STAFF REPORT

City Council
Meeting Date: **1/28/2020**
Staff Report Number: **20-018-CC**

Regular Business: **Certify the project environmental documents, approve the 30 percent project plans, and authorize the city manager to enter into all necessary agreements and amendments with the Peninsula Joint Powers Board (Caltrain) for the Middle Avenue pedestrian and bicycle rail crossing project**

Recommendation

Staff recommends that the City Council take the following actions related to the Middle Avenue pedestrian and bicycle rail crossing project:

1. Certify the project environmental document, an Addendum to the El Camino Real and Downtown Specific Plan Environmental Impact Report
2. Approve the 30 percent project plans
3. Authorize the City Manager to enter into all necessary agreements and amendments with the Peninsula Joint Powers Board (Caltrain) within the City Council-approved project budget

Policy Issues

The City Council identified the Middle Avenue pedestrian and bicycle rail crossing project (project) as a high priority project in the 2019 work plan on March 12, 2019. The project is consistent with policies stated in the 2016 General Plan Circulation Element, the El Camino Real and Downtown Specific Plan and is included in the City's capital improvement program (CIP). These policies seek to maintain a safe, efficient, attractive, user-friendly circulation system that promotes a healthy, safe and active community and quality of life throughout Menlo Park.

City Council action is required to approve the plans and certify the environmental document needed to complete this phase of work and allow the City to be eligible for reimbursement of grant funds for the project.

Background

On July 20, 2016, the San Mateo County Transportation Authority (TA) programmed funds for the project from the Measure A Grade Pedestrian and Bicycle Program in the amount of $490,000 with a 30 percent local match of $210,000 for the project. The scope of work results in the completion of the preliminary engineering & environmental clearance phases.

On March 14, 2017, the City Council authorized the City Manager to enter into an agreement with AECOM for the project and authorized the City Manager to enter into all necessary agreements and contract amendments without changes to the budget for this project. The consultant's scope of work consisted of preparation of the 30 percent design documents, environmental analysis and community engagement.

The project began in 2017 and the first community meeting was held on May 4, 2017, to present high-level options for an over and undercrossing of the railroad tracks near Middle Avenue. The feedback gathered at that meeting showed community consensus for an undercrossing, and staff proceeded to refine the undercrossing alternatives, before placing the project on hold to address other urgent priorities at the time including development proposals for the Center for Academic Medicine and General Use Permit update at Stanford University and construction at the US 101/Willow Road interchange.

In early 2019, the City Council's identified this project as a high priority, and staff resumed work and re-initiated coordination with Caltrain on design and construction options. At that time, construction to electrify Caltrain service was underway. Electrification construction generally consists of the installation of poles, foundations, and catenary wires along the existing railroad tracks. As summarized in staff reports to the City Council and Rail Subcommittee meetings in April 2019, staff explored advancing the tunnel design and utility investigations to attempt to construct the undercrossing in phases starting in November 2019, before Caltrain's installation of catenary wires in Menlo Park which was expected in early 2020 at the time. Due to the time constraints, necessary permissions, available resources, required utility work and permit acquisitions, the idea of phasing tunnel construction was not feasible; however, these efforts are still applicable to a non-phased approach and will continue to help meet the targeted project completion schedule. Ultimately, opening the crossing to the public by completion of Middle Plaza development (Stanford's project at 200-500 El Camino Real) is still the project's goal.

A second project community meeting was held on May 13, 2019, to discuss three (3) undercrossing concepts for the project. Approximately 25 people attended the meeting and provided feedback on the preferred crossing concept, preference of stair and ramp types, safety and security concerns, clarifications on designs and coordination with other projects. This feedback was incorporated into a preferred alternative.

On August 27, 2019, the City Council unanimously passed a motion to select concept 3 (Attachment A) as the preferred alternative for the Middle Avenue pedestrian and bicycle rail crossing. The project is an undercrossing approximately 10-12 feet below the street/plaza elevation that aligns with a proposed raised crosswalk on Alma Street and is offset from the plaza at 500 El Camino Real (Middle Plaza). The crossing location is outside of the existing Caltrain crossover tracks, and therefore, was required by Caltrain for constructability and maintenance reasons. Following City Council's selection of a preferred alternative, staff advanced the engineering design and took steps to complete the scope of work as funded by the TA grant, which must be completed by February 2020, as described further below.

Analysis

Environmental document and 30 percent plans, specifications and cost estimates

Upon selection of concept 3 as the preferred alternative by the City Council, the project team proceeded with finalizing the environmental studies (Attachment B) and the 30 percent design plans (Attachment C) and has now completed these tasks. The environmental study prepared is in the form of an Addendum to the Menlo Park El Camino Real and Downtown Specific Plan Environmental Impact Report. The addendum analyzed potential impacts from the implementation of the project as provided under Section 15164 of the California Environmental Quality Act (CEQA) guidelines. With this Addendum, the City has determined that the project would not have a significant effect on the environment. The design measures, standard construction measures, and mitigation measures already adopted in the Menlo Park El Camino Real and Downtown Specific Plan EIR would reduce any impacts to a less-than-significant level.

The 30 percent plans show the project layout, utility installation and relocations, potential tree impacts and preliminary construction details. The project is expected to remove approximately 50 trees in the project area, and staff plans to post the potentially impacted heritage trees for removal later this spring. Trees would be replaced according to City requirements in the heritage tree ordinance and a conceptual planting plan would be developed for the project prior to removal. The plans would continue to be refined before the project being constructed and tree impacts will be minimized to the extent feasible.

Staff recommends that City Council approve the 30 percent completed plans and certify the project's environmental document.

Project delivery method

Staff recommends delivering the project through a design-build (D-B) contracting method using a single contract with a qualified designer/builder, rather than the traditional design-bid-build contract using different designer and contractor. With D-B contracting, the contractor can start earlier, reducing the overall project delivery time, from inception to completion. Also, D-B contracting has the potential to reduce overall project cost because the contractor performing the design has a better understanding of the scope of work and potential various alternatives, thus providing a design that is more efficient and ultimately less expensive to construct. Given construction windows for this project are limited and significant consequences to Caltrain service operations exist if unexpected issues arise that impact timely completion, staff recommends that a D-B approach would provide better project delivery. However, a detailed Request for Proposal, including all technical data must be prepared to ensure receipt of a competitive and desirable proposal for the Project. This is achievable since the design work is 30 percent complete and the construction scope of work is well-defined.

Staff has discussed the proposed D-B process with the City Attorney's office and they have concurred using this approach is suitable for this project. Staff will bring a recommended D-B contract to the City Council for award once a qualified design/builder is identified, expected in mid to late-2020.

Caltrain agreement

As described above, as part of Caltrain's electrification, poles, foundations and catenary wires will be installed along the railroad tracks; construction of this work is underway. The undercrossing location was identified in collaboration with Caltrain to avoid crossover equipment that allows trains to change tracks. Despite coordination on the Middle project with electrification since 2015, Caltrain has informed staff that two poles and foundations are proposed that would conflict with location of the Middle Avenue undercrossing and an existing Menlo Park Municipal Water line. Consequently, these poles need to be relocated to accommodate the undercrossing. Caltrain estimated the cost of the relocation of these poles as well as installation of a new pole to maintain the structurally-required spacing between poles at $172,000. Caltrain requires the City to fund the portion of this work related to the undercrossing; Caltrain would fund the portion of relocation costs associated with the presence of the existing water line. The amount to relocate the poles now is anticipated to be less than the increased cost if the work were deferred until the undercrossing construction would occur. Staff recommends that the City Council authorize the City Manager to enter into an agreement with the Peninsula Joint Powers Board (Caltrain) for this work. The agreement may be amended in the future as part of negotiations with Caltrain to construct ramps within their right of way, Caltrain's construction support, utility relocations and allowable work windows.

Next steps

The key milestones for the project are summarized in Table 1 below.

Table 1: Key project milestones	
Coordination with Caltrain	On-going since 2015
Negotiations to acquire right of way	On-going since August 20, 2019
City Council selects preferred crossing tunnel alignment and layout	August 27, 2019
Completion of environmental documents and 30% design plans (grant scope)	January 28, 2020
Complete design and obtain heritage tree removal permits	Summer 2020
Identify funds for construction	Fiscal year 2020-21 budget
Obtain other regulatory agency permits (Caltrain, CPUC, etc.)	Mid-2021
Construction	Mid-2021 to mid-2022
Goal for undercrossing opening	Concurrent with Middle Plaza occupancy, mid-2022

The above schedule to complete the project is contingent upon progress for Caltrain's electrification project. Caltrain initially indicated no construction work may be allowed within its corridor while its contractor is working on the electrification project. Staff will continue coordination with Caltrain to complete the project as soon as reasonably possible.

Impact on City Resources

The City Council's approved budget for fiscal year 2019-20 includes $6.5 million in the Capital Improvement Program to advance this project. Through the Measure A pedestrian and bicycle program grant awarded for this project, the TA will reimburse the City up to $490,000. As part of the 500 El Camino Real (Middle Plaza) development agreement, Stanford is required to contribute $5 million toward the project.

