With the MPMW's WSCP in place, the shortages in single and multiple dry years would be managed through demand reductions of 50 percent or greater in Stages 5 and 6. The projected shortfalls in single dry years would require implementation of Stage 3 or Stage 4 of the MPMW WSCP, and the projected shortfalls in multiple dry years would require implementation of Stage 3, 4, or 5 of the MPMW WSCP. Similar to the Proposed Project, Variant 4 would utilize recycled water for all City-approved non-potable applications (e.g. irrigation, mechanical cooling, and toilet flushing), which would offset the demand for potable water and contribute to MPMW's efforts to reduce future supply shortages and would implement water conservation measures, both in the design of the base building and tenant spaces as well as daily operations, employee practices, and landscaping choices. Furthermore, the water demand associated with buildout of ConnectMenlo, which the Variant 4 is within, is included in the 2020 UWMP, and Variant 4 therefore would not exacerbate MPMW's anticipated supply shortages or cause MPMW to increase customer water use restrictions beyond that anticipated in its 2020 UWMP. As with the Proposed Project, Variant 4 also would be subject to the same water conservation and water use restrictions as other water users within the MPMW system under ConnectMenlo, including annual compliance with the approved water budget. Therefore, Variant 4 would not change the environmental impacts related to adequate water supplies. The impact would be ***less than significant.***

[33] A main focus of MPMW's planned demand reduction measures is to increase public outreach and keep customers informed of the water shortage emergencies and actions they can take to reduce consumption. The City will use its emergency supply well(s) as supply augmentation during WSCP Stages 5 and 6. Other actions that the City will take will include coordinating with other agencies, implementing a drought surcharge, increasing water waste patrols, etc. Additional information on MPMW's WSCP is provided in Chapter 8 of MPMW's 2020 UWMP.

Impact UT-3: Generation of Wastewater. Variant 4 would not result in a determination by the wastewater treatment providers that they have inadequate capacity to serve Variant 4's projected demand in addition to the providers' existing commitments. (LTS)

Variant 4 would generate approximately 0.27 mgd (or 115 mg/yr) of wastewater at the Project Site, similar to the Proposed Project. Under existing conditions, the Project Site generates approximately 0.05 mgd (17 mg/yr) of wastewater. The net increase in wastewater generated by Variant 4 would be approximately 0.26 mgd. An increase of approximately 0.26 mgd, compared with existing conditions, is negligible, given the capacity of the existing system. This increase in wastewater generation would be treated onsite by the four WRFs. The recycled water would be used for irrigation, toilet flushing, and cooling. This would reduce the amount of water that would be treated offsite. Therefore, there would be adequate wastewater treatment capacity available to serve the projected demand in addition to the provider's existing commitments. Based on existing SVCW WWTP and WBSD collection and processing capacity, it is not expected that Variant 4 would result in a determination by either wastewater treatment provider that it would have inadequate capacity to serve projected demand under Variant 4 in addition to existing commitments. The impact would be ***less than significant***.

Impact UT-4: Generation of Solid Waste. Variant 4 would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. (LTS)

Construction debris generated from structure demolition would remain the same under Variant 4 compared to the Proposed Project. The number of residential units and employment-generating uses on the Project Site would also remain the same. Implementation of the required zero-waste management plans for all new buildings and uses on the main Project Site would reduce waste from the occupancy phase. As such, Shoreway and Ox Mountain would have adequate capacity for Variant 4. Therefore, Variant 4 would be served by a landfill with sufficient permitted capacity to accommodate its solid waste disposal needs. The impact would be ***less than significant.***

Impact UT-5: Compliance with Solid Waste Regulations. Variant 4 would comply with federal, state, and local management and reduction statutes and regulations related to solid waste (LTS)

Construction and operation of Variant 4 would comply with all applicable statutes and regulations related to solid waste. State law (Assembly Bills 341 and 939) requires businesses to recycle and cities to divert 50 percent of their solid waste from landfills. Similar to the Proposed Project, Variant 4 would adhere to these laws. In addition, Variant 4 would be required to adhere to the City's Construction and Demolition Recycling Ordinance and zero-waste management plan requirements during the occupancy phase. Accordingly, Variant 4 would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. The impact would be ***less than significant.***

Cumulative Analysis

Cumulative impacts are evaluated throughout the Draft EIR. Each WRF would be located underneath proposed buildings but within the building footprint proposed under the Project. These ground-disturbing activities are already accounted for and evaluated under the Proposed Project as well as throughout this Draft EIR Overall, Variant 4 would result in similar levels of ground-disturbing activities and related emissions, and Project-specific impact determinations would remain the same. Therefore, the cumulative contribution under Variant 4 would be the same as under the Proposed Project.

Chapter 6
Alternatives Analysis

6.1 Introduction

The California Environmental Quality Act (CEQA) (Public Resources Code [PRC], Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.) require that an environmental impact report (EIR) "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (State CEQA Guidelines Section 15126.6(a)). If mitigation measures or a feasible project alternative that would meet most of the basic project objectives would substantially lessen the significant environmental effects of a proposed project, then the lead agency should not approve the proposed project unless it determines that specific technological, economic, social, or other considerations make the mitigation measures and the project alternative infeasible (PRC Section 21002, State CEQA Guidelines Section 15091(a)(3)). The EIR must also identify alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and should briefly explain the reasons underlying the lead agency's determination (State CEQA Guidelines Section 15126.6(c)).

This section describes several alternatives to the Project and compares the impacts of the alternatives to the environmental impacts of the Project as proposed, consistent with the guidance in CEQA Guidelines Section 15126.6(d). At the conclusion of the analysis, the environmentally superior alternative is identified (State CEQA Guidelines Section 15126.6(e)(2)). One of the alternatives that must be analyzed is the "No Project" Alternative. The purpose of the No Project analysis is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project analysis must discuss the existing conditions at the time the notice of preparation (NOP) is published as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved and development continued to occur in accordance with existing plans and consistent with available infrastructure and community services (State CEQA Guidelines Section 15126.6(e)(2)). Therefore, pursuant to the State CEQA Guidelines, this section also discusses and analyzes a No Project Alternative.

Requirements for Alternatives Analysis

The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those potentially feasible alternatives necessary to foster informed public participation and an informed and reasoned choice by the decision-making body (CEQA Guidelines Section 15126.6(f)). Therefore, an EIR does not need to address every conceivable alternative or consider infeasible alternatives. CEQA Guidelines Section 15364 generally defines "feasible" to mean the ability to be accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological, and legal factors. CEQA Guidelines Section 15126.6(f)(1) lists the following factors that may be considered when determining the feasibility of alternatives to be evaluated:

- Site suitability
- Economic viability
- Availability of infrastructure

- General plan consistency
- Other plans or regulatory limitations
- Jurisdictional boundaries
- Ability of the project's proponent to attain site control

An EIR does not need to consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (CEQA Guidelines Section 15126.6(f)(3)).

6.2 Project Objectives and Environmental Impacts

The underlying purpose of the Proposed Project is to create a unique master-planned, mixed-use neighborhood with residential units, onsite amenities, neighborhood-serving retail uses, adequate office space to accommodate anticipated demand, a hotel, new bicycle and pedestrian connections, and open space. The Project Sponsor has also identified the following objectives of the Proposed Project:

1. Create a unique master-planned, mixed-use neighborhood with up to 1,730 residential units, a grocery store/supermarket, neighborhood-serving retail uses, office space, a hotel, new bicycle and pedestrian connections, and open space.
2. Redevelop an underutilized property with a contemporary master-planned, mixed-use neighborhood in furtherance of the goals for the Bayfront Area set forth in ConnectMenlo.
3. Promote the City's General Plan goals of providing office, R&D, residential, and commercial uses and a hotel in proximity to or integrated with one another.
4. Reduce vehicle miles traveled by locating residential, commercial, and office uses adjacent to each other.
5. Provide multiple transportation options and a robust transportation demand management (TDM) program to reduce traffic congestion, air quality impacts, and greenhouse gas emissions.
6. Create a bicycle- and pedestrian-friendly environment that enhances connectivity between the Project Site and surrounding areas with minimal traffic conflicts.
7. Provide much-needed market-rate and below-market-rate housing in Menlo Park.
8. Provide a pharmacy to serve the community within the main Project Site (may be located within supermarket or separately) or on Hamilton Avenue Parcel North.
9. Develop an integrated, highly connected office campus that accommodates anticipated worker space demands and provides flexible workspace at densities that support various transportation options.
10. Foster knowledge, partnerships, and innovation by creating a "meeting and collaboration space" where workers can convene to share ideas and goals, visitors can understand the company's background and products, business partners can learn about technology, and new product demonstrations can occur.
11. Use highly sustainable design techniques to promote energy and water efficiency.
12. Respect the surrounding community through appropriate building siting, massing, density, and height, consistent with the standards prescribed for bonus-level development in the City's General Plan and zoning policies.

13. Provide new green spaces and landscaped areas with native, drought-tolerant plant species.
14. Provide for development that can be phased to be responsive to market demands.
15. Provide a mix of uses and at densities that achieve a financially feasible project.
16. Generate revenue for the City, school districts, and other public entities.
17. Ensure a secure, safe, and private work environment.

Significant Project-Level Impacts

Significant and Unavoidable

A central purpose of the discussion of alternatives is to determine whether there are potentially feasible alternatives that could avoid or substantially lessen the significant impacts of the proposed project. Based on the analysis in Chapter 3, *Environmental Impact Analysis*, of this EIR, the project would have the following significant and unavoidable impacts.

- **Impact AQ-1:** The Proposed Project would conflict with or obstruct implementation of the applicable air quality plan.
- **Impact AQ-2 (Operation):** Operation of the Proposed Project would generate levels of ROG that would exceed BAAQMD's ROG threshold. ROG emissions from consumer products constitute most operational ROG emissions associated with the Proposed Project. Other main contributors to ROG emissions are vehicles. Net mitigated operational and construction plus net operational ROG emissions would exceed BAAQMD's ROG threshold, resulting in a significant and unavoidable impact.
- **Impact C-AQ-1:** The ConnectMenlo EIR determined that criteria air pollutant emissions generated by cumulative development would exceed BAAQMD's project-level significance thresholds and contribute to the nonattainment designations for the SFBAAB, and that implementation of ConnectMenlo in combination with past, present, and reasonably foreseeable projects elsewhere within the SFBAAB would result in a significant cumulative impact with respect to air quality after mitigation. Because it would exceed BAAQMD's ROG threshold (Impact AQ-2), the Project would be a cumulatively considerable contributor to the significant and unavoidable cumulative impact identified in the ConnectMenlo EIR.
- **Impact NOI-1a:** Construction noise levels would exceed the City's noise threshold of 10 dB or more relative to ambient noise levels from construction at the main Project Site and the Hamilton Avenue Parcels during daytime, early morning, and evening hours. Noise levels from off-site construction, including the Willow Village Tunnel and the PG&E feeder line, would exceed the City's noise threshold during nighttime hours. Noise from pile drivers would also exceed the City's threshold for individual equipment (85 dBA Leq at a distance of 50 feet). After implementation of feasible mitigation measures, construction noise impacts on offsite uses from construction of on-site and offsite improvements would remain significant and unavoidable. Additionally, construction noise impacts on onsite land uses during early morning, evening, and nighttime hours would remain significant and unavoidable after implementation of feasible mitigation measures.
- **Impact NOI-2:** Offsite vibration levels may exceed applicable vibration-related annoyance thresholds at nearby sensitive uses during daytime construction on site, and these impacts would remain significant even after implementation of feasible mitigation measures. Likewise, construction

vibration from off-site improvements would exceed annoyance thresholds, and those impacts would remain significant even after mitigation.

- **Impact C-NOI-1:** The ConnectMenlo EIR determined that, even with implementation of applicable regulations, the ConnectMenlo project, in combination with past, present, and reasonably foreseeable projects elsewhere in the City, would result in a significant cumulative impact with respect to noise and vibration. The ConnectMenlo EIR determined that implementation of ConnectMenlo Mitigation Measures Noise 1-a through Noise-1c, Noise 2-a, Noise2-b and Noise-4 would reduce cumulative impacts to less-than-significant levels. However, in the case of the Proposed Project, the ConnectMenlo EIR mitigation measures would not reduce significant impacts to less-than-significant levels. Therefore, the Proposed Project's contribution to the cumulative impact would be cumulatively considerable and cumulative noise impacts would be significant and unavoidable with mitigation.

Significant Impacts that can be Mitigated to Less-Than-Significant Levels

As stated above, a focus of the discussion of alternatives is to determine whether there are potentially feasible alternatives that could avoid or substantially lessen the significant impacts of the proposed project. This can include significant impacts for which mitigation measures have been identified to reduce the severity of project impacts to less than significant. As discussed in Chapter 3, *Environmental Impact Analysis*, of this EIR, the following impacts have been identified as significant, but were reduced to less than significant with implementation of mitigation:

- **Impact AQ-2 (Construction):** Construction activities would generate criteria pollutant emissions from off-road equipment exhaust, construction workers' vehicles and heavy-duty trucks traveling to and from the Project Site and off-site utility installation areas, the application of architectural coatings, and paving activities that would exceed BAAQMD's emission thresholds.
- **Impact AQ-3:** The Proposed Project's emissions would exceed BAAQMD's cancer risk and annual $PM_{2.5}$ concentration thresholds when construction activities overlap with Project operation.
- **Impact AQ-4:** Construction of the proposed sanitary sewer pump station would result in odors that would adversely affect a substantial number of people.
- **Impact TRA-2:** The Proposed Project would exceed the applicable VMT threshold for residential land use.
- **Impact TRA-3:** The Proposed Project would result in construction of the eastern driveway of the North Office Garage adjacent to a sharp roadway curve, limiting sight distance for exiting vehicles.
- **Impact BIO-2:** Implementation of the Proposed Project has the potential to result in an increase in the feral cat population. Feral cats could access the main Project Site via the new Elevated Park or Willow Road Tunnel. This could increase predation of local animal populations, including special-status species.
- **Impact BIO-3, Impact BIO-4:** The wetlands outside the boundary for the main Project Site and Hamilton Avenue Parcels North and South may be affected, either temporarily or permanently, during grading.
- **Impact BIO-5, Impact BIO-6:** Nesting birds may be disturbed if the Proposed Project is implemented during nesting season. Building facades and artificial lighting has the potential to result in avian mortality due to collisions.

