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.

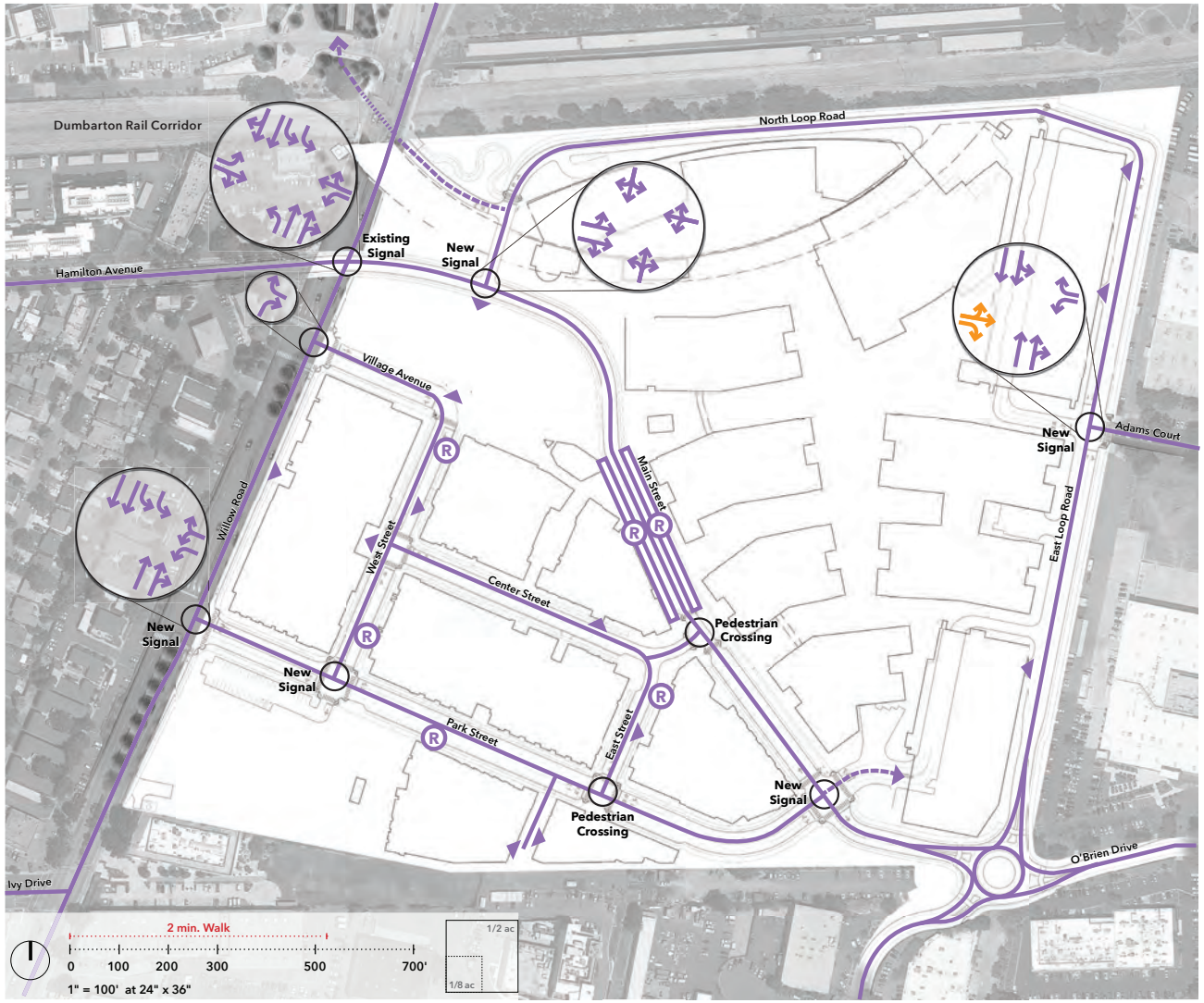
To accommodate the additional unit count, floor area ratio (FAR), density, and height needed to provide the additional units, this variant would require one or a combination of the following:

- 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

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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.