The project is anticipated to have a construction cost estimate in the range of $15-20 million, including right of way acquisition and utility relocations. The cost of the Caltrain agreement described above is within in this total project cost.

For the remainder of the final design and construction costs, the City is exploring a combination of strategies to fund the project, including reducing the cost of the project through value engineering, contributing local funds from the City general fund and transportation impact fee program, and tracking grant opportunities that could supplement local City contributions to keep the project on the schedule above. Staff expects to need to identify remaining funding needs through development of the fiscal year 2020-21 budget and capital improvement program development to keep the project on schedule.

Table 2: Project budget	
Preliminary project cost	$15-20m
SMCTA grant	$0.490m
City contribution (budgeted)	$6.5m
Stanford University required contribution	$5m
Funds needed	$8.5m[1]
[1] Assuming $20m project budget.	

Environmental Review

An addendum (Attachment B) to the Menlo Park El Camino Real and downtown specific plan Environmental Impact Report (Specific Plan EIR) has been prepared to analyze potential impacts from the implementation of the Middle Avenue pedestrian and bicycle rail crossing project as provided for under Section 15164 of the California Environmental Quality Act (CEQA) Guidelines. With this Addendum, the City has determined that the project would not have a significant effect on the environment. The design measures, standard construction measures, and mitigation measures already adopted in the Specific Plan EIR would reduce any impacts to less than significant. Therefore, this addendum, which considers the incremental effects of the project, is consistent with the Specific Plan EIR which was adopted by the City of Menlo Park in 2012.

Public Notice

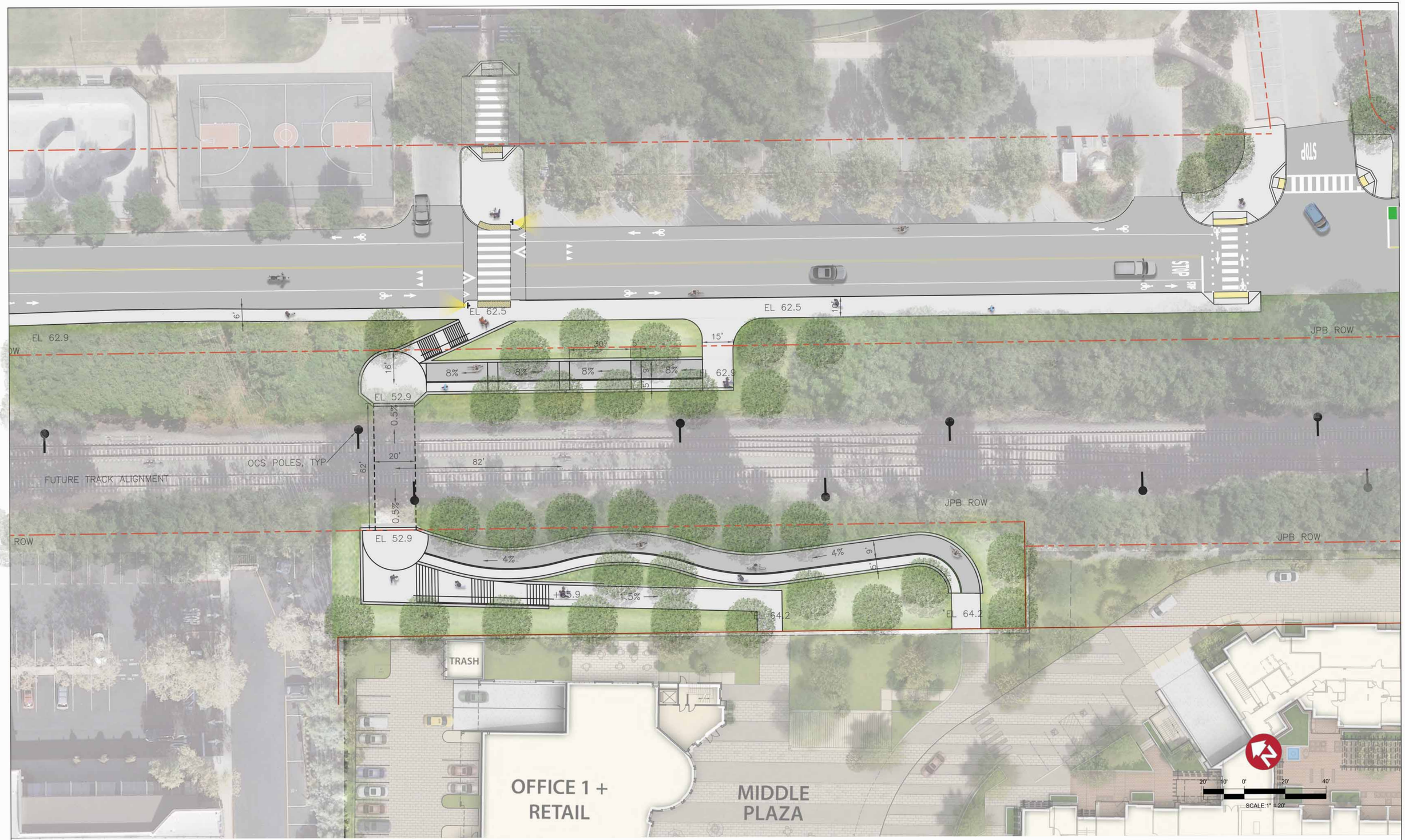
Public notification was achieved by posting the agenda, with the agenda items being listed, at least 72 hours prior to the meeting. Additionally, an email notification was sent to the Public Works projects interest list to notify the public about this agenda item.

Attachments

A. Preferred Design Alternative
B. Project Environmental Documents
C. 30 percent Complete Project Plans

Report prepared by:
Rene Baile, Associate Transportation Engineer
Morad Fakhrai, Senior Project Manager

Report reviewed by:
Nicole H. Nagaya, Interim Public Works Director



DRAFT

Middle Avenue Bicycle & Pedestrian Rail Crossing

CONCEPT 3

City of Menlo Park

Middle Avenue Pedestrian & Bicycle Rail Crossing Study Project

Addendum to the Menlo Park El Camino Real/Downtown Specific Plan Environmental Impact Report

Prepared for

City of Menlo Park

November 2019

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City of Menlo Park
Middle Avenue Pedestrian & Bicycle Rail Crossing Study Project
Environmental Impact Report Addendum

1. Introduction

The City of Menlo Park (City) has prepared an Addendum to the Menlo Park El Camino Real/Downtown Specific Plan Environmental Impact Report (Specific Plan EIR) to analyze potential impacts from the implementation of the Middle Avenue Pedestrian & Bicycle Rail Crossing Study Project (project) as provided for under Section 15164 of the California Environmental Quality Act (CEQA) Guidelines.

1.1 Background

The City certified the EIR and adopted the Menlo Park El Camino Real/Downtown Specific Plan (Specific Plan or Plan) in June 2012. The Specific Plan EIR analyzed the physical and land use changes that could occur with adoption of the Specific Plan (and the goals, objectives, development standards, design guidelines therein), and maximum potential development that could occur consistent with the Specific Plan. The Plan Area is approximately 130 acres and is composed of the El Camino Real corridor, the downtown area (Santa Cruz Avenue between El Camino Real and University Drive), and the rail station area on Alma Street between Oak Grove and Ravenswood Avenues. The Specific Plan establishes the intensity and character of commercial and residential development, the location and character of streetscape and public space improvements, and the circulation pattern and parking strategy to support development and east-west connectivity. The Specific Plan established guidelines for an expansive promenade along El Camino Real and several east-west linkages, including a pedestrian/bicycle connection across the rail tracks between Middle Avenue and Burgess Park.

One of the improvements anticipated in the Specific Plan is the development of a grade-separated pedestrian/bicycle linkage across the railroad tracks to Burgess Park and Alma Street at Middle Avenue, as shown in Figure 1 (Plan Area). The new linkage would serve as a connection between the western neighborhoods with Burgess Park and neighborhoods to the east (referred to as the "Burgess Park Linkage" in the EIR and Specific Plan). The Burgess Park Linkage as described in the EIR and Specific Plan is the proposed Middle Avenue Pedestrian & Bicycle Rail Crossing Study Project (hereafter, the project).

1.2 Requirements for Preparation of an Addendum

CEQA Guidelines (Section 15164) describes the conditions under which an addendum to a previously adopted EIR or negative declaration may be prepared. Section 15164(a) states, "[t]he lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred."

Section 15162(a) of the CEQA Guidelines requires preparation of a subsequent EIR or negative declaration under the following circumstances:

> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative. CEQA Guidelines § 15162.

If none of the aforementioned conditions have been met, then preparation of a Subsequent or Supplemental EIR is not required. Rather, the Lead Agency or Responsible Agency may:

- Decide that no further environmental documentation is necessary; or,
- Require that an addendum be prepared.

1.3 Decision to Prepare an Addendum

The City evaluated the Specific Plan EIR and found that its analysis covers the geographic area of the project and any potentially significant effects would be avoided or mitigated. In accordance with CEQA Sections 15162 and 15163, the project-specific impacts have been assessed in this document to determine if the project would have any environmental impacts beyond those analyzed in the Specific Plan EIR.