- **Impact CR-1:** The Proposed Project would require temporary removal of tracks from the Dumbarton Cutoff Line, which could discernibly alter the resource's historical integrity and the public's ability to understand its historic character as observed from Willow Road.
- **Impact CR-2:** The Proposed Project would potentially disturb known archaeological resources and may disturb unknown deposits during construction activities.
- **Impact CR-3:** The Proposed Project could affect known Native American reburial sites as well as previously unknown burials.
- **Impact CR-4:** The Proposed Project could disturb known and undocumented Native American resources.
- **Impact EN-1:** Construction energy usage could result in significant impacts without implementation of best management practices.
- **Impact GHG-1b:** The Proposed Project would exceed the applicable VMT threshold for residential land use.
- **Impact GHG-2:** Construction and operation of the Proposed Project would conflict with CARB's 2017 Scoping Plan for achieving statewide GHG targets.
- **Impact GS-5:** Activities that disturb certain geologic units could expose undisturbed deposits that contain fossils. These activities could damage or destroy fossils.
- **Impact HY-1, Impact HY-5:** Dewatering of potentially contaminated groundwater may occur during Proposed Project construction.
- **Impact HAZ-2:** Groundwater contamination, soil vapor, and soil contamination within the Dumbarton Rail Corridor and Willow Road ROW have not been characterized and could be disturbed during Project excavation and dewatering, potentially exposing construction workers and the environment to the contamination.
- **Impact NOI-1:** Modeling indicates that noise from Project mechanical equipment and emergency generator testing could result in noise levels above applicable significance thresholds.

6.3 Alternatives Considered But Rejected

Section 15126.6(c) of the CEQA Guidelines provides that an EIR should "identify any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination." The screening process for identifying the viable EIR alternatives included consideration of the following criteria.

- Ability to meet the basic project objectives
- Potential ability to substantially lessen or avoid significant environmental effects associated with the proposed project
- Potential feasibility, taking into account economic, environmental, social, technological, and legal factors

The discussion below describes an alternative that was considered during preparation and scoping of this EIR, and gives the rationale for eliminating this alternative from detailed consideration, including because

they would not fulfill most of the basic objectives of the project, would not avoid or substantially lessen significant environmental impacts, and/or would be infeasible.

Alternative Site

State CEQA Guidelines Section 15126.6(f)(2) states that a Draft EIR must consider offsite alternatives if such alternatives are deemed to be feasible by the lead agency. As stated in State CEQA Guidelines, Section 15126.6(f)(1), factors that may be considered when a lead agency is assessing the feasibility of an alternative include:

> site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent).

The applicant does not control, nor is it aware of, a site within the City of Menlo Park that could accommodate the proposed development or meet the basic project objectives. Any sites outside of the City, to the extent they exist and are available, also would not satisfy most of the basic project objectives, including those related to providing a mixed-use neighborhood that enhances connectivity to the surrounding areas and Meta campuses (Objectives 1, 6, and 9) or those related to providing much-need market-rate and below-market-rate housing in the City (Objectives 1, 2, and 7). Further, other sites within the City that could accommodate housing are needed in addition to, and not instead of, the Project Site to assist the City in meeting its housing obligations. Therefore, other sites with the potential for housing development do not represent alternative sites for the Proposed Project. Additionally, building a project of the same magnitude but in a different location would result in the same significant and unavoidable air quality impacts. If the alternative site were located near any sensitive receptors, the project would result in the same significant and unavoidable noise impacts, unless the tunnel were not constructed (which is analyzed under the No Willow Road Tunnel Alternative). Because the amount of development would remain the same, many other impacts under this option would be similar to the Proposed Project. Accordingly, an alternative site would result in similar environmental impacts overall and would not substantially lessen or avoid significant and unavoidable environmental effects.

Office Only

An Office-Only Alternative would consist of development of only office uses on the Project Site. The Office-Only alternative would require a master plan to develop up to approximately 1.775 million square feet of office uses throughout the site, which is zoned O and R-MU. Although the Office-Only Alternative would reduce impacts to some extent due to reduced development as compared to the Proposed Project, the Office-Only Alternative would not eliminate the significant and unavoidable noise impacts associated with the Proposed Project because construction would still occur over the entire Project Site and because the Office-Only Alternative would include the proposed offsite improvements. Further, while the Office-Only Alternative would reduce air quality impacts, this EIR analyzes two reduced development alternatives (the Base Level Development and Reduce Intensity Alternatives) that similarly reduce air quality impacts, and the Office-Only Alternative would not reduce air quality impacts more than those alternatives. Under the Office-Only Alternative, there would be no residential VMT per capita impact; however, employment VMT per capita would increase due to the elimination of internalization of project trips from a mix of uses onsite. The Office-Only Alternative would not satisfy most of the basic project objectives, including objectives related to creating a mixed-use community or residential uses (Objectives 1, 2, 3, 7, and 15). The Office-Only Alternative would not include retail uses, including a pharmacy (Objective 8), or result in

phased development responsive to market demands (Objective 14). The Office-Only Alternative would include publicly accessible open space, but less than the Proposed Project (Objective 13) because the Proposed Project exceeds the minimum open space requirement and the Office-Only Alternative assumes the open space would meet the minimum Zoning Ordinance requirement. The R-MU zoning district requires residential dwelling units as part of any development project and a minimum density of 30 dwelling units per acre. The Office-Only Alternative would not be consistent with the requirements of the R-MU zoning district. The Office-Only Alternative would provide fewer community amenities and would be inconsistent with City policies related to mixed-use development, reduced transportation impacts, and housing and affordable housing (e.g., Policies LU-2.9, LU-4.3, LU-4.6, H-4.4, H-4.6).

Residential and Open Space Only

A Residential and Open Space Only Alternative ("Residential-Only Alternative") would consist of development of residential uses only on the Project Site. The Residential-Only Alternative would require a master plan to develop up to approximately 1.695 million square feet of residential uses (1,730 units) throughout the site, which is zoned O and R-MU. Although the Residential-Only Alternative would reduce impacts to some extent due to reduced development, the Residential-Only Alternative would not eliminate all of the significant and unavoidable noise impacts associated with the Proposed Project because construction would still occur over the entire Project Site, although certain offsite noise impacts may be reduced because the Willow Road Tunnel would not be constructed under this alternative (which is analyzed under the No Willow Road Tunnel Alternative). Further, while the Residential-Only Alternative would reduce air quality impacts, this EIR analyzes two reduced development alternatives (the Base Level Development and Reduce Intensity Alternatives) that similarly reduce air quality impacts. Under the Residential-Only Alternative, there would be no employment VMT per capita impact; however, residential VMT per capita would increase, as the Residential-Only Alternative would not allow for reduced trips through internalization of project trips from a mix of uses onsite, which only occurs with mixed-use development. Without internalization, residential VMT impacts might not be mitigable to a less-than-significant level. GHG impacts similarly would increase, potentially resulting in two significant and unavoidable impacts that would not occur under the Proposed Project. Additionally, the Residential-Only Alternative would not satisfy most of the basic project objectives, including objectives related to creating a mixed-use community (Objectives 1, 2, 3, and 15). Without the Willow Road Tunnel and without on-site retail uses, the Residential-Only Alternative would not satisfy objectives related to creating a pedestrian- and bicycle-friendly environment that enhances connectivity (Objective 6). The Residential-Only Alternative would not include office or retail uses, including a pharmacy (Objectives 8, 9, 10, and 17), or result in phased development responsive to market demands (Objective 14). The Residential-Only Alternative would include publicly accessible open space, but less than the Proposed Project (Objective 13) because the Proposed Project exceeds the minimum open space requirement and the Residential-Only Alternative assumes the open space would meet the minimum Zoning Ordinance requirement. The Residential-Only Alternative would provide fewer community amenities and would be inconsistent with City policies related to mixed-use development, reduced transportation impacts, and commercial development (e.g., Policies LU-2.9, LU-3.3, LU-4.1, LU-4.3, LU-4.6).

Reduced Parking

A Reduced Parking Alternative would reduce the size of one or more proposed parking garages and provide the minimum number of code-required parking spaces for the Proposed Project (5,575 spaces). Using the same methodology and the same parking management and TDM measures used to evaluate the

Proposed Project, the Reduced Parking Alternative would not further reduce transportation impacts, including VMT. The Reduced Parking Alternative might slightly reduce construction-related impacts, but it would not change the impact determinations associated with the Proposed Project. The Reduced Parking Alternative would not eliminate significant and unavoidable air quality and noise impacts. Further, the Proposed Project already proposes parking substantially below city code maximums, including the use of shared parking, and substantially reduces transportation impacts through the TDM program and campus trip cap. The number of striped parking spaces for the Campus District is 20 percent below forecasted demand for office uses.[1] Significant components of the Proposed Project likely would not be feasible under the Reduced Parking Alternative. Retail uses, particularly the proposed grocery store and pharmacy, are extremely sensitive to parking supply and further reductions in retail parking would not be consistent with market demands, as retail tenants require sufficient parking to attract customers to be successful. Likewise, further reductions in office and hotel parking would not be consistent with market demand. Reduced parking could therefore reduce the overall value of the project, which would reduce associated community amenities. Thus, the Reduced Parking Alternative would not satisfy many of the basic project objectives, including objectives related to a mixed-use neighborhood with a grocery store, neighborhood-serving retail uses, office space, and a hotel (Objectives 1, 2, 3, 8, 9, and 15), and could impact the viability of the project as a whole.

Buildings Within Existing Footprint

A Buildings Within Existing Footprint Alternative would consist of the Proposed Project, but developed within the footprint of the existing buildings on the Project Site in an effort to avoid disturbing land (and potential cultural resources, including tribal cultural resources) that has not been previously disturbed. The Buildings Within Existing Footprint Alternative would require taller buildings than the Proposed Project to accommodate the same uses within the smaller existing footprint, particularly for the residential buildings that would vary between 7 and 15 stories in height (average height of 12 stories). Depending on the building type needed to accommodate the proposed uses within the existing building footprint, and the resulting construction methodologies, the Buildings Within Existing Footprint Alternative could result in greater construction impacts than the Proposed Project. Taller buildings may also result in greater operational impacts, including aesthetic impacts. Further, the Buildings Within Existing Footprint Alternative would not eliminate the significant and unavoidable noise and air quality impacts, nor would it alter the impact determinations associated with cultural resources. The Proposed Project protects and avoids resources in the Hiller Mound Core area, while existing buildings that would be demolished and rebuilt under the Buildings Within Existing Footprint Alternative already are located in sensitive resource areas where both known and potentially unknown resources are or may be located. Thus, the impacts with such construction would be similar to the Proposed Project and the same mitigation would apply. The Buildings Within Existing Footprint Alternative would not satisfy most of the basic project objectives or would satisfy them to a lesser extent, including those related to a master-planned neighborhood and integrated office campus (Objectives 1, 2, 9, and 10), those related to pedestrian and bike-friendly environments (Objective 6), and those related to green spaces (Objective 13). The Buildings Within Existing Footprint Alternative also would not satisfy the objectives related to highly sustainable design techniques (Objective 11) or those related to appropriate siting, massing, and height (Objective 12).

[1] Willow Village Parking Assessment, Fehr & Peers, July 2021.

6.4 Description of Alternatives Selected for Evaluation

No Project Alternative

No additional construction would occur at the Project site with implementation of the No Project Alternative. The existing buildings and landscaping on the Project Site would not be demolished and would instead remain in place and be used and maintained the same as current conditions. The Project Sponsor would not construct the new buildings, establish open space area, or install infrastructure. There would be no realignment of Hamilton Avenue at Willow Road and no additional streets within the Project Site.

No Willow Road Tunnel Alternative[2]

The No Willow Road Tunnel Alternative would consist of the Proposed Project but without the Willow Road Tunnel. The trams would use the public street network, Bayfront Expressway and Willow Road to access the proposed Campus District. Historically, three tram routes have served the Willow Village campus. Without the Willow Road Tunnel, the trams would continue to operate as they do under baseline conditions. Two lines would travel eastbound within the Bayfront Campus and make a right turn onto Willow Road and enter Willow Village by making a left turn at either Main Street or Park Street. In the westbound direction, trams would use Willow Road and make a left turn onto Bayfront Expressway. One line enters the Bayfront campus at the transit only entrance (at Building 20) and another line continues to Chilco Street to access the Chilco transit hub. Without the tunnel connection, the line that operates between the Classic and Willow campus would continue to use Willow Road, as it does under baseline conditions.

Most pedestrians and bicyclists accessing the Willow Village Campus District would use the on-street bike lanes and sidewalk improvements to move along the Willow Road corridor and would cross at the Willow Road and Main Street/Hamilton Avenue intersection. Pedestrians and bicyclists desiring to access the Bay Trail or the other Meta campuses would use (i) the bike/pedestrian trail within the City public utility easement located adjacent to and immediately west of Willow Road or (ii) the Elevated Park. Pedestrians and bicyclists would access the Elevated Park using publicly accessible stairs and elevators located within or adjacent to Hamilton Avenue Parcel North and within Town Square.