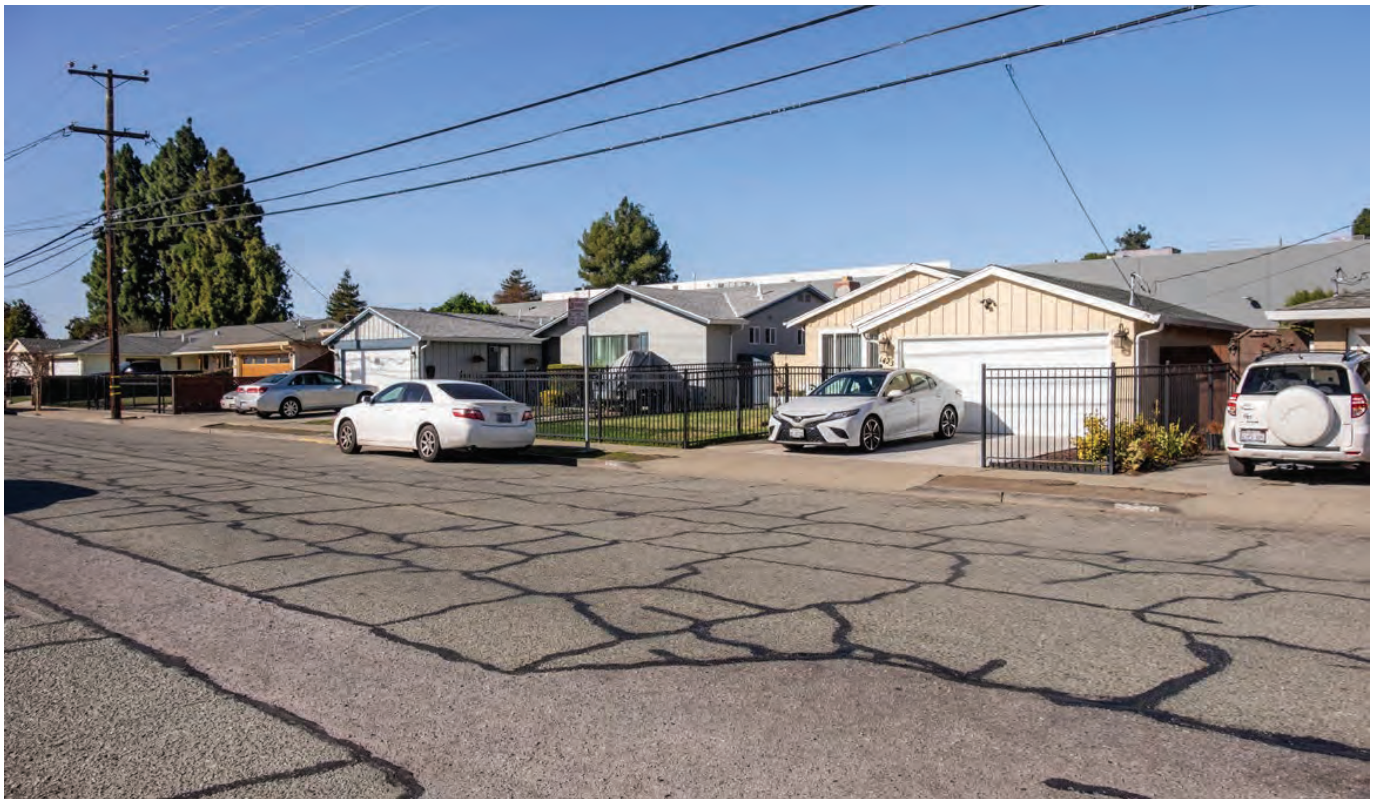
Viewpoint 1: Kavanaugh Drive and Clarence Court Looking Northwest toward the Project Site

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.