As shown in the analysis below, the project would not result in any new significant impacts not discussed in the Specific Plan EIR, or any substantial increase in the severity of impacts identified in the EIR. Therefore, no supplemental analysis is required for the project. This addendum sets forth the analysis in support of that conclusion.

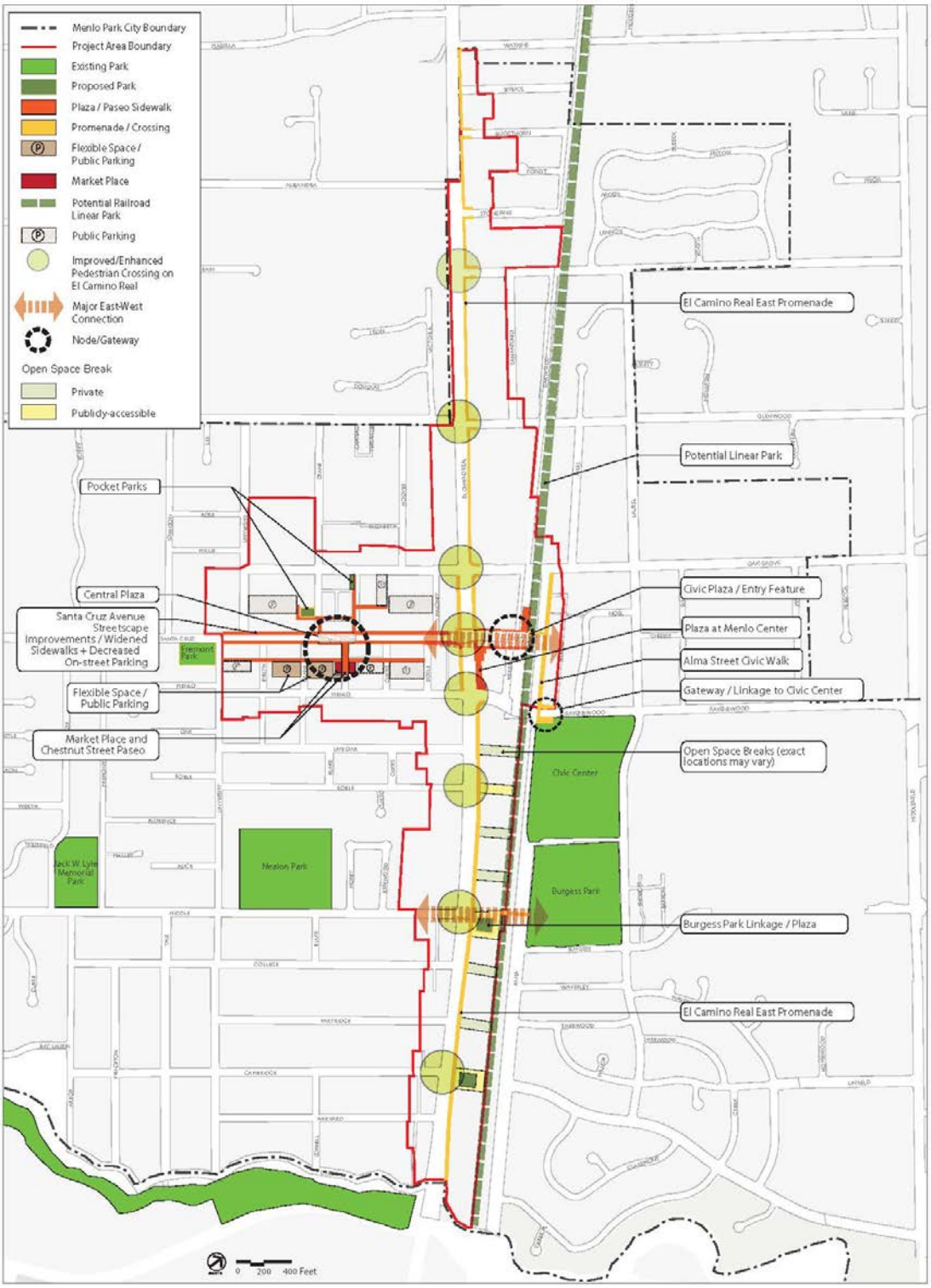

Figure 1. Plan Area[1]

[1] Figure 1 is from the Specific Plan EIR, Figure 3-3: Public Space Plan (City of Menlo Park 2012a).

2. Project Description

2.1 Background

The City of Menlo Park is a pedestrian and bicycle-friendly community where all modes of travel – cyclists, pedestrians, and motorists – are valued. With the relatively high volumes of traffic on Ravenswood Avenue and the limited railroad crossings south of Ravenswood, it is challenging for pedestrians and bicyclists to connect from the Civic Center to downtown and other destinations in Menlo Park. The City planned to enhance the east-west connectivity by constructing a bicycle and pedestrian rail crossing. To further this effort, in 2009, the City completed a rail crossing location study, in which Middle Avenue was selected as the preferred location. In 2012, the City adopted the Specific Plan EIR for the approved Specific Plan, which establishes a framework for private and public improvements on El Camino Real, in the Caltrain station area, and in downtown Menlo Park for the next several decades. The City has since undertaken advanced planning, environmental, and engineering activities for the Plan implementation.

The proposed pedestrian and bicycle path undercrossing would meet the Class I Bikeway (Bike Path) criteria. A Class I Bikeway is defined in the Final Specific Plan – Circulation Element as, "a completely separate right-of-way designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized" (City of Menlo Park 2012b).

The purpose of the project is to enhance bicycle and pedestrian connections between El Camino Real and Alma Street, connecting the downtown and residential neighborhoods west of El Camino Real with the Menlo Park Caltrain station, Burgess Park, the Menlo Park Civic Center complex, and the north-south bicycle lanes on Alma Street. The project would result in (1) improved mobility, by reducing travel times and improving connectivity across the Caltrain railroad tracks; and (2) enhanced safety, by providing an alternative to busy streets.

2.2 Project Location

The project is located approximately 300 feet north of Middle Avenue and extends from the northernmost edge of the Middle Plaza at 500 El Camino Real Project (currently under construction) across the Caltrain rail system, to Alma Street near Burgess Park. The southern connection point for the rail crossing at Middle Avenue is the location for the open space plaza proposed as part of the Middle Plaza at 500 El Camino Real Project (City of Menlo Park 2017a, 2017b), a planned mixed-use development (see Figures 1 and 2 [Middle Avenue Bicycle & Pedestrian Rail Crossing]). The surrounding area is fully developed with residential neighborhoods west of El Camino Real and the Menlo Park Caltrain station, Burgess Park, and the Menlo Park Civic Center complex to the east. According to the City's Land Use Map, the west/southwest side of the Caltrain rail is designated for the "Specific Plan Area" and the east/northeast side is designated Public/Quasi-Public (City of Menlo Park 2016).

2.3 Project Components

The City of Menlo Park proposes to construct the Middle Avenue undercrossing, which would include the following components:

- **Pedestrian and Bicycle Undercrossing Facility.**
    - Tunnel: The tunnel would start approximately 300 feet from the northeast end of Middle Avenue, crossing under the Caltrain railway and ending at Alma Street, and be

completely within the Caltrain right-of-way. The tunnel would be composed of precast concrete box segments. The overall dimensions of the tunnel would be 62 feet long by 20 feet wide (clear width) by 10 feet deep (headroom at the center of the tunnel).

- Ramps: The pedestrian/bike ramps would be 14 feet wide (minimum) with a concrete surface. The overall length would be about 420 feet.
- Retaining Walls: The retaining walls would be cast-in-place concrete. There are 4 walls with an average length of 80 feet and an average height of 8-9 feet.
- Stairway: There would be 1 stairway that would be 10 feet high and 10 feet wide.
- Drainage: A trench drain system would be provided at each entrance to the tunnel. To prevent localized stormwater ponding or flooding, a sump (pit) with a submersible electric pump would be provided at the low point of the facility on the east side of the tunnel. The pump would drain the sump to the City's storm drain line in Alma Street.

- **Other pedestrian improvements.** The City is also proposing pedestrian and bicycle improvements on Alma Street. Improvements could include a 10-foot-wide by 360-foot-long sidewalk, 4 new crosswalks, and bike lane striping.
- **Utilities**. A new sewer line and water main would be added as part of the project. Relocation of gas line, sewer line, fiber optic lines, and under- and above-ground electrical lines may be required prior to construction of the tunnel.

While the majority of the work would occur within the Caltrain right-of-way, on the west side of the tunnel, a portion of the Cortana (Big 5) property would be acquired for the project (Assessor Parcel Number 071333200). Construction access would be provided from El Camino Real via the Cortana property. Some landscape vegetation and/or tree cover within the project area may need to be trimmed or removed.

2.4 Construction

The City is planning to construct the project in a single phase. The construction period would last 12 to 18 months.