Base Level Development Alternative

The Base Level Development Alternative would consist of the Proposed Project but developed to be consistent with the "base-level" development standards in R-MU zoning district, which allow for a maximum density of up to 30 dwelling units per acre (du/acre) and a maximum height of up to 40 feet. For the O zoning district, the base-level development standards allow for a floor area ratio (FAR) of 0.45 (plus 10 percent for non-office commercial uses and 175 percent for hotels) and a maximum height of 35 feet (110 feet for hotels). The Proposed Project proposes "bonus-level" development in exchange for providing community amenities acceptable to the Menlo Park City Council (City Council), and the Base Level Development Alternative would not involve this exchange. Table 6-1 provides a comparison of how

[2] As discussed in Chapter 5, *Variants*, the No Willow Road Tunnel Alternative also is considered a variant to the Proposed Project. The City Council could choose to select the No Willow Road Tunnel Alternative to reduce construction noise impacts, and the Willow Road Tunnel would thus not proceed. If the City Council does not select the No Willow Road Tunnel Alternative, then the No Willow Road Tunnel Variant could be approved a part of the Project in light of the potential that Caltrans does not approve the Willow Road Tunnel.

development might differ between the proposed project and the Base Level Development Alternative. Construction of this alternative would also be conducted in one phase rather than in the two phases planned for the Proposed Project. A total of 2,714 parking spaces would be provided.

Table 6-1. Base Level Development Alternative

Zoning District	Base Level Development Alternative[a]	Proposed Project
Maximum Square Footage		
O Zoning		
Office	713,841 sf	1,600,000 sf
Non-Office Commercial/Retail	166,321 sf	200,000 sf
Hotel	172,000 sf[b]	172,000 sf[b]
R-MU Zoning		
Residential	678,390 sf (519 units)	1,695,976 sf (1,730 units)
Office[c]	113,065 sf	-
Maximum Building Height		
O Zoning	35 feet (110 feet for Hotel)	120 feet
R-MU Zoning	40 feet	80 feet, 85 feet for the parcel bounded by Center, West, and Main Street (Building RS 3)
Building Height (average)		
O Zoning	35 feet (110 feet for Hotel)	70 feet
R-MU Zoning	35 feet	62.5 feet
Minimum Open Space at full buildout		
O Zoning	475,894 sf	487,000 sf
R-MU Zoning	188,442 sf	370,000 sf
Total Open Space	664,336 sf	857,000 sf
Minimum Publicly Accessible Open Space		
O Zoning	237,947 sf	200,000 sf
R-MU Zoning	47,110.4 sf	160,000 sf
Total Public Open Space	285,057 sf	360,000 sf

Notes:

a. The development square footage is based on what is allowable under the base zoning as a maximum.

b. The hotel could be built to approximately 2.7M SF based on the 175 % FAR from the O-B-zoned portion of the project site for both the Base Level Development Alternative and the Proposed Project. However, the hotel would be developed to the same square footage in both scenarios, below the maximum allowed size.

c. The office square footage in the R-MU Zoning District Office would also accommodate commercial gross floor area or could be attributed to the non-office commercial/retail designation in the O zoning district.

Reduced Intensity Alternative

The Reduced Intensity Alternative would consist of the Proposed Project but developed at a lesser intensity. Both the total residential and non-residential square footage would be reduced compared to the Proposed

Project, as shown in Table 6-2, below. Construction of this alternative would also be conducted in one phase rather than in the two phases planned for the Proposed Project. A total of 4,910 spaces would be provided.

Table 6-2. Reduced Intensity Alternative

Zoning District	Reduced Intensity Alternative	Proposed Project
Maximum Square Footage		
O Zoning		
Office	1,225,000 sf	1,600,000 sf
Non-Office Commercial/Retail	87,690 sf	200,000 sf
Hotel	172,000 sf[a]	172,000 sf[a]
R-MU Zoning		
Residential	1,499,909 sf (1,530 units)	1,695,976 sf (1,730 units)
Office[b]	-	-
Maximum Building Height		
O Zoning	120 feet	120 feet
R-MU Zoning	80 feet, 85 feet for the parcel bounded by Center, West, and Main Street (Building RS 3)	80 feet, 85 feet for the parcel bounded by Center, West, and Main Street (Building RS 3)
Building Height (average)		
O Zoning	70 feet	70 feet
R-MU Zoning	62.5 feet	62.5 feet
Minimum Open Space at full buildout		
O Zoning	475,894 sf	487,000 sf
R-MU Zoning	188,442 sf	370,000 sf
Total Open Space	664,336 sf	857,000 sf
Minimum Publicly Accessible Open Space		
O Zoning	237,947 sf	200,000 sf
R-MU Zoning	47,110.4 sf	160,000 sf
Total Public Open Space	285,057 sf	360,000 sf

Notes:

a. The hotel could be built to approximately 2.7M SF based on the 175 % FAR from the O-B-zoned portion of the project site for both the Reduced Intensity Alternative and the Proposed Project. However, the hotel would be developed to the same square footage in both scenarios, below the maximum allowed size.

b. The office square footage in the R-MU Zoning District Office would also accommodate commercial gross floor area.

6.5 Attainment of Project Objectives

Pursuant to State CEQA Guidelines Section 15126.6(a), this analysis evaluates whether the alternatives meet the basic objectives of the Project. As described in detail above, there are four alternatives for the Proposed Project: the No Project Alternative, the No Willow Road Tunnel Alternative, the Base Level Development Alternative, and the Reduced Intensity Alternative. The following analysis describes the extent to which these alternatives meet or do not meet the Project Sponsor's objectives as described in Chapter 2, *Project Description*, and discussed above.

No Project Alternative

The No Project Alternative generally would not meet the basic project objectives, including the underlying purpose of the Proposed Project and the objectives identified by the Project Sponsor. The current uses on the Project Site include offices, offices/labs, warehouses, warehouses/offices, retail, and a service station. The No Project Alternative would preserve these uses and not meet any objectives related to creating a mixed-use community or residential uses (Objectives 1, 2, 3, 4, 7, and 15). The No Project Alternative also would not be required to have a TDM program or provide the bicycle and pedestrian friendly environment that enhances the Project Site's connectivity to surrounding areas (i.e., Objectives 5 and 6). No changes to land use would occur so that existing space would remain the same, not meeting several objectives related to design and use of buildings and the land itself (Objectives 8, 9, 10, 11, 12, 13). Development would not respond to market demands (Objective 14). It is probable that the existing buildings provide a secure, safe, and private work environment and generate revenue for the City and other public entities (Objectives 16 and 17).

No Willow Road Tunnel Alternative

The No Willow Road Tunnel Alternative would meet many of the basic project objectives, although it may not meet some objectives to the same degree as the Proposed Project.

The No Willow Road Tunnel Alternative would still contain the land uses proposed under the Proposed Project. Therefore, it would meet objectives related to creating a mixed-use community and residential uses and other specified building and land uses (Objectives 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 16). For the objective that also contains new bicycle and pedestrian connections, the No Willow Road Tunnel Alternative would meet them to a lesser degree than the proposed project because the Willow Road Tunnel provides a pedestrian and bicycle connection (Objectives 1, 2, and 6)

The No Willow Road Tunnel Alternative would provide a transportation demand management program and multiple transportation options, although pedestrian and bike connectively would be substantially reduced under the alternative (Objective 5). Further, the loss of the Willow Road Tunnel would reduce the amount of infrastructure for bicycles and pedestrians when compared to the Proposed Project, which may increase traffic congestion and increase safety hazards for pedestrians and bicyclists (Objective 6). However, the increase in traffic congestion would not create new deficiencies in level of service compared to the Proposed Project. The No Willow Road Tunnel would also generate revenue for the City and other public entities (Objective 16).

Base Level Development Alternative

The Base Level Development Alternative would meet most of the basic project objectives, although it may not meet some objectives to the same degree as the Proposed Project.

The Base Level Development Alternative would still contain the land uses proposed under the Proposed Project. Therefore, it would meet objectives related to creating a mixed-use community, residential uses, and other specified building and land uses. However, there would be a reduction in office, non-office commercial/retail, and residential square footage and residential density. This means that the Base Level Development Alternative would meet these objectives to a lesser degree than the Proposed Project (Objectives 1, 2, 3, 4, 7, 11, and 15). The Base Level Development Alternative could still include a pharmacy; an interconnected office campus; a meeting and collaboration space; and a secure, safe, and private work environment (Objectives 8, 9, 10, and 17). The Base Level Development Alternative would meet the objective related to building siting, massing, density, and height because it would be within the standards prescribed for bonus-level development (Objective 12). Open space would be reduced in the Base Level Development Alternative compared to the Proposed Project, which means the Base Level Development Alternative would meet open space related objectives to a lesser degree than the proposed project (Objective 13). The Base Level Development Alternative would not be phased, so it would not meet the objective regarding phasing to meet market demands (Objective 14).

Reduced Intensity Alternative

The Reduced Intensity Alternative would meet most of the basic project objectives, although it may not meet some objectives to the same degree as the Proposed Project.

The Reduced Intensity Alternative would still contain the land uses proposed under the Proposed Project. Therefore, it would meet objectives related to creating a mixed-use community, residential uses, and other specified building and land uses. However, there would be a reduction in office, non-office commercial/retail, and residential square footage and residential density. This means that the Reduced Intensity Alternative would meet these objectives to a lesser degree than the Proposed Project (Objectives 1, 2, 3, 4, 7, 11, and 15). The Reduced Intensity Alternative could still include a pharmacy; an interconnected office campus; a meeting and collaboration space; and a secure, safe, and private work environment (Objectives 8, 9, 10, and 17). The Reduced Intensity Alternative would meet the objective related to building siting, massing, density, and height because it would be within the standards prescribed for bonus-level development (Objective 12). Open space would be reduced in the Reduced Intensity Alternative compared to the Proposed Project, which means the Reduced Intensity Alternative would meet open space related objectives to a lesser degree than the proposed project (Objective 13). The Reduced Intensity Alternative would not be phased, so it would not meet the objective regarding phasing to meet market demands (Objective 14).

6.6 Impact Assessment

This section evaluates whether the alternatives would avoid or substantially lessen the significant impacts of the Project and/or generate impacts other than those identified for the Proposed Project. A reference to mitigation measures for each alternative are provided in the analysis below by reference to the impacts of the Proposed Project. These mitigation measures are fully described in each resource section within Chapter 3, *Environmental Impact Analysis*, of this document. In addition, a summary comparative analysis of the Project and its alternatives is provided in Table 6-11, at the end of this section.

No Project Alternative

Land Use

The land uses on the Project Site would not change under the No Project Alternative. Therefore, there would be no conflict with a land use plan, policy, or regulation adopted to avoid or mitigate an environmental impact (Impact LU-1). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative land use impact (Impact C-LU-1; NI).

Aesthetics

Under the No Project Alternative, there would be no visual change to the Project Site. Therefore, there would be no impact to scenic vistas (Impact AES-1), no conflict with applicable zoning and other regulations governing scenic quality (Impact AES-2), and no new sources of light and glare (Impact AES-3). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative aesthetics impact (Impact C-AES-1; NI).

Transportation

Under the No Project Alternative, there would be no land use changes to the Project Site. There would be no potential to conflict with an applicable plan, ordinance, or policy addressing the circulation system (Impact TRA-1). There would be no VMT impact (Impact TRA-2). There would also be no internal roadway changes on the Project Site. As a result, there would be no impact related to a potentially hazardous condition created by the location of the proposed North Garage driveway (Impact TRA-3). There would be no impact to emergency access (Impact TRA-4) Overall, the No Project Alternative would generate no impact related to transportation (NI). As a result, the No Project Alternative would not contribute to any cumulative transportation impact (Impact C-TRA-1, Impact C-TRA-2, Impact C-TRA-3, Impact C-TRA-4).

Air Quality

Under the No Project Alternative, there would be no construction or buildout. As a result, there would be no emissions generated that would conflict with or obstruct an applicable air quality plan or contribute to or result in a violation of an applicable federal or state ambient air quality standard (Impact AQ-1, Impact AQ-2). Likewise, there would be no exposure to high concentrations of pollutants or to odors (Impact AQ-3, Impact AQ-4). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative air quality impact (Impact C-AQ-1; NI).

Energy

Under the No Project Alternative, there would be no construction or buildout. There would be no energy used for construction and no increase in energy use on site from new buildout (Impact EN-1). There would not be implementation of sustainability and transportation demand features that would be implemented as part of the Proposed Project, and any sustainability requirements applying to new buildings would not be implemented (Impact EN-2). Impacts of energy use would be reduced compared to the Proposed Project's impacts (NI); however, more natural gas would be used compared to the Proposed Project. As a result, the No Project Alternative would not contribute to any cumulative energy impact (Impact C-EN-1; NI).

Greenhouse Gas Emissions

Under the No Project Alternative, there would be no construction or buildout. There would be no greenhouse gas emissions from construction or from energy use and fuel consumption during buildout. There would still be greenhouse gas emissions due to the existing buildings and facilities on the Project Site and mobile sources associated with the Project Site that are considered part of baseline conditions (Impact GHG-1a, Impact GHG-1b). The buildings on the Project Site would continue to operate as they currently do, such that there would not be a conflict with applicable plans and policies (Impact GHG-2). However, the Proposed Project results in a reduction in non-mobile emissions compared to baseline conditions. Therefore, the No Project Alternative would not realize the reduction in emissions onsite. As a result, impacts related to greenhouse gas emissions would be reduced compared to the Proposed Project's impacts (NI).

Noise

Under the No Project Alternative, there would be no construction or buildout. There would be no noise generated during construction or buildout; noise conditions would remain the same as current conditions (Impact NOI-1). There would be no generation of vibration (Impact NOI-2). There would be no impact related to proximity to an airport or airstrip (Impact NOI-3). Impacts related to noise would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative noise impact (Impact C-N-1; NI).