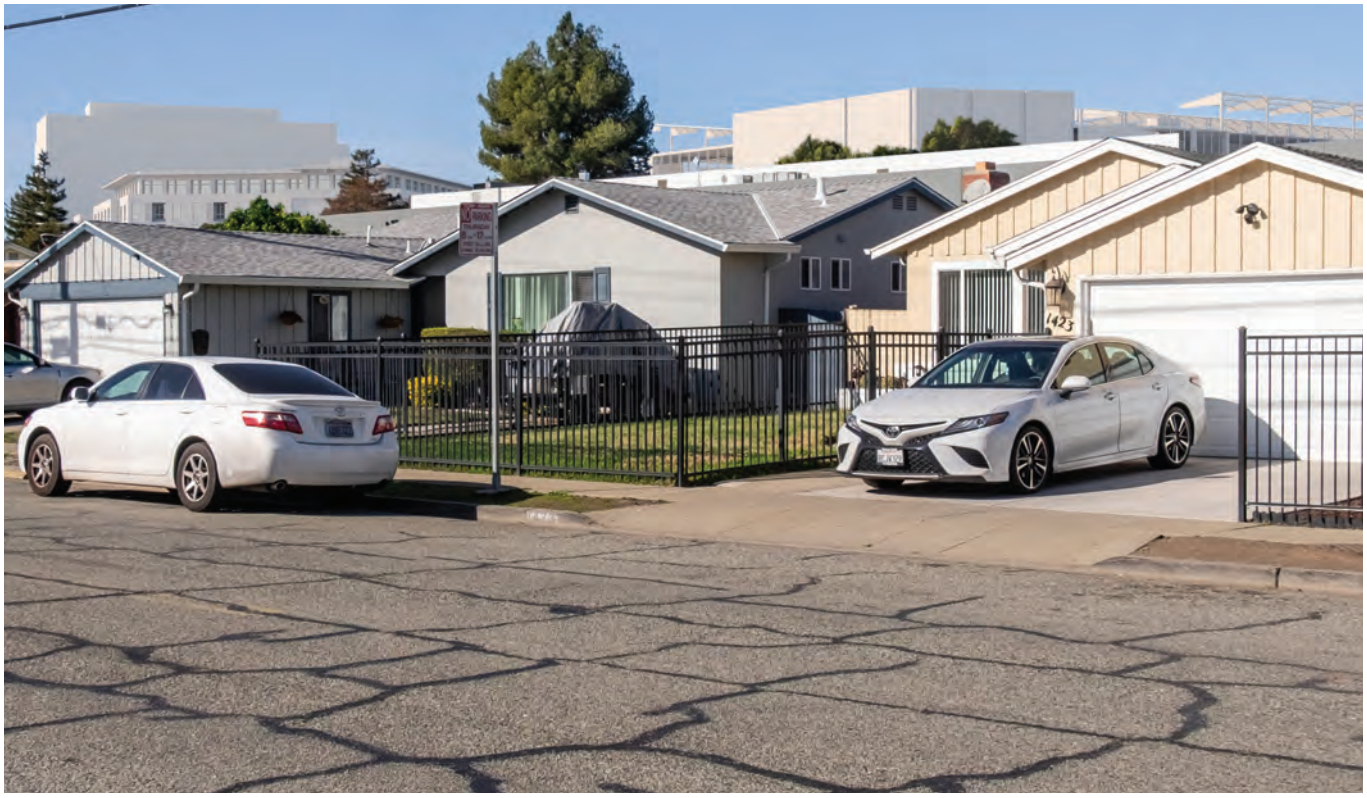
As shown in Figure 5-2b, the foreground and background views would remain the same, but the middleground views would be altered. As with the Proposed Project, the South Garage on the southeast corner of the main Project Site, depicted with an illustrative height of approximately 86 feet, would be visible 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.