Consistent with the City's construction policies, project construction activities would be limited to the hours of eight (8) a.m. and six (6) p.m. Monday through Friday (City of Menlo Park 2019). However, the actual tunnel construction is planned to take place over a 4-day holiday weekend to minimize disruption to Caltrain service. Installation of the tunnel section would require cutting into the Caltrain embankment and temporarily disconnecting the Caltrain tracks and associated facilities. Therefore, train service would be suspended through the work area during tunnel construction. This work may involve nighttime construction due to the accelerated construction schedule for this component.

Access to the construction site would be from both sides of the railroad (Alma Street and the proposed Plaza). (A portion of the Cortana property would be acquired for this project.) On the west side, construction access would be provided from El Camino Real via the remainder of the Cortana property.

2.4.1 Pedestrian and Bicycle Undercrossing Facility Construction

The construction of the tunnel and associated ramps, stairways, and other improvements is estimated to take approximately 9 to 12 months. Excavation depth for the undercrossing is expected to reach 20

feet below the top of the rail. The maximum groundwater elevations in the project area are approximately 15 to 20 feet below the bottom of the tunnel, therefore groundwater would not be encountered during construction.

As stated above, the tunnel construction may be a 24/7 operation, possibly over a 4-day holiday weekend, to minimize the extent of the outage of Caltrain's tracks.

Construction would include typical earth-moving equipment such as excavators, haul trucks, and a crane. Approximately 2,000 cubic yards earth material would be removed with excavators and placed on haul trucks to be hauled off-site. All wood, concrete, and metals would be recycled to the maximum extent practicable, minimizing consumption of landfill space.

2.4.2 Utilities

A sewer line would be placed inside the Cortana property as part of this project. In addition, the City plans to place a water main next to (just north of) the undercrossing structure under the railroad tracks. This new water main is not needed to serve the pedestrian and bicycle crossing; however, the City plans to use the open excavation under the railroad tracks as an opportunity to place a new water main.

The project may require utility relocations, which would take place in advance of the undercrossing construction. The construction for the utility relocation is estimated to take approximately 3 to 6 months. Utilities anticipated for relocation could include:

- A gas line on the west side of the tracks,
- a sewer line, water line, and (possibly) underground electrical lines on the east (Alma Street) side of the tracks, and
- two fiber optic lines and a signal (electrical) line inside the Caltrain right-of-way.

A backhoe would be used to place the excavated soil that is not backfilled into a dump truck to haul away for disposal off-site at an appropriately licensed waste facility. Temporary one-way traffic control (single lane closure) is anticipated along and adjacent to Alma street. Full closures on Alma Street may also be needed on a temporary basis.

Utility relocations may require short-term, limited scheduled interruptions of service. However, no significant or long-term interruptions to existing PG&E electrical services is anticipated during the relocation of any utilities, because PG&E would put customer loads on alternate lines until the electrical connections are re-established or perform the cutover to relocated facilities after customer business hours.

Prior to construction, coordination with utility service providers would take place to minimize conflicts and implement construction procedures to minimize adverse impacts to existing utilities and traffic during construction and relocation.

2.2.4 Staging Areas

Project construction would require two temporary staging areas. The staging areas would be located on both sides of the railroad (Alma Street and the proposed Plaza side). The staging areas would be used as a location for workers to gather for tailgate meetings and for equipment and material storage. The staging areas may house construction trailers for construction personnel.

In addition, construction worker parking would be on both sides of Burgess Park and the area identified as a temporary construction easement (TCE) on Cortana property.

2.2.6 Construction Workforce and Equipment

The anticipated equipment types for project construction are summarized in Table 2-1 (Construction – Typical Equipment Use). For a detailed list of construction equipment, time and duration of usage, and horsepower, refer to Appendix C (Construction Emissions Calculations). The City anticipates a total of up to 40 construction personnel working on any given day.

Table 2-1. Construction – Typical Equipment Use

Equipment	Use	Amount	Usage Hours
Generator sets	Site preparation	1	8
Graders	Site preparation	1	8
Pumps	Site preparation	1	8
Tractors/loaders/backhoes	Site preparation	1	8
Concrete/industrial saws	Grading	1	8
Generator sets	Grading	1	8
Pumps	Grading	1	8
Rubber tired dozers	Grading	1	1
Tractors/loaders/backhoes	Grading	2	6
Cranes	Construction	1	24
Forklifts	Construction	2	24
Generator sets	Construction	1	24
Pumps	Construction	1	24
Tractors/loaders/backhoes	Construction	2	24
Cement and mortar mixers	Paving	4	6
Generator sets	Paving	1	8
Pavers	Paving	1	7
Pumps	Paving	1	8
Rollers	Paving	1	7
Tractors/loaders/backhoes	Paving	1	7
Air compressors	Architectural coating	1	6
Generator sets	Utility relocation	1	8
Graders	Utility relocation	1	8
Pumps	Utility relocation	1	8
Tractors/loaders/backhoes	Utility relocation	1	8

2.5 Operations and Maintenance

The project would not require new operational staff. Light fixtures, trash receptacles, and landscaping would be maintained by existing City maintenance staff.

2.6 Permits

Table 2-2 summarizes the permits from other State and local agencies that may be needed for the project.

Table 2-2. Permits that May Be Required

Agency	Jurisdiction	Requirements
FEDERAL / STATE AGENCIES		
California Public Utilities Commission (CPUC)	Rail crossing projects	Formal application for new rail crossing
LOCAL / REGIONAL AGENCIES		
City of Menlo Park	Removal or heavy pruning to heritage trees	Heritage Tree Removal Application Permit

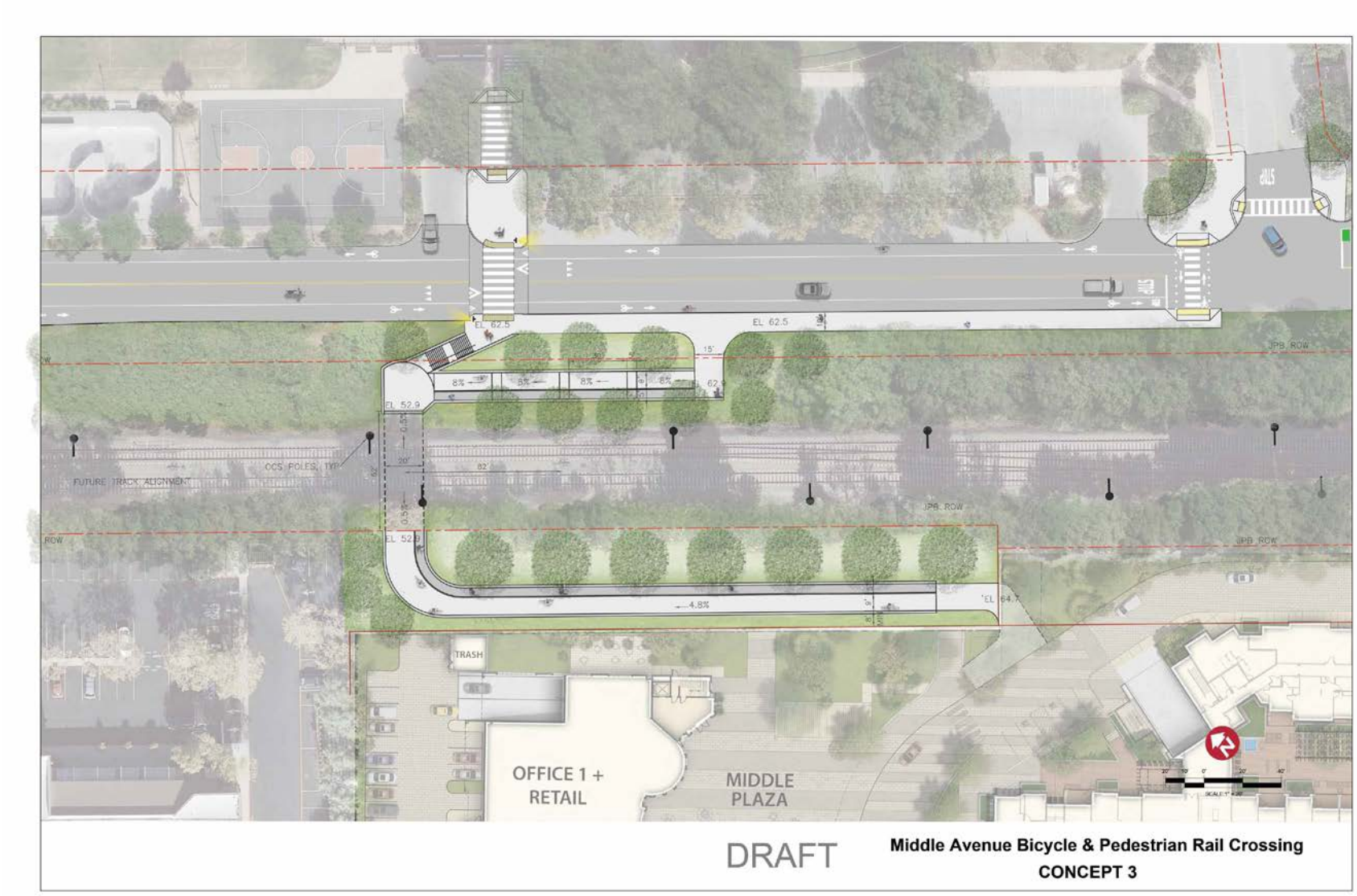

Figure 2. Project Area: Concept 3 (Preferred Alternative)

3. Environmental Impact Evaluation

This section evaluates the environmental effects of the project based on Appendix G of the CEQA Guidelines. The Specific Plan EIR was adopted in 2012, prior to the latest CEQA Guidelines update, which were published January 1, 2019. The significance criteria language in the Appendix G Environmental Checklist Form was updated and two environmental issue areas were added: Energy and Wildfire. The project-specific analyses below are representative of the updated 2019 checklist, with any substantial changes from the 2012 checklist noted, where applicable. The two additional issue areas are also included in this section. Full text of the 2012 Appendix G Environmental Checklist Form criteria thresholds for significance with tracked changes for the updated 2019 text (as published in the 2019 CEQA Statute and Guidelines) can be found in Appendix A.