Cultural Resources

Under the No Project Alternative, there would be no construction. Impacts to the Dumbarton Cutoff Line would not occur because the Willow Road Tunnel would not be constructed (Impact CR-1). Impacts to archaeological deposits, burials, and tribal cultural resources would not occur because there would be no ground disturbance (Impact CR-2, Impact CR-3, Impact CR-4). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative cultural resources impact (Impact C-CR-1; NI).

Biological Resources

Under the No Project Alternative, there would be no construction or buildout. As a result, there would not be disturbance of bird and bat species, and no new artificial lighting would be installed that could affect wildlife behavior (Impact BIO-1). No changes would be made to the site that could increase feral cat populations or range (Impact BIO-2). No development would occur that would result in spread of invasive species or temporarily or permanently impact sensitive habitat and wetlands around the Project Site (Impact BIO-3, Impact BIO-4). No new buildings would be constructed that may result in increased bird collision and mortality (Impact BIO-5). There would be no tree removal and no increased bird collision that may trigger local policies and ordinances that protect biological resources (Impact BIO-6). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative biological resources impact (Impact C-BIO-1; NI).

Geology and Soils

Under the No Project Alternative, there would be no construction or buildout. As a result, there would be no new buildings or structures that could be exposed or expose people to seismic ground shaking or related hazards (Impact GS-1). There would be no soil disturbance that could result in erosion, and no new development that could increase runoff (Impact GS-2). There would be no new risk from unstable soils, expansive soils, or unstable geologic units (Impact GS-3, Impact GS 4). There would be no ground

disturbance that could uncover and damage paleontological resources (Impact GS-5). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative geology and soils impact (Impact C-GS-1; NI).

Hydrology and Water Quality

Under the No Project Alternative, no construction would occur that could result in sedimentation or accidental spills that could contaminate surface water, and there would be no construction dewatering that could encounter contaminated groundwater or construction activities that may contaminate groundwater. Impervious surface area would be greater under the No Project Alternative, so that runoff on the Project Site would stay the same (Impact HY-1, Impact HY-5). Impervious area would stay the same as current conditions on the Project Site under the No Project Alternative, though it would decrease under the Proposed Project. Dewatering would not occur under the No Project Alternative (Impact HY-2). There would be no construction that would alter the drainage pattern on the Project Site and no changes to the storm drain system that would permanently change drainage on or off the Project Site (Impact HY-3). No changes would be made to the Project Site that affect flood hazards (Impact HY-4). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative hydrology and water quality impact (Impact C-GS-1; NI).

Hazards and Hazardous Materials

Under the No Project Alternative, there would be no construction or buildout on the site. As a result, there would be no construction that includes the routine use of hazardous materials, and no use of hazardous materials associated with buildout. Any hazardous materials used on the site under current conditions (e.g., solvents, paints, cleaning agents) would continue to be used as they are currently (Impact HAZ-1). Similarly, there would be no potential for accidents involving hazardous materials during construction and buildout because there would be no construction or buildout, though current use of hazardous materials on site would continue. There would also be no risk of exposing contaminated groundwater, contaminated soil, or soil gas because there would be no excavation (Impact HAZ-2). There would be no construction work occurring within 0.25 mile of schools (Impact HAZ-3). No changes in traffic or emergency vehicle access would occur (Impact HAZ-4). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative hazards and hazardous materials impact (Impact C-HAZ-1; NI).

Population and Housing

Under the No Project Alternative there would be no buildout on the site. As a result, employment on the site would stay the same and there would be no residential uses constructed so that there would be no indirect or direct growth in employment or population (Impact POP-1). There would be no demolition of buildings and no displacement of any current uses (Impact POP-2). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative population and housing impact (Impact C-POP-1; NI).

Public Services

Under the No Project Alternative there would be no buildout on the site. As a result, there would be no change in demand from current conditions for fire protection services, police services, school facilities, parks and recreational facilities, or library facilities (Impact PS-1, Impact PS-2, Impact PS-3, Impact PS-4, Impact PS-5). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative public services impact (Impact C-PS-1; NI).

Utilities and Service Systems

Under the No Project Alternative there would be no buildout on the site. As a result, there would be no change in demand from current conditions for water, wastewater treatment, stormwater drainage, electric power, natural gas, telecommunications, and solid waste services (Impact UT-1, Impact UT-2, Impact UT-3, Impact UT-4, Impact UT-5). Impacts would be reduced compared to the Proposed Project's impacts (NI). As a result, the No Project Alternative would not contribute to any cumulative utilities and service systems impact (Impact C-UT-1, Impact C-UT-2, Impact C-UT-3, Impact C-UT-4, Impact C-UT-5, Impact C-UT-6; NI).

No Willow Road Tunnel Alternative

Land Use

The No Willow Road Tunnel Alternative would include all the same components of the Proposed Project except the Willow Road Tunnel. The Tunnel would have provided connectivity to the Bay Trail but would not have conflicted with the ABAG Bay Trail Plan. The Willow Road Tunnel would have furthered General Plan Policy LU-6.6, Goal CIRC-2, and Policy CIRC-2.11 by facilitating safe crossings for bicycles and pedestrians. Nonetheless, even without the Willow Road Tunnel, the alternative would be consistent with the General Plan, similar to the Proposed Project (Impact LU-1). Impacts would therefore be similar to the Proposed Project (LTS). As a result, cumulative land use impacts would also be similar (Impact C-LU-1; LTS/M).

Aesthetics

The Willow Road Tunnel would be located below grade, and the approaches from the Project Site and West Campus would also begin at grade and extend below grade. The removal of the Willow Road Tunnel would not reduce any impacts on scenic vistas (Impact AES-1). Removal of the Willow Road Tunnel also would not affect compliance with zoning and other regulations governing scenic quality (Impact AES-2). Removal of the Willow Road Tunnel would slightly reduce nighttime lighting impacts because lighting fixtures would no longer be needed for the tunnel entries (Impact AES-3). Impacts would therefore be slightly reduced compared to the Proposed Project (LTS). As a result, cumulative aesthetics impacts would also be slightly reduced (Impact C-AES-1; LTS).

Transportation

Under the No Willow Road Tunnel Alternative, the pedestrian, bicycle, and transit facilities are expected to be the same as the Proposed Project with the exception of the removal of the Willow Road Tunnel. The Meta Trams would enter the Project Site via Main Street instead of the Willow Road Tunnel. The No Willow Road Tunnel Alternative would comply with existing regulations, including General Plan policies, and Zoning regulations and would provide adequate bicycle and pedestrian infrastructure. Therefore, it would be consistent with applicable plans, ordinances, and policies that address the circulation system similar to the Proposed Project (Impact TRA-1). There would be no change in land use under this alternative compared to the proposed project. The change in access and site circulation for the Meta Trams is not expected to have any effect on the VMT for any of the proposed land uses (office, residential, hotel, retail) when compared to the Proposed Project; therefore, VMT impacts would be similar to the Proposed Project (Impact TRA-2). This alternative variant would not introduce any new design features or incompatible uses that could cause potentially hazardous conditions, and the driveway sight distance issue at the "North Garage" would remain the same as under the Proposed Project. Impacts related to hazardous design features would be similar to the Proposed Project (Impact TRA-3). Emergency access to the Project Site

and nearby hospitals would be similar to the Proposed Project, resulting in similar impacts (Impact TRA-4). Impacts would therefore be similar to the Proposed Project, and the same mitigation would apply to Impact TRA-2 and Impact TRA-3 (LTS/M). As a result, cumulative transportation impacts would also be similar (Impact C-TRA-1, Impact C-TRA-2, Impact C-TRA-3, Impact C-TRA-4; LTS/M).

Air Quality

There would be less construction under the No Willow Road Tunnel Alternative, reducing criteria air pollutant emissions during construction. However, the significance of criteria air pollutant emissions is measured per day. It is probable that construction activities would be the same intensity each day so that maximum daily construction emissions would be similar to the Proposed Project. However, total emissions for construction would decrease due to a decrease in overall construction activities. Operational emissions would be similar to the Proposed Project because buildout size would be the same (Impact AQ-1, Impact AQ-2).

For localized emissions and exposure of sensitive receptors to substantial pollutant concentrations, construction activities would be reduced compared to the Proposed Project. Impacts therefore may be reduced for carbon monoxide because fewer vehicle trips would be needed. Asbestos impacts would be the same because the same buildings would be demolished as under the Proposed Project. There could also be less exposure to DPM due to reduced construction. Other site preparation activities would still be similar to the activity occurring under the Proposed Project, limiting reductions in pollutant exposure. The reduction in exposure to substantial concentrations of pollutants during construction would be minor. It is possible that exposure during operations would be similar as the same operational activities would occur (Impact AQ-3). Exposure to odors during construction may be reduced due to there being less construction; however, substantially similar site preparation would occur, which is the most likely source of diesel odors during construction. Operational odor sources would be the same. Therefore, impacts could be similar to the Proposed Project (Impact AQ-4). Overall impacts would be reduced compared to the Proposed Project, and impacts related to criteria air pollutant emissions would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact AQ-1 (SU), Impact AQ-2 (SU), and Impact AQ-3 (LTS/M). As a result, the No Willow Road Tunnel Alternative would make a slightly decreased contribution to the significant cumulative impact (Impact C-AQ-1; SU).

Energy

There would be less construction under the No Willow Road Tunnel Alternative, reducing energy use during construction. The same energy-consuming structures would be built, resulting in about the same energy use during operation of the Proposed Project. The minor change in traffic patterns associated with the No Willow Road Tunnel Alternative would have a negligible impact on energy use associated with vehicle travel (Impact EN-1). The same sustainability measures, energy use measures, and transportation demand features would be implemented as for the Proposed Project (Impact EN-2). Impacts would therefore be similar to the Proposed Project, and impacts related to energy use would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact EN-1 (LTS/M). As a result, cumulative energy impacts would also be slightly reduced (Impact C-EN-1; LTS).

Greenhouse Gas Emissions

There would be less construction under the No Willow Road Tunnel Alternative, reducing greenhouse gas emissions from construction. Operational emissions would be about the same as the Proposed Project because buildout size would be the same (Impact GHG-1a, Impact GHG-1b). The No Willow Road Tunnel

would be similar to the Proposed Project in development patterns and features. As a result, it would have similar impacts to the Proposed Project in terms of consistency with applicable plans and policies (Impact GHG-2). Overall impacts would be reduced compared to the Proposed Project, and impacts related to greenhouse gas emissions would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact GHG-1b and Impact GHG-2 (LTS/M).

Noise

There would be less construction under the No Willow Road Tunnel Alternative, reducing noise generated during construction. Less construction activity would reduce the duration of noise impacts. Removal of the Willow Road Tunnel would also decrease the amount of night construction needed, reducing nighttime noise impacts. The buildout of noise-generating uses would largely be similar to the Proposed Project, resulting in similar noise impacts during operation (Impact NOI-1). Vibration impacts would also be reduced due to removal of the Willow Road Tunnel, including during nighttime hours if activities like pile driving for tunnel shoring would have occurred at night (Impact NOI-2). The No Willow Road Tunnel Alternative would be in the same location as the Proposed Project, so there would still be no impact related to proximity to an airport or airstrip (Impact NOI-3). Overall impacts would be slightly reduced compared to the Proposed Project, and impacts related to noise and vibration would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact NOI-1 and Impact NOI-2 (SU). As a result, cumulative noise impacts would also be slightly reduced (Impact C-NOI-1; SU).

Cultural Resources

Impacts to the Dumbarton Cutoff Line would not occur because the Willow Road Tunnel would not be constructed under this alternative, substantially reducing this significant impact when compared to the proposed project (Impact CR-1). There are no known archaeological deposits, burials, or tribal cultural resources at the Willow Road Tunnel site, so impacts to known archaeological deposits would be the same as the Proposed Project. The No Willow Road Tunnel Alternative has less potential to disturb unknown archaeological deposits and burials because there would be less ground disturbance and excavation (Impact CR-2, Impact CR-3, Impact CR-4). Impacts would be reduced compared to the Proposed Project but could still be significant. The same mitigation would apply as for the Proposed Project for Impact CR-2, Impact CR-3, and Impact CR-4 (LTS/M). As a result, cumulative cultural impacts would also be slightly reduced (Impact C-CR-1; LTS).

Biological Resources

Removal of the Willow Road Tunnel would reduce construction activities, which could reduce disturbance of bird and bat species. Removal of the Willow Road Tunnel would slightly reduce nighttime lighting impacts because lighting fixtures would no longer be needed for the tunnel entries, which could slightly reduce impacts of artificial lighting on wildlife species, particularly if the lighting on the Willow Road Tunnel site were bright enough to increase illumination within the wetlands to the north/northeast (Impact BIO-1). Removal of the Willow Road Tunnel would remove one avenue for feral cats to increase their movement in the Project area. However, predators can already cross the street at street level, so any decrease in impacts when compared to the Proposed Project would be negligible (Impact BIO-2). Impacts related to sensitive habitats and wetlands would be similar to the proposed project. There is a brackish marsh close to the Willow Road Tunnel site; however, the areas between the Willow Road Tunnel Site and a large brackish marsh consist of a storage facility, the Dumbarton Rail Corridor, Willow Road, and an area of uplands planted with native vegetation. Therefore, none of the sensitive habitats and wetlands potentially affected by the Proposed Project are located near the Willow Road Tunnel site and could still be impacted in the same way

under the No Willow Road Tunnel Alternative (Impact BIO-3, Impact BIO-4). Removal of the Willow Road Tunnel may slightly reduce disturbance of bird species, and the No Willow Road Tunnel Alternative would still include vegetation in the design that would provide value to resident and migratory birds. Additionally, impacts related to bird strikes would be similar to the Proposed Project because the No Willow Road Tunnel Alternative would have the same buildings as the Proposed Project (Impact BIO-5). Removal of the Willow Road Tunnel would reduce the need to remove trees in the tunnel entry areas, potentially reducing the need to remove and replace protected trees. However, removal of the Willow Road Tunnel would not change impacts related to bird safe design requirements of the Menlo Park Municipal Code because the same buildings would be constructed. As a result, impacts could be slightly reduced compared to the Proposed Project (Impact BIO-6). Overall biological resources impacts would be reduced compared to the Proposed Project but some impacts could still be significant. The same mitigation would apply as for the Proposed Project for Impact BIO-2, Impact BIO-3, Impact BIO-4, Impact BIO-5, and Impact BIO-6 (LTS/M). As a result, cumulative biological resources impacts would also be slightly reduced (Impact C-BIO-1; LTS/M).