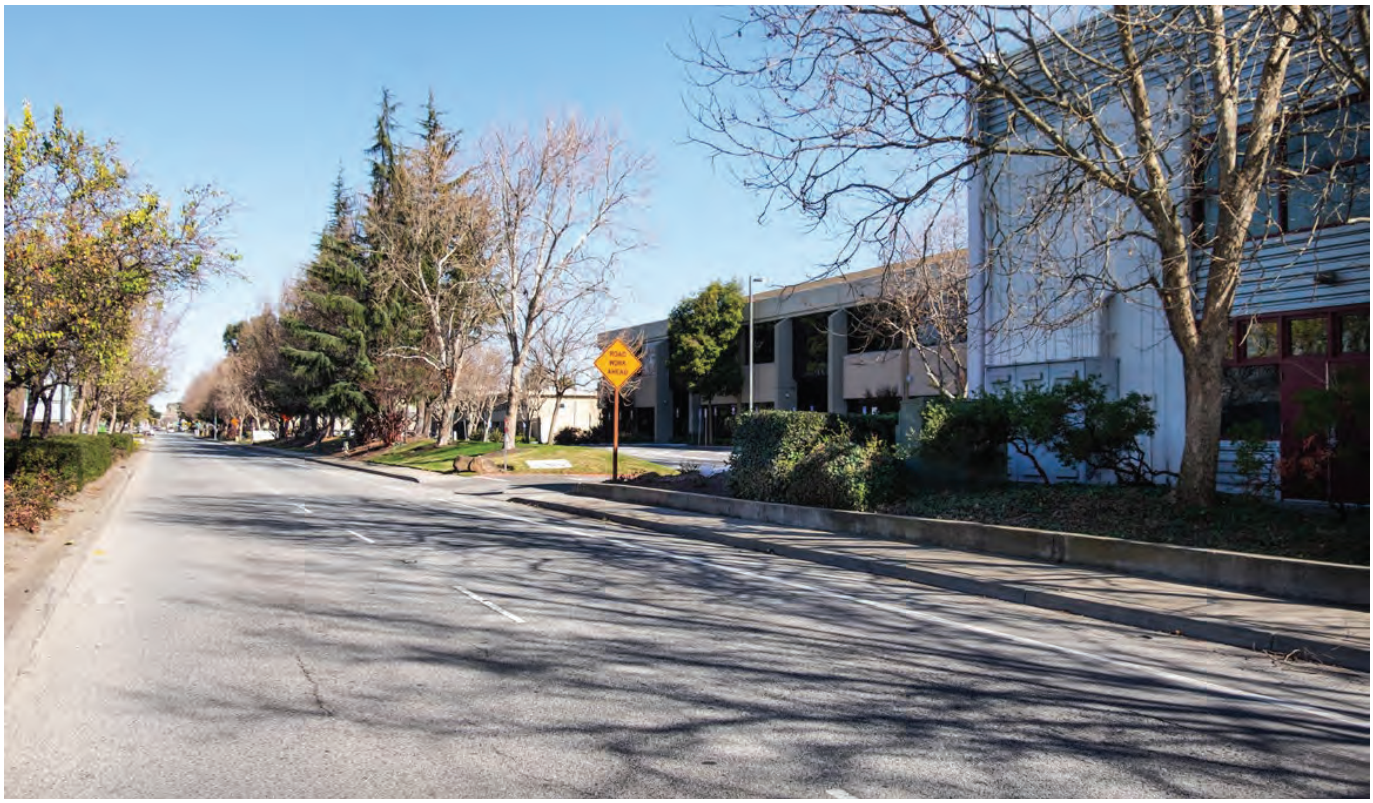
a. Existing



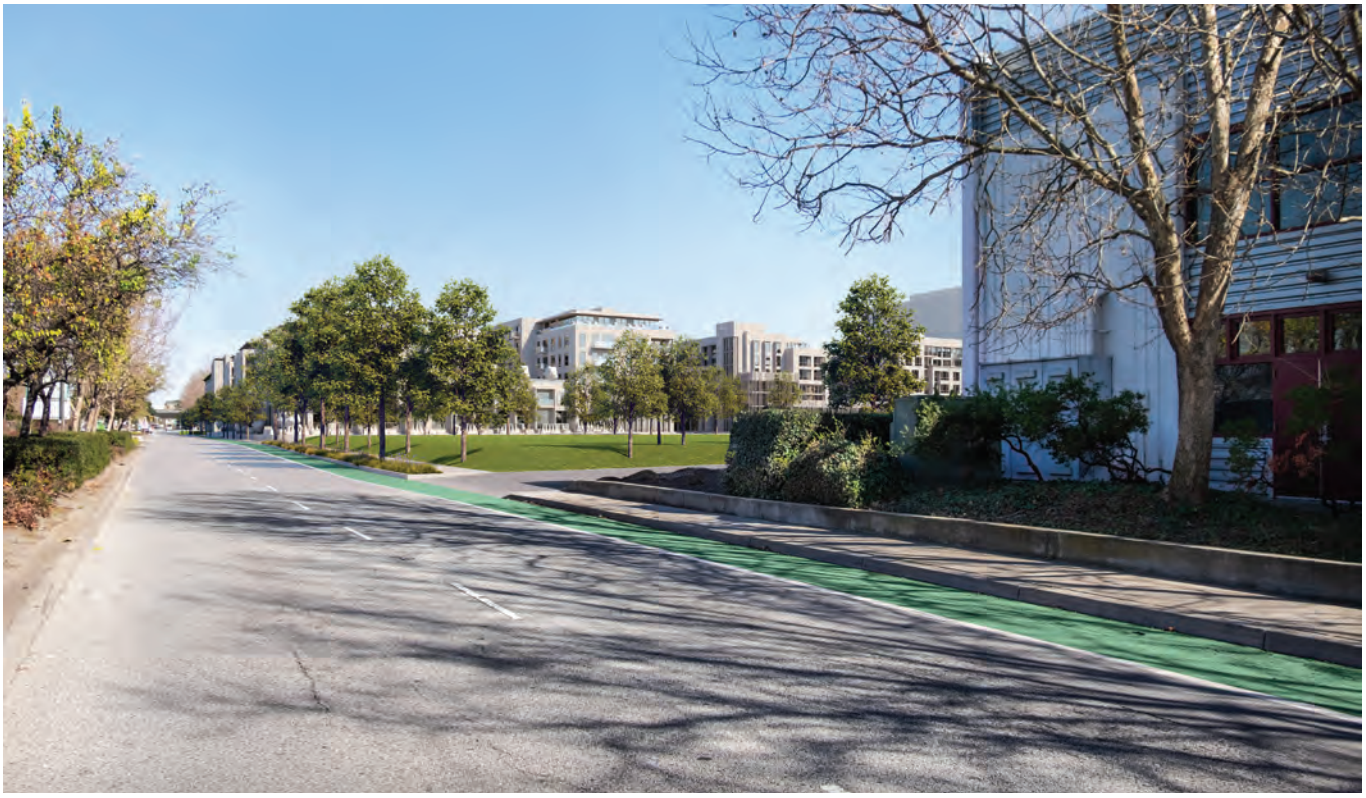
b. Proposed

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.