The project area is encompassed within and remains unchanged from the environmental and regulatory setting for the Specific Plan EIR (City of Menlo Park 2012a).

The full text of applicable mitigation measures is provided in Appendix B, the Specific Plan EIR Mitigation, Monitoring, and Reporting Program.

3.1 Aesthetics

AESTHETICS Except as provided in Public Resources Code Section 21099, would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒

Prior Environmental Analysis

The Plan area is located in the City of Menlo Park in a developed urban area along El Camino Real between Watkins Avenue to the north and San Francisquito Creek to the south. The general vicinity surrounding the Plan area contains medium- and low-density residential uses. The visual character of the Plan area is fully urbanized and characterized by a mix of residential, commercial retail, hotel, service, and office buildings along the roadway that vary in terms of age and architectural style. The

Caltrain right-of-way creates a physical barrier to east-west travel in the area between Menlo/Ravenswood Avenues and San Francisquito Creek.

The City of Menlo Park does not have any officially designated scenic views or vistas (criterion a). There are no scenic highways in or near the Plan area; therefore, the Specific Plan would not result in substantial adverse impacts to scenic resources, including trees, rock outcroppings, and historic buildings within a state scenic highway (criterion b).

Although the Specific Plan EIR found that Plan implementation would change the visual character of the Plan area, it would occur within the context of the existing urban environment and would not substantially degrade the existing visual character or quality of the Plan area and its surroundings. The Plan would be aesthetically compatible with the surrounding land uses, would not conflict with zoning and regulations governing scenic quality (criterion c). Plan implementation would result in newly constructed buildings with exterior and interior lighting, which could increase levels of nighttime and daytime light and glare; however, the Specific Plan includes several guidelines and building features that would reduce this impact to less than significant (criterion d).

In addition to the CEQA Appendix G Guidelines checklist, the City elected to consider the potential effects of shadow cast. Although the Specific Plan would allow for increased heights in buildings, Plan implementation would not result in shading of outdoor recreation facilities, other public open spaces, historic buildings, or a substantial number of properties to an extent that would substantially affect, in an adverse manner, their use. Overall impacts to aesthetic resources were found to be less than significant, and no mitigation measures were required.

Impact Assessment

As stated in the Specific Plan EIR, there are no officially designated scenic views or vistas or scenic highways in or near the Plan area (criteria a and b).

Given that the project area is predominately flat and urbanized, mid- and long-range views of distinctive features are limited. The undercrossing's new access points may be visible from points in the surrounding area. Views of the project area, and the Caltrain corridor in particular, are currently blocked by trees along both east and west sides. Project construction is anticipated to require removal of approximately 10 to 20 trees to the west and 20 to 30 trees to the east of the Caltrain tracks to accommodate the undercrossing tunnel and ramps. Additional trees may need to be trimmed to allow for construction access. This may create a gap in the vegetation screen along the Caltrain right-of-way. Travelers along Alma Street would potentially have direct views through the break in tree screening. Tree removal along the west side of the Caltrain right-of-way may open a gap in vegetation for the proposed Middle Plaza, although there are fewer trees along the west side. The project would adhere to the City of Menlo Park Municipal Code Chapter 13.24 Heritage Trees, the Specific Plan guidelines, and Tree Protection Specification measures. The project design would be aesthetically compatible with the surrounding land uses, would not conflict with zoning and regulations governing scenic quality, and would maintain a similar visual character to the existing development on the project site. The overall project would not result in any new adverse effects on the character of the area; on the contrary, they would encourage pedestrian activity and create new spaces for public enjoyment that would complement the existing and planned mixed-use nature of the area (criterion c).

It is expected that new nighttime lighting sources would be added for visibility and safety but would not involve high glare lighting and would follow the design guideline standards in the Specific Plan. As such, even though the project would introduce new sources of nighttime lighting in the project area, the

project would be consistent with the existing and surrounding land uses and the impact would remain less than significant (criterion d).

Temporary construction-level disruptions to visual resources may include the presence of construction workers and vehicles and temporary disruptions to existing groundcover. If construction occurs at nighttime, the site would be properly lit to ensure safety of construction workers and to allow operation of construction equipment.

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified and analyzed in the Specific Plan EIR. As concluded in the EIR, impacts on aesthetic resources would be less than significant, with no mitigation measures required.

Mitigation Measures

No existing or new mitigation is required.

3.2 Agriculture and Forestry Resources

AGRICULTURE AND FORESTRY RESOURCES In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)),	☐	☐	☒

	timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?			
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒

Prior Environmental Analysis

The Specific Plan EIR determined agricultural and forestry resources would not be directly relevant to the Plan and was excluded from discussion in the EIR. It was briefly addressed in Section 6.5, Effects Found Not to Be Significant (City of Menlo Park 2012a).

The Specific Plan EIR concluded that the Plan area is designated by the California Department of Conservation's (DOC) Important Farmland in California Map (2006) as urban and built-up land. Therefore, the Plan would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use; would not conflict with existing zoning for agricultural use, or a Williamson Act contract; and would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use. The Plan was found to have no impact on agricultural resources (criteria a through e).

Likewise, the Plan would not cause rezoning of forest land, timberland, or land zoned for Timberland Production. The Plan would not result in the loss of forest land or convert forest land to non-forest use.

Impact Assessment

The project area is part of the Specific Plan Area and is designated as such on the City's Land Use Map (City of Menlo Park 2016). The area consists of residential homes and commercial and retail uses and is not used for any type of agricultural activities (criteria a through e). As such, the project would not impact agricultural and forestry resources, consistent with the finding in the Specific Plan EIR.

Conclusion

The project would not create any impacts on agricultural or forestry resources. No standard conditions and no mitigation measures were adopted with the EIR and none are required to reduce impacts of the project.

Mitigation Measures

No existing or new mitigation is required.

3.3 Air Quality

AIR QUALITY Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable Federal or State ambient air quality standard?	☐	☐	☒
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒

The updated Appendix G Environmental Checklist Form (2019) deleted criterion b, "Violate any air quality standard or contribute substantially to an existing or projected air quality violation."

Prior Environmental Analysis

The Specific Plan area is located in the San Francisco Bay Area Air Basin (Basin). The Bay Area Air Quality Management District (BAAQMD) is the regional agency with jurisdiction over the nine-county region located in the Basin. At the time of the Specific Plan EIR, the Basin was classified as non-attainment for the one-hour State ozone standard as well as non-attainment for the federal and State eight-hour standards. Additionally, the Basin was classified as non-attainment for State 24-hour and annual arithmetic mean for inhalable particulate matter (PM) with diameters that are generally 10 micrometers and smaller (PM_{10}) standards and unclassified for the federal 24-hour PM_{10} standard. The Basin was classified as nonattainment for the State annual arithmetic mean $PM_{2.5}$ standard and non-attainment for both the federal 24-hour and annual arithmetic mean $PM_{2.5}$ standards. The Basin was unclassified or classified as attainment for all other pollutant standards (BAAQMD 2010).

At the time of the Specific Plan EIR, the most recent adopted air quality plan for the Basin was the *2010 Clean Air Plan* (CAP). Implementation of the Plan would result in the rate of increase in vehicle miles traveled (VMT) to be more than the rate of increase in population and would be considered inconsistent with the population and VMT assumptions of the CAP. The CAP also requires implementation of its applicable control measures and strategies, and the Specific Plan would be consistent with the control strategies contained in therein. Inconsistency with the CAP regarding population growth and VMT would make this impact significant (criterion a).

Although no longer included in the CEQA Appendix G Environmental Checklist Form, the Specific Plan EIR analyzed whether the Plan would violate any air quality standard or contribute substantially to an existing or projected air quality violation. The Specific Plan EIR found that Specific Plan implementation would result in increased long-term emissions of criteria pollutants associated with construction activities and increased vehicle traffic and on-site area sources that could contribute substantially to air

quality violations. These impacts were reduced with Mitigation Measures AIR-1a and AIR-1b but were found to be significant and unavoidable (2012 criterion b).