Geology and Soils

Removal of the Willow Road Tunnel would remove one structure from the project that could be subjected to seismic ground shaking. However, adherence to Caltrans requirements would have ensured that the Willow Road Tunnel would have the maximum practicable protection from seismic stresses. As a result, seismic hazards impacts would be similar to the Proposed Project (Impact GS-1). Soil disturbance and runoff impacts would be slightly decreased because there would be no construction of the Willow Road Tunnel, slightly decreasing the potential for erosion and decreasing hardscape (Impact GS-2). Excavation would have potentially required dewatering and shoring to address potential soil hazards in the Willow Road Tunnel area, and adherence to Caltrans requirements would have ensured that the Willow Road Tunnel would have the maximum practicable protection from soil failure available under static or dynamic conditions. As a result, soil and geologic stability hazards would be similar to the Proposed Project (Impact GS-3, Impact GS-4). Reduced excavation could reduce the potential to uncover and damage paleontological resources under the No Willow Road Tunnel Alternative (Impact GS-5). Overall geological resources impacts would be reduced compared to the Proposed Project, but paleontological resources impacts could still be significant. The same mitigation would apply as for the Proposed Project for Impact GS-5 (LTS/M). As a result, cumulative geology and soils impacts would also be slightly reduced (Impact C-GS-1; LTS).

Hydrology and Water Quality

Removal of the Willow Road Tunnel would reduce the amount of ground disturbance on the Project Site compared to the Proposed Project. This could slightly reduce the potential for sedimentation and contamination of surface water and groundwater during construction. Additionally, less dewatering of potentially contaminated groundwater would be required because there would not be excavation for the Willow Road Tunnel. It is possible the reduction in impervious surface would be greater under the Willow Road Tunnel Alternative than the Proposed Project because impervious surface associated with the Willow Road Tunnel would not be constructed, which could reduce runoff compared to the Proposed Project in that area of the Project Site (Impact HY-1, Impact HY-5). The No Willow Road Tunnel Alternative would reduce the potential need for dewatering and the amount impervious surface area on the Project Site, but not to the extent that there would be a noticeable difference in impacts on groundwater supplies when compared to the Proposed Project (Impact HY-2). Less ground disturbance would occur under the No Willow Road Tunnel Alternative, which would somewhat reduce impacts to drainage during construction and during buildout (Impact HY-3). Flood exposure would be similar to the Proposed Project because the same habitable buildings would still be constructed under this alternative as under the

Proposed Project (Impact HY-4). Overall hydrology and water quality impacts would be reduced compared to the Proposed Project, but water quality impacts could still be significant. The same mitigation would apply as for the Proposed Project for Impact HY-1 and Impact HY-5 (LTS/M). As a result, cumulative hydrology and water quality impacts would also be slightly reduced (Impact C-HY-1; LTS).

Hazards and Hazardous Materials

Removal of the Willow Road Tunnel would reduce the total amount of construction occurring on the Project Site, which could slightly reduce the use of hazardous materials on the site during construction activities and maintenance (Impact HAZ-1). Impacts related to potential accidents may be slightly reduced due to the reduction in construction activities under the No Willow Road Tunnel Alternative. Additionally, no excavation would be needed for the Willow Road Tunnel, which would avoid the potential to expose construction workers to contaminated groundwater, contaminated soil, and soil vapor in that area. This would be a substantial reduction in impacts (Impact HAZ-2). There are no schools within 0.25 mile of the Willow Road Tunnel Site; therefore, this alternative would have the same impact as the Proposed Project related to hazardous materials handling in the vicinity of a school (Impact HAZ-3). Impacts to emergency access would be similar to the Proposed Project (Impact HAZ-4). Overall hazards and hazardous materials impacts would be reduced compared to the Proposed Project, but hazardous materials impacts could still be significant. The same mitigation would apply as for the Proposed Project for Impact HAZ-2 (LTS/M). As a result, cumulative hazards and hazardous materials impacts would also be slightly reduced (Impact C-HAZ-1; LTS/M).

Population and Housing

Under the No Willow Road Tunnel Alternative, there would be no changes to the residential or non-residential buildout proposed on the site under the Proposed Project. As a result, impacts related to population growth would be the same as the Proposed Project (Impact POP-1). Demolition of current uses on the Project Site would also be the same as for the Proposed Project (Impact POP-2). Impacts would be the same as the Proposed Project's impacts (LTS). As a result, cumulative impacts would be the same as the Proposed Project's (Impact C-POP-1; LTS).

Public Services

Under the No Willow Road Tunnel Alternative, the buildout of residential and non-residential land uses would be the same as the Proposed Project. As a result, the demand for fire protection services, police services, school facilities, parks and recreational facilities, and library facilities would be similar to the Proposed Project (Impact PS-1, Impact PS-2, Impact PS-3, Impact PS-4, Impact PS-5). Impacts would be similar to the Proposed Project's impacts (LTS). As a result, cumulative impacts would be the same as the Proposed Project's (Impact C-PS-1; LTS).

Utilities and Service Systems

Under the No Willow Road Tunnel Alternative, the buildout of residential and non-residential land uses would be the same as the Proposed Project. As a result, the demand for water, wastewater treatment, stormwater drainage, electric power, natural gas, telecommunications, and solid waste services would be similar to the Proposed Project (Impact UT-1, Impact UT-2, Impact UT-3, Impact UT-4, Impact UT-5). Impacts would be similar to the Proposed Project's impacts (LTS). As a result, cumulative impacts would be similar to the Proposed Project's (Impact C-UT-1, Impact C-UT-2, Impact C-UT-3, Impact C-UT-4, Impact C-UT-5, Impact C-UT-6; LTS).

Base Level Development Alternative

Land Use

Similar changes to land use designations and zoning would need to be conducted for the Base Level Development Alternative as for the Proposed Project. For example, the Base Level Development Alternative would have similar circulation needs as the Proposed Project and therefore would also require amendments to the City General Plan Circulation Map and Zoning Map. However, the Base Level Development Alternative would fit into the footprint of the Proposed Project and have a similar design configuration and therefore would have comparable impacts related to consistency with land use plans, policies, and regulations meant to avoid or mitigate an environmental effect (Impact LU-1). Impacts would therefore be similar to impacts of the Proposed Project (LTS). As a result, cumulative land use impacts would also be similar (Impact C-LU-1; LTS).

Aesthetics

The Base Level Development Alternative would largely appear similar to the Proposed Project but would appear smaller in scale due to the reduced square footage of development and the shorter building heights. There would also be less open space provided than the Proposed Project, which could shift the visual balance to appear more developed. Building heights would be reduced under this alternative so that impacts related to scenic vistas and building heights would be reduced, reducing visibility of development (Impact AES-1). Reduced intensity of development would not affect compliance with zoning and other regulations governing scenic quality (Impact AES-2). Reduced development intensity would slightly reduce nighttime lighting impacts because there would be less lighting used in building interiors, reducing the amount of light visible from buildings (Impact AES-3). Impacts would therefore be slightly reduced compared to the Proposed Project (LTS). As a result, cumulative aesthetics impacts would also be slightly reduced (Impact C-AES-1; LTS).

Transportation

Under the Base Level Development Alternative, the pedestrian, bicycle, and transit facilities are expected to be the same as the Proposed Project. Therefore, it would be consistent with applicable plans, ordinances, and policies that address the circulation system similar to the Proposed Project (Impact TRA-1). Although the Base Level Development Alternative would reduce residential square footage, daily trip generation per resident and daily trip generation per employee would remain the same as the Proposed Project. Under the Base Level Development Alternative, it is expected that there would be minimal to no changes in residential VMT per capita and employment VMT per employee compared to the Proposed Project analysis. The retail and hotel land uses would continue to generate no impact on VMT. Therefore, the Base Level Development Alternative would result in similar impacts to the Proposed Project. Note, however, that a development with fewer residents and workers may result in less reduction in VMT overall (Impact TRA-2). Under the Base Level Development Alternative, it is assumed that the same design would be used for the North Garage, resulting in the same impact regarding sight distance as the Proposed Project (Impact TRA-3). Emergency access to the Project Site and nearby hospitals would be similar to the Proposed Project, resulting in similar impacts (Impact TRA-4). Impacts would therefore be similar to the Proposed Project, and the same mitigation would apply to Impact TRA-2 and Impact TRA-3 (LTS/M). As a result, cumulative transportation impacts would also be similar (Impact C-TRA-1, Impact C-TRA-2, Impact C-TRA-3, Impact C-TRA-4; LTS/M).

Air Quality

There would be less construction and smaller buildout under the Base Level Development Alternative, reducing criteria air pollutant emissions during both construction and operation. However, the significance of emissions is measured per day, and phasing would be compressed under this alternative into one phase. As a result, construction activities would generally be a similar maximum intensity on a given day such that average daily construction emissions would be similar to the Proposed Project. However, total criteria air pollutant emissions during construction would decrease. The square footage of nonresidential uses space could be reduced to about 58 percent of that included in the Proposed Project, and the square footage of residential uses could be reduced to about 40 percent of that included in the Proposed Project. Emissions associated with construction of those buildings (not including grading and site preparation) would therefore also be reduced. Similarly, operational emissions would also decrease due to the smaller size of buildings, fewer residents, and fewer workers. Estimated unmitigated average daily construction emissions of criteria air pollutants and precursors for the Proposed Project are provided in Table 6-3, net unmitigated average daily operational emissions for the Base Level Development Alternative are provided in Table 6-4 and net mitigated average daily operational emissions for the Base Level Development Alternative are provided in Table 6-5. Mitigated emissions when operations overlap with Project construction are provided in Table 6-6. This represents a conservative estimate of emissions since Project construction emissions would likely be higher than Base Level Development Alternative construction emissions. Refer to Appendix 6-1 for detailed emissions calculations. As shown in Table 6-3, the Base Level Development Alternative would have similar construction emissions to the Proposed Project. And, while the Proposed Project would result in a significant ROG impact during operations, that impact would not occur under the Base Level Development Alternative. This would be a substantial reduction in emissions impacts (Impact AQ-1, Impact AQ-2).

For localized emissions and exposure of sensitive receptors to substantial pollutant concentrations, construction activities would be reduced compared to the Proposed Project. Impacts therefore may be reduced for carbon monoxide because fewer vehicle trips would be needed. Asbestos impacts would be the same because the same buildings would be demolished as under the Proposed Project. There would also be less exposure to DPM due to the shortened construction period; however, site preparation would still be similar to the Proposed Project, limiting the reductions in exposure. There would be a reduction in exposure to concentrations of pollutants during construction. Exposure during operations would be similar because the same operational activities would occur; however, exposure to vehicle exhaust would be reduced since the Alternative would result in fewer trips (Impact AQ-3). Exposure to odors during construction may be reduced due to the shorter construction period; however, the same site preparation would occur, which is the most likely source of diesel odors during construction. Operational odor sources would be the same. Therefore, impacts could be similar to the Proposed Project (Impact AQ-4). Overall impacts would be reduced compared to the Proposed Project, and impacts related to pollutant emissions would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact AQ-1, Impact AQ-2, and Impact AQ-3. However, in contrast to the Proposed Project, Mitigation Measure AQ-1.1 and 1.2 would reduce Impact AQ-1 and AQ-2 to less than significant with mitigation. As a result, the Base Level Development Alternative would not result in a cumulatively considerable contribution to the significant cumulative impact (Impact C-AQ-1; LTS/M).

Table 6-3. Estimated Unmitigated Average Daily Construction Emissions of Criteria Air Pollutants and Precursors, Proposed Project

	Average Daily Emissions (lb/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Year 1	0.12	2.4	0.053	0.050
Year 2	4.5	**64**	1.4	1.3
Year 3	19	**124**	5.8	5.4
Year 4	52	53	2.3	2.1
Year 5	**63**	45	2.1	2.0
Year 6	31	11	0.060	.55
Maximum Average Daily Emissions	**63**	**124**	**5.8**	**5.4**
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	**Yes**	**Yes**	**No**	**No**

Source: Modeling files provided in Appendix 6-1.

Notes:

lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

[a.] BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions. Fugitive dust emissions would be controlled using best management practices.

Table 6-4. Estimated Net Unmitigated Average Daily Operational Emissions, Base Level Development Alternative

	Average Daily Emissions (lb/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Existing Conditions (Year 2019)	50	52	23	5.2
Full Build-Out Conditions (Year 2026)	72	43	32	6.8
Total Net Operational Emissions	22	-9.7	9.0	1.6
BAAQMD Significance Threshold	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Modeling files provided in Appendix 6-1.

Notes:

Totals may not add up because of rounding.

lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a.] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 6-5. Estimated Net Mitigated Average Daily Operational Emissions, Base Level Development Alternative

	Average Daily Emissions (lb/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Existing Conditions (Year 2019)	50	52	23	5.2
Full Build-Out Conditions (Year 2026)	68	43	32	6.8
Total Net Operational Emissions	19	-9.7	9.0	1.6
BAAQMD Significance Threshold	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Modeling files provided in Appendix 6-1.

Notes:

Totals may not add up because of rounding.

lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a.] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 6-6. Estimated Mitigated Average Daily Construction and Net New Operational Emissions of Criteria Air Pollutants and Precursors, Base Level Alternative

	Average Daily Emissions (lb/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Year 1	-50	-50	-23	-5.2
Year 2	-47	-7.6	-22	-4.7
Year 3	-40	-5.1	-22	-4.4
Year 4	-20	-18	-20	-4.1
Year 5	12	-6.8	-5.9	-1.3
Year 6	24	-9.4	6.4	1.1
Maximum Average Daily Emissions	**24**	**-5.1**	**6.4**	**1.1**
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Modeling files provided in Appendix 6-1.

Notes:

lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

[a.] BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions. Fugitive dust emissions would be controlled using best management practices.

Energy

There would be less construction under the Base Level Development Alternative, reducing energy use during construction. The total square footage of buildings would be reduced. Residential square footage would be reduced to about 40 percent of the Proposed Project, and nonresidential space would be to about 58 percent of the Proposed Project, which would result in a substantial reduction in energy use (Impact EN-1) The same sustainability measures, energy use measures, and transportation demand features would be implemented as for the Proposed Project (Impact EN-2). Impacts would therefore be reduced compared to the Proposed Project, and impacts related to energy use would still be potentially significant.

The same mitigation would apply as for the Proposed Project for Impact EN-1 (LTS/M). As a result, cumulative energy impacts would also be slightly reduced (Impact C-EN-1; LTS).

Greenhouse Gas Emissions

There would be less construction and smaller buildout under the Base Level Development Alternative, reducing greenhouse gas emissions under both construction and operation. Therefore, total emissions would decrease. The total square footage of buildings would be reduced. Residential square footage would be reduced to about 40 percent of the Proposed Project, and nonresidential space would be to about 58 percent of the Proposed Project. Emissions associated with construction of those buildings (not including grading and site preparation) may be reduced by a similar degree. Similarly, operational emissions would also decrease due to the smaller size of buildings, with net non-mobile emissions totaling -1,567 MT CO_2e per year. Mobile emissions would be 3,557 MT CO_2e per year, not accounting for reductions associated with EV use. Refer to Appendix 6-1 for detailed emissions calculations. Compared to the Proposed Project's non-mobile and mobile emissions of and -1,056 CO_2e per year and 16,766 CO_2e per year, respectively, this would be a substantial reduction in construction and operations emissions impacts (Impact GHG-1a, Impact GHG-1b).

The Base Level Development Alternative would be similar to the Proposed Project in development patterns and features other than the reduction in maximum height and square footage. As a result, it would have similar impacts to the Proposed Project in terms of consistency with applicable plans and policies (Impact GHG-2). Overall impacts would be reduced compared to the Proposed Project, and impacts related to greenhouse gas emissions would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact GHG-1b and Impact GHG-2 (LTS/M).

Noise

There would be less construction and smaller buildout under the Base Level Development Alternative, reducing noise generated under both construction and operation. Less construction activity would reduce the duration of noise impacts. Smaller buildout would reduce noise during operation (Impact NOI-1). Vibration impacts may remain the same, however, as vibration impacts largely result from ground-level construction activities like site preparation and foundation construction. These activities would still occur in the same area as they would under the Proposed Project, resulting in similar vibration impacts to the Proposed Project (Impact NOI-2). The Base Level Development Alternative would be in the same location as the Proposed Project, so there would still be no impact related to proximity to an airport or airstrip (Impact NOI-3). Overall impacts would be reduced compared to the Proposed Project, and impacts related to noise and vibration would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact NOI-1 and Impact NOI-2 (SU). As a result, cumulative noise impacts would also be slightly reduced (Impact C-NOI-1; SU).

Cultural Resources

Impacts to the Dumbarton Cutoff Line would be the same as the Proposed Project because the Willow Road Tunnel would be constructed under this alternative (Impact CR-1). Impacts to known archaeological deposits would be the similar to the Proposed Project. The Base Level Development Alternative has less potential to disturb unknown archeological deposits and burials because there would be less ground disturbance and excavation due to the reduced size of the alternative when compared to the Proposed Project (Impact CR-2, Impact CR-3, Impact CR-4). Impacts would be reduced compared to the Proposed Project but could still be significant. The same mitigation would apply as for the Proposed Project for all

impacts (LTS/M). As a result, cumulative cultural impacts would also be slightly reduced (Impact C-CR-1; LTS).

Biological Resources

Reduction in the intensity of development would reduce construction activities, which could reduce disturbance of bird and bat species. Reduced development intensity would slightly reduce nighttime lighting impacts because there would be less lighting used in building interiors, reducing the amount of light from buildings that could impact animal species (Impact BIO-1). Reduction in the development intensity may reduce the potential increase in feral cat populations, but given the development that could still occur, any decrease in impacts when compared to the Proposed Project may be negligible (Impact BIO-2). Impacts related to sensitive habitats and wetlands would be similar to the Proposed Project because the development footprint of the Base Level Development Alternative would be the same (Impact BIO-3, Impact BIO-4). Reduced development may slightly reduce disturbance of bird species, and the Base Level Development Alternative would still include vegetation in the design that would provide value to resident and migratory birds. However, there could be less open space developed, reducing that potential benefit when compared to the Proposed Project. Impacts related to bird strikes would be reduced compared to the Proposed Project because the Base Level Development Alternative would have a shorter limit for building heights. For example, the average building height in areas of O zoning would be 35 feet instead of 70 feet. This would substantially reduce the potential for bird strikes through reducing the surface area and height of buildings (Impact BIO-5). Impacts related to tree removal would be the same as the Proposed Project because the development footprint of the Base Level Development Alternative would be the same. However, the reduced building size would substantially reduce the potential for bird strikes but would still be subject to bird safe design requirements of the Menlo Park Municipal Code because new buildings would be constructed (Impact BIO-6). Overall biological resources impacts would be reduced compared to the Proposed Project but could still be significant. The same mitigation would apply as for the Proposed Project for Impact BIO-2, Impact BIO-3, Impact BIO-4, Impact BIO-5, and Impact BIO-6 (LTS/M). As a result, cumulative biological resources impacts would also be slightly reduced (Impact C-BIO-1; LTS/M).

Geology and Soils

Similar development would occur under the Base Level Development Alternative, though with less floor space and less height. Similar design measures would be considered for the Base Level Development Alternative as for the Proposed Project. As a result, seismic hazards impacts would be similar to the Proposed Project (Impact GS-1). Soil disturbance, runoff impacts, and soil and geologic stability impacts would be similar because the development footprint of the Base Level Development Alternative would be the same (Impact GS-2, Impact GS-3, Impact GS-4). The amount of excavation and ground disturbance would be similar to the Proposed Project, which would result in similar impacts for the potential to uncover and damage paleontological resources under the Base Level Development Alternative (Impact GS-5). Overall geological resources impacts would be similar to the Proposed Project, and paleontological resources impacts could still be significant. The same mitigation would apply as for the Proposed Project for Impact GS-5 (LTS/M). As a result, cumulative geology and soils impacts would also be slightly reduced (Impact C-GS-1; LTS).

Hydrology and Water Quality

The Base Level Development Alternative would largely have the same footprint as the Proposed Project and so would present a similar potential for sedimentation and contamination of surface water and groundwater during as well as similar impacts related to groundwater and drainage (Impact HY-1, Impact HY-2, Impact HY-3, Impact HY-5). Flood exposure would be similar to the Proposed Project because the same habitable buildings would still be constructed under this alternative as under the Proposed Project (Impact HY-4). Overall hydrology and water quality impacts would be similar to the Proposed Project and would still be significant. The same mitigation would apply as for the Proposed Project for Impact HY-1 and Impact HY-5 (LTS/M). As a result, cumulative hydrology and water quality impacts would also be slightly reduced (Impact C-HY-1; LTS).

Hazards and Hazardous Materials

The Base Level Development Alternative would reduce the total amount of construction occurring on the Project Site, which could slightly reduce the use of hazardous materials on the site during construction activities and for maintenance during buildout (Impact HAZ-1). Impacts related to potential accidents may likewise be slightly reduced due to the reduction in construction activities under the Base Level Development Alternative (Impact HAZ-2). The same schools would be within 0.25 mile of the Base Level Development Alternative as the Proposed Project, but the potential impact may be slightly reduced due to more limited development (Impact HAZ-3). Impacts to emergency access would be similar to the Proposed Project (Impact HAZ-4). Overall hazards and hazardous materials impacts would be slightly reduced compared to the Proposed Project, but hazardous materials impacts could still be significant. The same mitigation would apply as for the Proposed Project for Impact HAZ-2 and Impact HAZ-3 (LTS/M). As a result, cumulative hazards and hazardous materials impacts would also be slightly reduced (Impact C-HAZ-1; LTS/M).

Population and Housing

Under the Base Level Development Alternative, there would be less development than under the Proposed Project. As a result, impacts related to population growth would be reduced compared to the Proposed Project (Impact POP-1). Demolition of current uses on the Project Site would be the same as for the Proposed Project (Impact POP-2). Overall impacts would be reduced compared to the Proposed Project's impacts (LTS). As a result, cumulative impacts would also be reduced (Impact C-POP-1; LTS).

Public Services

Under the Base Level Development Alternative, the buildout of residential and non-residential land uses would be reduced compared to the Proposed Project. As a result, the demand for fire protection services, police services, school facilities, parks and recreational facilities, and library facilities would be reduced compared to the Proposed Project (Impact PS-1, Impact PS-2, Impact PS-3, Impact PS-4, Impact PS-5). Impacts would be less than the Proposed Project's impacts (LTS). As a result, cumulative impacts would also be reduced (Impact C-PS-1; LTS).

Utilities and Service Systems

Under the Base Level Development Alternative, the buildout of residential and non-residential land uses would be reduced compared to the Proposed Project. As a result, the demand for water, wastewater treatment, stormwater drainage, electric power, natural gas, telecommunications, and solid waste

services would be reduced compared to the Proposed Project (Impact UT-1, Impact UT-2, Impact UT-3, Impact UT-4, Impact UT-5). Impacts would be less than the Proposed Project's impacts (LTS). As a result, cumulative impacts would also be reduced (Impact C-UT-1, Impact C-UT-2, Impact C-UT-3, Impact C-UT-4, Impact C-UT-5, Impact C-UT-6; LTS).

Reduced Intensity Alternative

Land Use

Similar changes to land use designations and zoning would need to be conducted for the Reduced Intensity Alternative as for the Proposed Project. For example, the Reduced Intensity Alternative would have similar circulation needs as the Proposed Project and therefore would also require amendments to the City General Plan Circulation Map and Zoning Map. However, the Reduced Intensity Alternative would fit into the footprint of the Proposed Project and have a similar design configuration and therefore would have comparable impacts related to consistency with land use plans, policies, and regulations meant to avoid or mitigate an environmental effect (Impact LU-1). Impacts would therefore be similar to impacts of the Proposed Project (LTS). As a result, cumulative land use impacts would also be similar (Impact C-LU-1; LTS).

Aesthetics

The Reduced Intensity Alternative would largely appear similar to the Proposed Project but would appear smaller in scale due to the reduced square footage of development, which could also potentially result in shorter building heights. There would also be less open space than the Proposed Project, which could shift the visual balance to appear more developed. Building heights would be reduced under this alternative so that impacts related to scenic vistas and building heights would be reduced, reducing visibility of development (Impact AES-1). Reduced intensity of development would not affect compliance with zoning and other regulations governing scenic quality (Impact AES-2). Reduced development intensity would slightly reduce nighttime lighting impacts because there would be less lighting used in building interiors, reducing the amount of light visible from buildings (Impact AES-3). Impacts would therefore be slightly reduced compared to the Proposed Project (LTS). As a result, cumulative aesthetics impacts would also be slightly reduced (Impact C-AES-1; LTS).

Transportation

Under the Reduced Intensity Alternative, the pedestrian, bicycle, and transit facilities are expected to be the same as the Proposed Project. Therefore, it would be consistent with applicable plans, ordinances, and policies that address the circulation system similar to the Proposed Project (Impact TRA-1). Although the Reduced Intensity Alternative would reduce residential square footage, daily trip generation per resident and daily trip generation per employee would remain the same as the Proposed Project. Under the Reduced Intensity Alternative, it is expected that there would be minimal to no changes in residential VMT per capita and employment VMT per employee compared to the Proposed Project analysis. The retail and hotel land uses would continue to generate no impact on VMT. Therefore, the Reduced Intensity Alternative would result in similar impacts to the Proposed Project (Impact TRA-2). Under the Reduced Intensity Alternative, it is assumed that the same design would be used for the North Garage, resulting in the same impact regarding sight distance as the Proposed Project (Impact TRA-3). Emergency access to the Project Site and nearby hospitals would be similar to the Proposed Project, resulting in similar impacts (Impact TRA-4). Impacts would therefore be similar to

the Proposed Project, and the same mitigation would apply to Impact TRA-2 and Impact TRA-3 (LTS/M). As a result, cumulative transportation impacts would also be similar (Impact C-TRA-1, Impact C-TRA-2, Impact C-TRA-3, Impact C-TRA-4; LTS/M).