Cumulative risk for diesel particulate matter (DPM) would not exceed the BAAQMD recommended thresholds. No cumulative health risk in the Plan area would not require mitigation. However, implementation of Mitigation Measures AIR-5 and AIR-7 would be required to reduce risk from traffic-generated pollutants to a less than significant level. BAAQMD data indicate that there are no stationary sources of toxic air contaminants (TACs) within or proximate to the Plan area that generate TAC concentrations in excess of BAAQMD thresholds. The SRI International facility approximately 800 feet from the Plan area is the nearest facility with sources of TACs. Although cumulative impacts are not likely, implementation of Mitigation Measure AIR-10 would ensure that potential cumulative health risks would be less than significant. Major sources of $PM_{2.5}$ in the Plan area include Caltrain locomotives as well as vehicle traffic traveling along roadways within the Plan area. Implementation of the Specific Plan would locate new sensitive receptors near sources of $PM_{2.5}$ which may lead to cumulatively considerable adverse health effects. Annual concentrations of $PM_{2.5}$ from Caltrain operations and vehicle traffic on El Camino Real would not exceed the BAAQMD recommended threshold. Mitigation Measures AIR-5 and AIR-7 would further reduce the impacts, and they would be considerably less than the cumulative threshold (2012 criterion c).

Specific Plan implementation would locate new residential receptors near high volume roadways that would have a percentage of diesel truck traffic. The Specific Plan would also potentially locate new residential receptors near El Camino Real, which is a source of DPM. Plan implementation would locate new sensitive receptors in an area of elevated concentrations of $PM_{2.5}$ associated with roadway traffic which may lead to considerable adverse health effects. Implementation of Mitigation Measure AIR-5; however, would reduce the impacts of health risks to a less than significant level. Specific Plan implementation would expose sensitive receptors to elevated concentrations of TACs associated with Caltrain operations, which may lead to considerable adverse health effects. Mitigation Measure AIR-7 would be implemented for residential uses west of and within approximately 1,095 feet of the edge of the railroad right-of-way (2012 criterion d).

Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. Given that the Specific Plan would not permit these types of facilities and would not locate sensitive receptors within close proximity to these types of facilities outside the Plan area, it can be assumed that no odor impact would occur (2012 criterion e).

The BAAQMD CEQA Guidelines do not include a threshold of significance for evaluating construction related impacts at the Plan level. Instead, subsequent individual development projects in the Plan area would be required to meet thresholds of significance for criteria pollutant emissions associated with construction equipment exhaust. The project-specific construction thresholds identified in the EIR are 54 pounds per day of reactive organic gases, nitrogen oxides, and $PM_{2.5}$ (exhaust only) and 82 pounds per day for PM_{10} (exhaust only). Projects would also be required to include all "Basic Construction Mitigation Measures" as defined in the BAAQMD proposed guidelines. As shown in Table 4.2-3 of the Specific Plan EIR, BAAQMD has construction-related screening criteria that would allow projects under the screening criteria constructed under the Specific Plan to be deemed to have less than significant construction emissions without a detailed air quality analysis.

Impact Assessment

Although the project area is encompassed within the Specific Plan Area discussed in the Specific Plan EIR (see Section 4.2 – Air Quality in City of Menlo Park, 2012a), the following discussion updates the air quality environmental and regulatory setting based on updated ambient air quality standards and recent monitoring data. Table 3.3-1 presents a recent five-year (2013-2017) summary of air quality monitoring data in the project area (criterion b).

Table 3.3-1 Air Quality Data Summary (2013–2017) for the Plan Area

		Monitoring Data by Year				
Pollutant	**Standard**	**2013**	**2014**	**2015**	**2016**	**2017**
Ozone						
Highest One-Hour Average (ppm) [a]	0.09	0.083	0.086	0.086	0.075	0.0115
Days over State Standard	-	0	0	0	0	2
Highest Eight-Hour Average (ppm)[a]	-	0.075	0.065	0.071	0.061	0.087
Days over State Standard	0.070	1	0	1	0	2
Days over National Standard	0.070	1	0	1	0	2
Respirable Particulate Matter (PM_{10}) [b]						
Highest 24-Hour Average ($\mu g/m^3$)[a]	50	58.1	61.3	58.8	40.0	95.3
Estimated Days over State Standard	150	15.2	12.8	3.0	0	25.8
Estimated Days over National Standard[b]	-	0	0	0	0	0
Annual Average [a]	20	22.2	20.0	21.9	18.3	2.1
Fine Particulate Matter ($PM_{2.5}$)						
Highest 24-Hour Average ($\mu g/m^3$)[c] Estimated	35	39.0	35.0	34.6	19.5	60.8
Days over National Standard[b]	-	3.2	0	0	0	6
Annual Average	12	10.7	7.1	5.7	8.3	9.0

NOTES: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter

[a] Statistics shown represent State statistics and are based on California approved samplers. These may differ from national statistics which are based on different samplers.

[b] Statistics shown represent regional San Francisco Bay Area Air Basin data; PM10 monitoring data is no longer collected for San Mateo County at the Redwood City monitoring station.

[c] Statistics shown represent national statistics and are based on samplers using federal reference or equivalent methods. National statistics are presented for $PM_{2.5}$ rather than State statistics as there is no 24-hour State $PM_{2.5}$ standard.

SOURCE: CARB, 2019.

The most recent BAAQMD CEQA Guidelines were adopted in May 2017. The 2017 BAAQMD CEQA Guidelines may inform environmental review for development projects in the Bay Area, but do not commit local governments or the BAAQMD to any specific course of regulatory action. The BAAQMD CEQA Air Quality Guidelines are for informational purposes only and should be followed by local governments at their own discretion (BAAQMD 2017a). Similar to the 2010 BAAQMD CEQA Guidelines, the 2017 BAAQMD CEQA Guidelines provide a construction-related screening criteria table that would allow for projects constructed under the Specific Plan to be deemed to have less than significant construction emissions without a detailed air quality analysis. Although bike and pedestrian improvements such as this project are not identified as a land use type in the BAAQMD CEQA Guidelines screening criteria, the project would be below the screening criteria for a city park, the land use type most similar to the project. Under the screening criteria for a city park, construction impacts would be

considered less than significant, resulting in an impact of less severity than previously identified in the 2012 Specific Plan EIR. However, since the BAAQMD CEQA Guidelines do not identify screening criteria for bike and pedestrian improvements or linear projects, this analysis quantitatively estimated emissions associated with construction of the project for comparison to BAAQMD significance thresholds for additional information.

Construction-related emissions associated with typical construction activities were modeled using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod allows the user to enter project-specific construction information, such as construction schedule, haul truck trips, and construction equipment. It was assumed that approximately 2,000 cubic yards of material would be exported and approximately 1,000 cubic yards of concrete would be poured onsite. Additional modeling assumptions and details are provided in Appendix C.

As shown in Table 3.3-2, average daily emissions would be below the BAAQMD thresholds for reactive organic gases (ROG), nitrogen oxides (NO_x), PM_{10} (exhaust), and $PM_{2.5}$ (exhaust). In addition, the project would implement Mitigation Measure AIR-1a, which requires implementation of standard fugitive dust control measures in order to ensure that impacts from fugitive dust would be less than significant. As such, construction impacts associated with the project would be less than significant, resulting in an impact of less severity than previously identified in the 2012 Specific Plan EIR (criterion d).

Table 3.3-2 Construction-Related Emissions from the Project

Emissions	ROG	NO_X	PM_{10} (exhaust)	$PM_{2.5}$ (exhaust)
Total Emissions (tons)	0.30	2.80	0.14	0.14
Average Daily Emissions (lb/day) [a]	1.52	14.13	0.71	0.69
Thresholds of Significance (lb/day) [b]	54	54	82	54
Exceeds Thresholds?	No	No	No	No

Notes: lb/day = pounds per day

[a] Average daily emissions are calculated based on 22 working days per month over an 18-month construction period.

[b] BAAQMD CEQA Air Quality Guidelines (BAAQMD 2017a).

After construction, the project would not result in increased long-term emissions of criteria pollutants. In addition, the purpose of the project is to enhance bicycle and pedestrian access between El Camino Real and Alma Street, connecting the downtown and residential neighborhoods west of El Camino Real with the Menlo Park Caltrain station, Burgess Park, the Menlo Park Civic Center complex, and the north-south bicycle lanes on Alma Street. Since the time of the 2010 Specific Plan EIR, the BAAQMD adopted the 2017 Clean Air Plan: Spare the Air, Cool the Climate (BAAQMD 2017b). The BAAQMD 2017 Clean Air Plan includes strategies to encourage planning for bicycle and pedestrian facilities in local plans and provide safe and convenient bicycle and pedestrian access to shopping and services. Since the project would result in (1) improved mobility, by reducing travel times and improving connectivity across the Caltrain railroad tracks; and (2) enhanced safety, the project is consistent with the most recent BAAQMD Clean Air Plan (criterion a).