Air Quality

There would be less construction and smaller buildout under the Reduced Intensity Alternative, reducing criteria air pollutant emissions during both construction and operation. However, the significance of emissions is measured per day, and phasing would be compressed under this alternative into one phase. As a result, construction activities would generally be a similar maximum intensity on a given day such that average daily construction emissions would be similar to the Proposed Project. However, total criteria air pollutant emissions during construction would decrease. The square footage of nonresidential uses space could be reduced to about 75 percent of that included in the Proposed Project, and the square footage of residential uses could be reduced to about 87 percent of that included in the Proposed Project. Emissions associated with construction of those buildings (not including grading and site preparation) would therefore also be reduced. Similarly, operational emissions would also decrease due to the smaller size of buildings, fewer residents, and potentially fewer workers. Estimated unmitigated average daily construction emissions of criteria air pollutants and precursors for the Proposed Project are provided in Table 6-7, and net unmitigated average daily operational emissions for the Reduced Intensity Alternative are provided in Table 6-8. Mitigated average daily construction emissions of criteria air pollutants and precursors for the Proposed Project are provided in Table 6-9, and net unmitigated average daily operational emissions for the Reduced Intensity Alternative are provided in Table 6-10. Mitigated emissions when operation overlaps with Project construction are provided in Table 6-11. This represents a conservative estimate of emissions since Project construction emissions would likely be higher than Reduced Intensity Alternative construction emissions. Refer to Appendix 6-1 for detailed emissions calculations. While the Proposed Project would result in a significant ROG impact during operations, that impact would not occur under the Reduced Intensity Alternative. This would be a substantial reduction in emissions impacts (Impact AQ-1, Impact AQ-2).

For localized emissions and exposure of sensitive receptors to substantial pollutant concentrations, construction activities would be reduced compared to the Proposed Project. Impacts therefore may be reduced for carbon monoxide because fewer vehicle trips would be needed. Asbestos impacts would be the same because the same buildings would be demolished as under the Proposed Project. There could also be less exposure to DPM due to the shortened construction period; however, site preparation would still be similar to the Proposed Project, limiting the reductions in exposure. There would be a reduction in exposure to substantial concentrations of pollutants during construction. It is possible that exposure during operations would be similar because the same operational activities would occur; however, exposure to vehicle exhaust would be reduced since the Alternative would result in fewer trips (Impact AQ-3). Exposure to odors during construction may be reduced due to the shorter construction period; however, the same site preparation would occur, which is the most likely source of diesel odors during construction. Operational odor sources would be the same. Therefore, impacts could be similar to the Proposed Project (Impact AQ-4). Overall impacts would be reduced compared to the Proposed Project, and impacts related to pollutant emissions would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact AQ-1, Impact AQ-2, and Impact AQ-3 . However, in contrast to the Proposed Project, Mitigation Measure AQ-1.1 and 1.2 would reduce Impact AQ-1 and AQ-2 to less than significant with mitigation. Refer to Table 6-9 for mitigated construction emissions and to Table 6-10 for mitigated operational emissions. As a result, the Reduced Intensity Alternative would not make a cumulatively considerable contribution to this significant cumulative impact (Impact C-AQ-1; LTS/M).

Table 6-7. Estimated Unmitigated Average Daily Construction Emissions of Criteria Air Pollutants and Precursors, Proposed Project

	Average Daily Emissions (lb/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Year 1	0.12	2.4	0.053	0.050
Year 2	4.5	**64**	1.4	1.3
Year 3	19	**124**	5.8	5.4
Year 4	52	53	2.3	2.1
Year 5	**63**	45	2.1	2.0
Year 6	31	11	0.060	0.55
Maximum Average Daily Emissions	**63**	**124**	**5.8**	**5.4**
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	**Yes**	**Yes**	**No**	**No**

Source: Modeling files provided in Appendix 6-1.

Notes:

lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

[a.] BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions. Fugitive dust emissions would be controlled using best management practices.

Table 6-8. Estimated Net Unmitigated Average Daily Operational Emissions, Reduced Intensity Alternative

	Average Daily Emissions (lb/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Existing Conditions (Year 2019)	50	52	23	5.2
Full Build-Out Conditions (Year 2026)	109	57	46	10
Total Net Operational Emissions	**60**	**5.0**	**23**	**4.3**
BAAQMD Significance Threshold	54	54	82	54
Exceeds Threshold?	**Yes**	**No**	**No**	**No**

Modeling files provided in Appendix 6-1.

Notes:

Totals may not add up because of rounding.

lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a.] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 6-9. Estimated Mitigated Average Daily Construction Emissions of Criteria Air Pollutants and Precursors, Proposed Project

	Average Daily Emissions (lb/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Year 1	0.064	1.9	0.019	0.019
Year 2	2.7	45	0.49	0.48
Year 3	10	47	0.78	0.77
Year 4	24	29	0.38	0.37
Year 5	28	22	0.26	0.25
Year 6	13	4.8	0.060	0.058
Maximum Average Daily Emissions	**28**	**47**	**0.78**	**0.77**
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Modeling files provided in Appendix 6-1.

Notes:

lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

[a] BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions. Fugitive dust emissions would be controlled using best management practices.

Table 6-10. Estimated Net Mitigated Average Daily Operational Emissions, Reduced Intensity Alternative

	Average Daily Emissions (lb/day)			
Emissions Source	**ROG**	**NO_X**	**PM_{10}[a]**	**$PM_{2.5}$[a]**
Existing Conditions (Year 2019)	50	52	23	5.2
Full Build-Out Conditions (Year 2026)	103.3	57	46	10
Total Net Operational Emissions	**53.6**	**5.0**	**23**	**4.3**
BAAQMD Significance Threshold	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Modeling files provided in Appendix 6-1.

Notes:

Totals may not add up because of rounding.

lb/day = pounds per day; ROG= reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter no more than 2.5 microns in diameter

[a] BAAQMD operational thresholds for PM_{10} and $PM_{2.5}$ include both fugitive dust and exhaust emissions.

Table 6-11. Estimated Mitigated Average Daily Construction and Net New Operational Emissions of Criteria Air Pollutants and Precursors, Reduced Intensity Alternative

	Average Daily Emissions (lb/day)[a]			
Construction Year	**ROG**	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Year 1	-50	-50	-23	-5.2
Year 2	-47	-7.6	-22	-4.7
Year 3	-40	-5.1	-22	-4.4
Year 4	-20	-18	-20	-4.1
Year 5	22	-2.5	-1.4	-0.42
Year 6	49	1.2	17	3.1
Maximum Average Daily Emissions	**49**	**1.2**	**17**	**3.1**
BAAQMD Significance Thresholds	54	54	82	54
Exceeds Threshold?	**No**	**No**	**No**	**No**

Source: Modeling files provided in Appendix 6-1.

Notes:

lb/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; $PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 or less

[a] BAAQMD construction thresholds for PM_{10} and $PM_{2.5}$ evaluate only exhaust emissions. Fugitive dust emissions would be controlled using best management practices.

Energy

There would be less construction under the Reduced Intensity Alternative, reducing energy use during construction. The total square footage of buildings would be reduced. Residential square footage would be reduced to about 87 percent of the Proposed Project, and nonresidential space would be to about 75 percent of the Proposed Project, which would result in a substantial reduction in energy use (Impact EN-1) The same sustainability measures, energy use measures, and transportation demand features would be implemented as for the Proposed Project (Impact EN-2). Impacts would therefore be reduced compared to the Proposed Project, and impacts related to energy use would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact EN-1 (LTS/M). As a result, cumulative energy impacts would also be slightly reduced (Impact C-EN-1; LTS).

Greenhouse Gas Emissions

There would be less construction and smaller buildout under the Reduced Intensity Alternative, reducing greenhouse gas emissions under both construction and operation. Therefore, total emissions would decrease. The total square footage of buildings would be reduced. Residential square footage would be reduced to about 87 percent of the Proposed Project, and nonresidential space would be reduced to about 75 percent of the Proposed Project. Emissions associated with construction of those buildings (not including grading and site preparation) may be reduced. Similarly, operational emissions would also decrease due to the smaller size of buildings, with net non-mobile emissions totaling -1,300 MT CO_2e per year. Mobile emissions would be 12,441 MT CO_2e per year, not accounting for any reductions associated with EVs. Refer to Appendix 6-1 for detailed emissions calculations. Compared to the Proposed Project's non-mobile and mobile emissions of and -1,056 CO_2e per year and 16,766 CO_2e per year, respectively, this would be a substantial reduction in mobile emissions impacts (Impact GHG-1a, Impact GHG-1b).

The Reduced Intensity Alternative would be similar to the Proposed Project in development patterns and features other than the reduction in maximum height and square footage. As a result, it would have similar impacts to the Proposed Project in terms of consistency with applicable plans and policies (Impact GHG-2). Overall impacts would be reduced compared to the Proposed Project, and impacts related to greenhouse gas emissions would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact GHG-1b and Impact GHG-2 (LTS/M).

Noise

There would be less construction and smaller buildout under the Reduced Intensity Alternative, reducing noise generated under both construction and operation. Less construction activities would reduce the duration of noise impacts. Smaller buildout would reduce the size of noise sources during operation (Impact NOI-1). Vibration impacts may remain the same, however, as vibration impacts largely result from ground-level construction activities like site preparation and foundation construction. These activities would still occur in the same area as they would under the Proposed Project, resulting in similar vibration impacts to the Proposed Project (Impact NOI-2). The Reduced Intensity Alternative would be in the same location as the Proposed Project, so there would still be no impact related to proximity to an airport or airstrip (Impact NOI-3). Overall impacts would be reduced compared to the Proposed Project, and impacts related to noise and vibration would still be potentially significant. The same mitigation would apply as for the Proposed Project for Impact NOI-1 and Impact NOI-2 (SU). As a result, cumulative noise impacts would also be slightly reduced (Impact C-NOI-1; SU).

Cultural Resources

Impacts to the Dumbarton Cutoff Line would be the same as the Proposed Project because the Willow Road Tunnel would be constructed under this alternative (Impact CR-1). Impacts to known archaeological deposits would be the similar to the Proposed Project. The Reduced Intensity Alternative has less potential to disturb unknown archeological deposits and burials because there would be less ground disturbance and excavation due to the reduced size of the alternative when compared to the Proposed Project (Impact CR-2, Impact CR-3, Impact CR-4). Impacts would be reduced compared to the Proposed Project but could still be significant. The same mitigation would apply as for the Proposed Project for all impacts (LTS/M). As a result, cumulative cultural impacts would also be slightly reduced (Impact C-CR-1; LTS).

Biological Resources

Reduction in the intensity of development would reduce construction activities, which could reduce disturbance of bird and bat species. Reduced development intensity would slightly reduce nighttime lighting impacts because there would be less lighting used in building interiors, reducing the amount of light from buildings that could impact animal species (Impact BIO-1). Reduction in the development intensity may reduce the potential increase in feral cat populations, but given the development that could still occur, any decrease in impacts when compared to the Proposed Project may be negligible (Impact BIO-2). Impacts related to sensitive habitats and wetlands would be similar to the Proposed Project because the development footprint of the Reduced Intensity Alternative would be the same (Impact BIO-3, Impact BIO-4). Reduced development may slightly reduce disturbance of bird species, and the Reduced Intensity Alternative would still include vegetation in the design that would provide value to resident and migratory birds. However, there could be less open space developed, reducing that potential benefit when compared to the Proposed Project. Impacts related to bird strikes could be reduced compared to the Proposed Project if the reduced development intensity results in shorter building heights, but it is unknown if this would occur. However, overall impacts to birds would be reduced (Impact BIO-5). Impacts related to tree removal would be the same

as the Proposed Project because the development footprint of the Reduced Intensity Alternative would be the same. However, the reduced building size would substantially reduce the potential for bird strikes but would still be subject to bird safe design requirements of the Menlo Park Municipal Code because new buildings would be constructed (Impact BIO-6). Overall biological resources impacts would be reduced compared to the Proposed Project but could still be significant. The same mitigation would apply as for the Proposed Project for Impact BIO-2, Impact BIO-3, Impact BIO-4, Impact BIO-5, and Impact BIO-6 (LTS/M). As a result, cumulative biological resources impacts would also be slightly reduced (Impact C-BIO-1; LTS/M).

Geology and Soils

Similar development would occur under the Reduced Intensity Alternative, though with less floor space and potentially less height. Similar design measures would be considered for the Reduced Intensity Alternative as for the Proposed Project. As a result, seismic hazards impacts would be similar to the Proposed Project (Impact GS-1). Soil disturbance, runoff impacts, and soil and geologic stability impacts would be similar because the development footprint of the Reduced Intensity Alternative would be the same (Impact GS-2, Impact GS-3, Impact GS-4). The amount of excavation and ground disturbance would be similar to the Proposed Project, which would result in similar impacts for the potential to uncover and damage paleontological resources under the Reduced Intensity Alternative (Impact GS-5). Overall geological resources impacts would be similar to the Proposed Project, and paleontological resources impacts could still be significant. The same mitigation would apply as for the Proposed Project for Impact GS-5 (LTS/M). As a result, cumulative geology and soils impacts would also be slightly reduced (Impact C-GS-1; LTS).

Hydrology and Water Quality

The Reduced Intensity Alternative would largely have the same footprint as the Proposed Project and so would present a similar potential for sedimentation and contamination of surface water and groundwater during as well as similar impacts related to groundwater and drainage (Impact HY-1, Impact HY-2, Impact HY-3, Impact HY-5). Flood exposure would be similar to the Proposed Project because the same habitable buildings would still be constructed under this alternative as under the Proposed Project (Impact HY-4). Overall hydrology and water quality impacts would be similar to the Proposed Project and would still be significant. The same mitigation would apply as for the Proposed Project for Impact HY-1 and Impact HY-5 (LTS/M). As a result, cumulative hydrology and water quality impacts would also be slightly reduced (Impact C-HY-1; LTS).

Hazards and Hazardous Materials

The Reduced Intensity Alternative would reduce the total amount of construction occurring on the Project Site, which could slightly reduce the use of hazardous materials on the site during construction activities and for maintenance during buildout (Impact HAZ-1). Impacts related to potential accidents may likewise be slightly reduced due to the reduction in construction activities under the Reduced Intensity Alternative (Impact HAZ-2). The same schools would be within 0.25 mile of the Reduced Intensity Alternative as the Proposed Project, but the potential impact may be slightly reduced due to more limited development (Impact HAZ-3). Impacts to emergency access would be similar to the Proposed Project (Impact HAZ-4). Overall hazards and hazardous materials impacts would be slightly reduced compared to the Proposed Project, but hazardous materials impacts could still be significant. The same mitigation would apply as for the Proposed Project for Impact HAZ-2 and Impact HAZ-3 (LTS/M). As a result, cumulative hazards and hazardous materials impacts would also be slightly reduced (Impact C-HAZ-1; LTS/M).

Population and Housing

Under the Reduced Intensity Alternative, there would be less development than under the Proposed Project. As a result, impacts related to population growth would be reduced compared to the Proposed Project (Impact POP-1). Demolition of current uses on the Project Site would be the same as for the Proposed Project (Impact POP-2). Overall impacts would be reduced compared to the Proposed Project's impacts (LTS). As a result, cumulative impacts would also be reduced (Impact C-POP-1; LTS).

Public Services

Under the Reduced Intensity Alternative, the buildout of residential and non-residential land uses would be reduced compared to the Proposed Project. As a result, the demand for fire protection services, police services, school facilities, parks and recreational facilities, and library facilities would be reduced compared to the Proposed Project (Impact PS-1, Impact PS-2, Impact PS-3, Impact PS-4, Impact PS-5). Impacts would be less than the Proposed Project's impacts (LTS). As a result, cumulative impacts would also be reduced (Impact C-PS-1; LTS).

Utilities and Service Systems

Under the Reduced Intensity Alternative, buildout of residential and non-residential land uses would be reduced compared to the Proposed Project. As a result, the demand for water, wastewater treatment, stormwater drainage, electric power, natural gas, telecommunications, and solid waste services would be reduced (Impact UT-1, Impact UT-2, Impact UT-3, Impact UT-4, Impact UT-5). Impacts would be less than the Proposed Project's impacts (LTS). As a result, cumulative impacts would also be reduced (Impact C-UT-1, Impact C-UT-2, Impact C-UT-3, Impact C-UT-4, Impact C-UT-5, Impact C-UT-6; LTS).

6.7 Comparison of Impacts

Table 6-11 summarizes the comparison of alternatives analysis and determinations described in Section *6.6, Impact Assessment*.

6.8 Environmentally Superior Alternative

As shown in Table 6-12, below, the No Project Alternative would be the environmentally superior alternative. State CEQA Guidelines Section 15126.6(e)(2) states that when the no-project alternative is identified as the environmentally superior alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives. Selection of an environmentally superior alternative necessitates weighing of numerous environmental considerations. No other alternative is environmentally superior for all resource areas, as shown in Table 6-12, and so the City must balance environmental aspects in determining which alternative is the environmentally superior alternative. This also includes consideration of other factors, as explained below.

Table 6-12. Comparison of Impacts to Proposed Project among Project Alternatives

		No Project Alternative	No Willow Road Tunnel Alternative	Base Level Intensity Alternative	Reduced Intensity Alternative
Environmental Issue	**Project**	**Significance (Comparison)**	**Significance (comparison)**	**Significance (Comparison)**	**Significance (Comparison)**
Land Use					
Impact LU-1	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact C-LU-1	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Aesthetics					
Impact AES-1	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact AES-2	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact AES-3	LTS	NI (less)	LTS (less)	LTS (less)	LTS (less)
Impact C-AES-1	LTS	NI (less)	LTS (less)	LTS (less)	LTS (less)
Transportation					
Impact TR-1	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact TR-2	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Impact TR-3	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Impact TR-4	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact C-TR-1	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact C-TR-2	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Impact C-TR-3	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Impact C-TR-4	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Air Quality					
Impact AQ-1	SU	NI (less)	SU (less)	LTS/M (less)	LTS/M (less)
Impact AQ-2	SU	NI (less)	SU (less)	LTS/M (less)	LTS/M (less)
Impact AQ-3	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Impact AQ-4	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Impact C-AQ-1	SU	NI (less)	SU (less)	LTS/M (less)	LTS/M (less)

Environmental Issue	Project	No Project Alternative Significance (Comparison)	No Willow Road Tunnel Alternative Significance (comparison)	Base Level Intensity Alternative Significance (Comparison)	Reduced Intensity Alternative Significance (Comparison)
Energy					
Impact EN-1	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact EN-2	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact C-EN-1	LTS	NI (less)	LTS (less)	LTS (less)	LTS (less)
Greenhouse Gas Emissions					
Impact GHG-1a	LTS	NI (less)	LTS (less)	LTS (less)	LTS (less)
Impact GHG-1b	LTS/M	NI (less)	LTS/M (similar)	LTS/M (less)	LTS/M (less)
Impact GHG-2	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Noise					
Impact NOI-1	SU	NI (less)	SU (less)	SU (less)	SU (less)
Impact NOI-2	SU	NI (less)	SU (less)	SU (similar)	SU (similar)
Impact NOI-3	NI	NI (similar)	NI (similar)	NI (similar)	NI (similar)
Impact-C-NOI-1	SU	NI (less)	SU (less)	SU (less)	SU (less)
Cultural Resources					
Impact CR-1	LTS/M	NI (less)	NI (less)	LTS/M (less)	LTS/M (less)
Impact CR-2	LTS/M	NI (less)	LTS/M (less)	LTS/M (less)	LTS/M (less)
Impact CR-3	LTS/M	NI (less)	LTS/M (less)	LTS/M (less)	LTS/M (less)
Impact CR-4	LTS/M	NI (less)	LTS/M (less)	LTS/M (less)	LTS/M (less)
Impact C-CR-1	LTS	NI (less)	LTS (less)	LTS (less)	LTS (less)
Biological Resources					
Impact BIO-1	LTS	NI (less)	LTS (less)	LTS (less)	LTS (less)
Impact BIO-2	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Impact BIO-3	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Impact BIO-4	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)
Impact BIO-5	LTS/M	NI (less)	LTS/M (similar)	LTS/M (less)	LTS/M (less)
Impact BIO-6	LTS/M	NI (less)	LTS/M (similar)	LTS/M (less)	LTS/M (less)
Impact C-BIO-1	LTS/M	NI (less)	LTS/M (similar)	LTS/M (similar)	LTS/M (similar)

Environmental Issue	Project	No Project Alternative Significance (Comparison)	No Willow Road Tunnel Alternative Significance (comparison)	Base Level Intensity Alternative Significance (Comparison)	Reduced Intensity Alternative Significance (Comparison)
Geology and Soils					
Impact GS-1	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact GS-2	LTS	NI (less)	LTS (less)	LTS (similar)	LTS (similar)
Impact GS-3	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact GS-4	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact GS-5	LTS/M	NI (less)	LTS/M (less)	LTS/M (less)	LTS/M (less)
Impact C-GS-1	LTS/M	NI (less)	LTS/M (less)	LTS/M (less)	LTS/M (less)
Hydrology and Water Quality					
Impact HY-1	LTS/M	NI (less)	LTS/M (less)	LTS/M (similar)	LTS/M (similar)
Impact HY-2	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact HY-3	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact HY-4	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact HY-5	LTS/M	NI (less)	LTS/M (less)	LTS/M (similar)	LTS/M (similar)
Impact C-HY-1	LTS	NI (less)	LTS (less)	LTS (less)	LTS (less)
Hazards and Hazardous Materials					
Impact HAZ-1	LTS	NI (less)	LTS (less)	LTS (less)	LTS (less)
Impact HAZ-2	LTS/M	NI (less)	LTS/M (less)	LTS/M (less)	LTS/M (less)
Impact HAZ-3	LTS/M	NI (less)	LTS (less)	LTS (less)	LTS (less)
Impact HAZ-4	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact C-HAZ-1	LTS/M	NI (less)	LTS/M (less)	LTS/M (less)	LTS/M (less)
Population and Housing					
Impact POP-1	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact POP-2	LTS	NI (less)	LTS (similar)	LTS (similar)	LTS (similar)
Impact C-POP-1	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)

Environmental Issue	Project	No Project Alternative Significance (Comparison)	No Willow Road Tunnel Alternative Significance (comparison)	Base Level Intensity Alternative Significance (Comparison)	Reduced Intensity Alternative Significance (Comparison)
Public Services					
Impact PS-1	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact PS-2	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact PS-3	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact PS-4	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact PS-5	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact C-PS-1	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Utilities and Service Systems					
Impact UT-1	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact UT-2	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact UT-3	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact UT-4	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact UT-5	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact C-UT-1	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact C-UT-2	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact C-UT-3	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact C-UT-4	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact C-UT-5	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)
Impact C-UT-6	LTS	NI (less)	LTS (similar)	LTS (less)	LTS (less)

Notes:

Project-Level Impacts

NI = No Impact; LTS = Less than Significant; SU = Significant Unavoidable; LTS/M = Less than Significant with Mitigation

Cumulative Impacts

NI = No Cumulative Impact; LTS = Less than Significant Cumulative Impact; LTS/M = Less than Significant Cumulative Impact with Mitigation;

Whereas the No Willow Road Tunnel Alternative largely reduces impacts that are temporary as a result of construction and excavation, the Base Level Development Alternative and Reduced Intensity Alternative result in reductions in impacts during both construction and operation.

The No Willow Road Tunnel Alternative reduces noise and vibration impacts during construction, as well as the criteria air pollutant emissions, energy consumption, and greenhouse gas emissions from activities such as heavy equipment operation and excavation. It reduces the potential for damage of cultural resources and reduces hydrology and hazardous materials impacts during construction of the Willow Road Tunnel.

The Base Level Alternative and Reduced Intensity Alternative also reduce construction impacts as does the No Willow Road Tunnel Alternative because the development would have smaller buildings under those alternatives. However, over the long term, these alternatives would reduce impacts associated with operation of the buildings, such as criteria air pollutant emissions, energy consumption, noise, and greenhouse gas emissions.

Menlo Park's 2030 Climate Action Plan (Menlo Park 2021) sets a goal for the City of Menlo Park to reduce its VMT by 25 percent or an amount recommended by the Complete Streets Commission as one of six actions to eventually reach carbon neutrality. This emphasizes the importance of reducing VMT in Menlo Park. A reduction in VMT is also expressed in the objectives of the Proposed Project, through objectives such as to reduce VMT by locating residential, commercial, and office uses adjacent to each other; provide multiple transportation options and a robust TDM to reduce traffic congestion, air quality impacts, and greenhouse impacts; and develop an integrated, highly connected office campus that accommodates anticipated worker space demands and provides flexible workspace at densities that support various transportation options.

Based on the latest citywide travel demand model, the regional average office VMT is 15.9 and the regional average residential VMT is 13.1. Office VMT for the Proposed Project would be 13.6, while residential VMT would be subject to mitigation to meet the significance threshold of 11.2. Mitigation Measure TRA-1 would require that residential land uses on the Project site reduce trips through a TDM Plan achieving a 36 percent trip reduction from gross ITE trip generation rates.

The Proposed Project and all three alternatives would generate similar VMT per capita. However, there would be differences in total VMT. The No Willow Road Tunnel Alternative would generate similar total VMT at the Project Site to the Proposed Project because it would have the same square footage of non-residential and residential development. The Reduced Intensity Alternative would generate less VMT than the Proposed Project at the Project Site because there would be fewer total residents and employees. The Base Level Development Alternative would generate even less VMT at the Project Site because there would be even fewer total residents and employees. However, the Proposed Project is designed to reduce VMT to below the regional average, such that if office uses and residential uses were developed elsewhere, the VMT reduction benefits at the Project Site would not be realized. The Base Level and Reduced Intensity Alternatives would also reduce VMT to below the regional average. The No Willow Road Tunnel Alternative, with the maximum residential and non-residential buildout at the Project Site among the alternatives, would maximize development and total VMT reduction at the Project Site over the long term while also reducing several construction impacts. However, the No Willow Road Tunnel Alternative would not reduce any of the Proposed Project's significant and unavoidable impacts to a less-than-significant level.. Therefore, the No Willow Road Tunnel Alternative is not the environmentally superior alternative.

None of the alternatives (other than the No Project Alternative) would reduce the Proposed Project's significant and unavoidable construction noise and vibration impacts to a less-than-significant level. The Base Level Development Alternative and the Reduced Intensity Alternative would reduce the Proposed Project's project-level and cumulative operational air quality impacts related to ROG emissions to a less-than-significant level with mitigation. The Base Level Development Alternative would result in the greatest reduction (19 net lbs/day of ROG compared to 53.6 net lbs/day under the Reduced Intensity Alternative). Therefore, the Base Level Development Alternative is the environmentally superior alternative.

Chapter 7
Report Preparers

7.1 Lead Agency

City of Menlo Park

- Kyle Perata, Acting Planning Manager
- Deanna Chow, Assistant Community Development Director
- Kristiann Choy, Senior Transportation Engineer
- Theresa Avedian, Senior Civil Engineer
- Fariborz Heydari, Senior Civil Engineer
- Nikki Nagaya, Public Works Director
- Nira Doherty, City Attorney, Burke, Williams & Sorensen, LLP
- Anna Shimko, Partner, Burke, Williams & Sorensen, LLP (City Attorney's Office)
- Leila Moshref-Danesh, Senior Associate, Burke, Williams & Sorensen, LLP (City Attorney's Office)

7.2 Consultants

- ICF, EIR Prime Consultant
- Hexagon Transportation Consultants, Transportation Consultants
- Keyser Marston Associates, Housing Needs Assessment Consultant