The greatest potential for TAC emissions during construction of the proposed project would be related to diesel PM emissions generated by heavy-duty construction equipment. The nearest sensitive receptors to the project site are multi-family residential units located approximately 130 feet northeast of the tunnel construction area. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments that determine the health risks associated with exposure of residential receptors to TAC emissions should be based on a 30-year exposure period (OEHHA 2015). However,

health risk assessments should be limited to the period or duration of emissions-generating activity. The duration for project construction would be approximately 12 to 18 months, which would be less than five percent of the required exposure period for health risk assessments. Emissions would occur intermittently throughout the construction period and would not occur as a constant plume of emissions from the project site. Given the construction schedule, varying buffer distances to the nearest sensitive receptors as construction moves across the project site, and the highly dispersive nature of diesel PM emissions, construction of the project would not expose sensitive receptors to substantial TAC concentrations. In addition, implementation of the "Basic Construction Mitigation Measures," which is recommended for all proposed projects, would also reduce diesel PM emissions during construction (criterion c).

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, analyzed, and mitigated in the Specific Plan EIR. Mitigation measures from the EIR and standards, guidelines, and policies identified in the Plan have been previously adopted and found to substantially mitigate the impacts and would continue to be enforced through the project. No new mitigation measures are required to reduce impacts of the project.

Mitigation Measures

Air Quality Mitigation Measures		
Name	**Summary**	**Applicable to project?**
Mitigation Measure AIR-1a	During construction of individual projects under the Specific Plan, project applicants shall require the construction contractor(s) to implement measures required as part of BAAQMD's basic dust control procedures	Yes; under the measure, all projects are required to implement basic controls for construction sites in order to ensure that impacts from fugitive dust would be less than significant.
Mitigation Measure AIR-1b	Development projects that exceed the BAAQMD screening criteria shall develop an Exhaust Emissions Control Plan	No; this project does not exceed the screening criteria and would not exceed the BAAQMD thresholds of significance.
Mitigation Measure AIR-5	Development projects within specific boundaries of the Plan area undergo a screening-level health risk analysis to determine if cancer risk, hazard index, and/or PM2.5 concentration would exceed BAAQMD thresholds	No; this project does not include sensitive receptors and would not have any associated operational emissions.
Mitigation Measure AIR-7	Development projects that include sensitive receptors located within approximately	No; this project does not include sensitive receptors and would not have any associated

Air Quality Mitigation Measures		
Name	**Summary**	**Applicable to project?**
	1,095 feet of the edge of the Caltrain right-of-way shall undergo a screening-level health risk analysis to determine if cancer risk, hazard index, and/or PM2.5 concentration would exceed BAAQMD thresholds	operational emissions.
Mitigation Measure AIR-10	Development projects that include sensitive receptors located within approximately 1,000 feet around SRI International campus shall undergo a screening-level health risk analysis to determine if cancer risk, hazard index, and/or PM2.5 concentration would exceed BAAQMD thresholds	No; this project does not include sensitive receptors and would not have any associated operational emissions.

3.4 Biological Resources

BIOLOGICAL RESOURCES Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool,	☐	☐	☒

	coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☒

Prior Environmental Analysis

The Plan area is located in the City of Menlo Park on the east side of the San Francisco Peninsula, approximately two miles west of San Francisco Bay. Much of the natural habitat on the San Francisco Peninsula, including Menlo Park, has been converted or fragmented due to urban development. A field survey of the Plan area was conducted in July 2009 to identify biological resources within the Plan area as well as potential habitat for special-status species.

The Plan area is bounded on the northwest by Atherton Channel (also referred to as Atherton Creek) and the southeast by San Francisquito Creek. Although outside of the Plan area, San Francisquito Creek and its associated riparian vegetation (Creeks and Riparian habitat) were included in the Specific Plan EIR analysis due to potential indirect impacts. Both of these creeks run perpendicular to El Camino Real and eventually drain into the southern San Francisco Bay. San Francisquito Creek is designated as critical habitat for the Central California Coast steelhead. In addition to functioning as a critical migration corridor for steelhead, it may also function as a movement corridor for other wildlife species, such as western pond turtles, raccoons, and bats. Nonetheless, the only habitat types found within the Plan area at the time of the Specific Plan EIR are Urban/Landscaped. Due to this manicured and maintained environment with frequent human activity, there is a relatively low diversity of wildlife and no potential for rare plants to occur (criteria b through d).

Based on the site conditions and the established significance criteria at the time of the Specific Plan EIR, the Specific Plan was found to have the potential to adversely impact special-status birds, special-status bat species, and steelhead, as well as conflict with the local tree ordinance by removing heritage trees. However, adherence to City tree ordinance for heritage trees (Menlo Park Municipal Code Chapter 13.24 Heritage Trees) and the implementation of the Specific Plan standards and guidelines and Mitigation Measures BIO-1a, BIO-1b, BIO-3a, BIO-3b, and BIO-6a would reduce these impacts to less than significant (criteria a and e).

The Plan area does not lie within the planning area for any adopted or proposed habitat conservation or natural community plans (criterion f).

Impact Analysis

The area around the project site is primarily in an urban environment with Caltrain railroad tracks, paved roads, and planted ornamental vegetation in the immediate surrounding area. San Francisquito Creek is approximately 0.35 mile southeast of project area. No work would be conducted in or near the creek.

A desktop data search for biological resources in the project area was conducted in June 2019. The databases consulted were the U.S. Fish and Wildlife Information for Planning and Consultation (IPaC) resource list and the California Natural Diversity Database (CNDDB). Additional species were identified in the project area's U.S. Geological Survey quadrangle that were not included in the Specific Plan EIR: Bald eagle, two-fork clover, marbled murrelet, yellow billed cuckoo, green sea turtle, Delta smelt, Marin dwarf-flax, and showy Indian clover. However, all of these species have low potential to occur in the project area, and due to the location and nature of the project, no impact is anticipated. With adherence to previously adopted Mitigation Measures BIO-1a, BIO-1b, BIO-3a, BIO-3b, and BIO-6a, the impact to biological resources would remain less than significant (criteria a through d).

A tree survey of the project area was conducted on May 13, 2019. Project construction is anticipated to require removal of approximately 10 to 20 trees to the west and 20 to 30 trees to the east of the Caltrain tracks to accommodate the undercrossing tunnel and ramps (also described in Section 3.1, Aesthetics). Additional trees may need to be trimmed to allow for construction access. If any of the trees planned for heavy pruning or removal qualify as heritage trees, the project would adhere to the City's tree ordinance (Menlo Park Municipal Code Chapter 13.24 Heritage Trees)[2] and the impact would remain less than significant (criterion e).

As stated in the Specific Plan EIR, since the project is within the Plan area, the project does not lie within the planning area for any adopted or proposed habitat conservation or natural community plans (criterion f).

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, analyzed, and mitigated in the Specific Plan EIR. Mitigation measures from the EIR and standards, guidelines, and policies identified in the Plan were previously adopted and found to substantially mitigate the impacts and would continue to be enforced through the project. No new mitigation measures are required to reduce project impacts.

[2] Per the Menlo Park Heritage Tree ordinance, "Applicants are required to submit a site plan with the Heritage Tree Removal Application Permit even if they have submitted a site plan to the City for a planning or building permit. The site plan facilitates the review by the city arborist. Also for removals of two or more trees, applicants shall be required to submit a planting plan indicating the species, size and location of the proposed replacement trees on a site plan. Heritage Tree Permits related to Construction will also be charged for City-retained arborist expenses." [online]: https://www.menlopark.org/205/Heritage-tree-protections. (City of Menlo park 2019c). Accessed June 18, 2019.

Mitigation Measures

Biological Resources Mitigation Measures		
Name	**Summary**	**Applicable to project?**
Mitigation Measure BIO-1a	Requirements for pre-Construction Special-Status Avian Surveys	Yes; only if the construction period is within the breeding season (February 1 through August 31).
Mitigation Measure BIO-1b	Avoidance of active nests	Yes; only if active nests of special-status birds are found during the surveys required from MM BIO-1a.
Mitigation Measure BIO-3a	Reduce building lighting from exterior sources	Yes; lighting is planned for the project on the exterior for safety.
Mitigation Measure BIO-3b	Measures to reduce building lighting from interior sources	No; the project does not include a building with interior light sources.
Mitigation Measure BIO-5a	Preconstruction surveys for special-status bats	Yes; to identify if any active nursery or maternity roosts or hibernacula of special-status bats are located in the trees needing to be trimmed or removed.
Mitigation Measure BIO-5b	Avoidance of any active nursery or maternity roosts or hibernacula of special-status bats	Yes; only if any active nursery or maternity roosts or hibernacula of special-status bats are located during surveys from MM BIO-5a.
Mitigation Measure BIO-5c	Safely evict non-breeding roosts of special-status bats	Yes; only if any active nursery or maternity roosts or hibernacula of special-status bats are located during surveys from MM BIO-5a.
Mitigation Measure BIO 6a	Measures to mitigate the effects of the project on special-status amphibians and reptiles for any construction that takes place within 100 feet of the riparian corridor of San Francisquito Creek	No; project and construction sites are not within 100 feet of the San Francisquito Creek.

3.5 Cultural Resources

CULTURAL RESOURCES Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒

At the time of the Specific Plan EIR, paleontological resources were analyzed under Cultural Resources in criterion c. This threshold has since been deleted and moved to geological resources per the CEQA Appendix G Environmental Checklist Form update (2019). The analysis provided in the Specific Plan for paleontological resources will be addressed in Section 3.7, Geology and Soils.

Prior Environmental Analysis

A records search was conducted at the Northwest Information Center of the California Historical Resources Information System (NWIC) at Sonoma State University on April 23, 2009 (File No. 08-1300) for the preparation of the Specific Plan EIR. Several historic resources as defined by CEQA are located within the Plan area, one of which is listed on the National Register – the Southern Pacific Railroad Station. The Specific Plan recognizes the Plan area as the historic core of Menlo Park and contains policies designed to protect historic structures within the Specific Plan area. Specific Plan implementation could result in the demolition or alteration of historical resources, which would be considered a significant impact. Implementation of the Specific Plan could also result in the demolition or alteration of unidentified historical resources, which would be considered a significant impact. Mitigation Measure CUL-1 would reduce these potential impacts to historic architectural resources to a less than significant level (criterion a).

The review of records and literature on file at the NWIC indicated that no prehistoric or historic-period archaeological resources have been previously recorded within the Plan area; however, numerous archaeological sites have been discovered along the San Francisquito Creek corridor just outside of the Plan area. Since no site-specific archaeological studies were completed in the Plan area and there is a high potential for obscured or deeply buried archaeological resources, the Specific Plan could impact currently unknown archaeological resources. Implementation of Mitigation Measure CUL-2a and Mitigation Measure CUL-2b would reduce potential impacts to archaeological resources to a less than significant level (criterion b).

Based upon the records search, no human remains are known to exist within the Plan area; however, the potential exists that construction could result in the disturbance of human remains, including those interred outside of formal cemeteries. Implementation of Mitigation Measure CUL-4 would be required to reduce impacts to human remains to a less than significant level (2012 criterion d).

Impact Analysis

Pursuant to Mitigation Measure CUL-2a, a site-specific cultural resources study was performed by a qualified archaeologist and included an updated records search, pedestrian survey of the project area, development of a historic context, and preparation of a technical memo. The Cultural Resources Memo is attached as Appendix D.

No historical resources have been identified within or adjacent to the project area. No historic-period buildings are in the project area. Construction of the proposed project would not include any direct or indirect effects to any historical resources. Construction of the proposed project would remain a less than significant impact on historical resources (criterion a).

No evidence of prehistoric resources was identified within the project area. However, the potential for accidental discovery of archaeological resources such as a minor prehistoric archaeological site or isolated artifact during construction of the proposed project cannot be completely discounted. The project area is within 0.5 mile of a previously recorded archaeological resource and San Francisquito Creek, which has been identified as sensitive for prehistoric archaeological resources that contain human burials. Therefore, a program of subsurface coring was undertaken as a good-faith effort to identify obscured or buried archaeological resources that could be affected by project construction. No cultural resources were found during the testing.

A significant impact would occur if the project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource. Given the proximity to sensitive prehistoric archaeological resources that contain human burials, and the compressed timeline for completion of the undercrossing portion of the project—the tunnel construction would take place over a short four-day period—Mitigation Measures CUL-2a, 2b, and 4 would be implemented. As part of the mitigation measures, a qualified archeologist would serve as monitor during project construction and would prepare a resource recovery plan. With implementation of the mitigation measures, project impact would be less than significant to archaeological resources (criterion b).

No known burial sites were identified in the project area or in the immediate vicinity. The potential exists, however, for previously unknown human remains to be discovered during construction. Damage to or destruction of human remains would constitute a significant impact. However, implementation of Mitigation Measure CUL- 4 of the Specific Plan EIR and the requirements established in a treatment plan would ensure that if an inadvertent discovery of previously unknown human remains is made, that appropriate steps will be taken to determine the significance of the find and pursue appropriate management. With implementation of the existing mitigation measure, this impact would be reduced to a less-than-significant level (criterion c).

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, analyzed, and mitigated in the Specific Plan EIR. Mitigation measures from the EIR and standards, guidelines, and policies identified in the Plan have been previously adopted and found to substantially mitigate the impacts and would continue to be enforced through the project. No new mitigation measures are required to reduce impacts of the project.

Mitigation Measures

Cultural Resources Mitigation Measures		
Name	**Summary**	**Applicable to project?**
Mitigation Measure CUL-1	Site Specific Evaluations and Treatment in Accordance with the Secretary of the Interior's Standards	No; project is not proposed at or near buildings that are at least 50 years old.
Mitigation Measure CUL-2a	Requirements for site-specific cultural resources study. If historic or unique resources are identified and cannot be avoided, treatment plans will be developed	Yes, site-specific cultural resources study is required for all projects that involve ground disturbing activity. Cultural Resources Memo for this project is provided in Appendix D.
Mitigation Measure CUL-2b	If any archaeological artifacts are found during construction, all construction activities within 50 feet shall immediately halt and the City must be notified. Construction can recommence when impacts on the resources are mitigated as described in Mitigation Measure CUL-2a	Yes; under the measure, all projects under the Specific Plan must implement CUL-2a for any previously unidentified archaeological artifacts be found during construction.
Mitigation Measure CUL-4	Previously unidentified human remains discovered during construction	Yes; under this measure, all projects under the Specific Plan shall follow CEQA Guidelines 15064.5(e)(1) if human remains are found during construction.

3.6 Energy

ENERGY Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒

Energy was added to the CEQA Guidelines Appendix G checklist in 2019, after the Specific Plan EIR was written and certified in 2012. However, information on energy and energy conservation was known when the Specific Plan EIR was certified and is not new information as specifically defined under CEQA.

Prior Environmental Analysis

Although energy was not specifically addressed in the EIR as a resource area, it was included in the EIR within the Aesthetics (lighting), Air Quality (renewable energy and energy efficiency), Greenhouse Gas Emissions (energy efficiency), and Public Services and Utilities (energy generation and consumption) environmental analyses. A number of sustainable strategies regarding energy efficiency and the use of renewable energy sources are also included in the discussion of Sustainable Practices as part of the project description for the Plan (City of Menlo Park 2012a). Further, several design guidelines included in the Specific Plan's standards, guidelines, and policies promote energy efficiency and the use of renewable energy sources wherever feasible.

Overall, the standards, guidelines, and mitigation measures in the Specific Plan EIR illustrate the Plan's commitment to avoiding wasteful, inefficient, or unnecessary consumption of energy resources during Plan implementation. Specific Plan implementation would have a less than significant impact.

The environmental setting and regulatory sections of the above stated environmental issue area analyses include descriptions of applicable plans for renewable energy or energy efficiency, including the Recommended Strategies of Menlo Park Climate Action Plan and City of Menlo Park General Plan that the Plan would adhere to.

Impact Assessment

The project would connect the proposed Middle Plaza at 500 El Camino Real and western neighborhoods with Burgess Park and neighborhoods to the east for pedestrians and bicyclists. The project would enhance connectivity and not encourage any new vehicle trips; therefore, it would be consistent with the Plan Bay Area 2040 land use strategy, which seeks to reduce per capita VMT. The project would adhere to the Specific Plan guidelines, policies, and standards where applicable (criteria a and b).

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, analyzed, and mitigated in the Specific Plan EIR. Specific Plan standards, guidelines, and policies identified in the Plan that were previously adopted and found to reduce impacts would continue to be enforced through the project. No mitigation measures are required to reduce project impacts.

Mitigation Measures

No existing or new mitigation is required.

3.7 Geology/Soils

GEOLOGY AND SOILS Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR

a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒
ii. Strong seismic groundshaking?	☐	☐	☒
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒
iv. Landslides?	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒
c. Be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒

*Geology and Soils question (d) reflects the current 2016 California Building Code (CBC), which is based on the International Building Code (2015), effective January 1, 2017. The CBC is updated every three years.

At the time of the Specific Plan EIR, paleontological resources were analyzed under Cultural Resources in criterion c. The threshold was moved to geological resources criterion f per the CEQA Appendix G Environmental Checklist Form update (2019).

Prior Environmental Analysis

No active faults run through or adjacent to the Plan area; however, the Specific Plan lies within an area that contains many active and potentially active faults and is considered to be an area of high seismic activity.

The nearest active fault to the Plan area is the San Andreas fault, which is located approximately seven miles to the southwest. Although damage and injury cannot be completely avoided during a major seismic event, adherence to building code requirements would reduce the potential damage and

personal injury to what is generally recognized to be an acceptable level; therefore, this would be a less than significant impact (criterion a).

Specific Plan implementation would result in soil erosion and loss of topsoil. As such, the Specific Plan EIR found that with incorporation of existing Best Management Practices (BMPs), the impacts would be less than significant without further mitigation (criterion b).

For potential geologic hazards including landslide, lateral spreading, subsidence, liquefaction, or collapse, the use of standard geotechnical practices through a required geotechnical investigation and implementation of building code requirements are proven means of mitigation. The impact would be less than significant, and no further mitigation was required (criterion c). Likewise, the identification of expansive soils is standard practice for a geotechnical investigation which would be required for all new construction within the Plan area. Implementation of standard geotechnical engineering practices and building code requirements would reduce potential impacts from expansive soils to less than significant levels (criterion d).

The Plan area is located within a developed area that is currently serviced by a centralized sanitary sewer collection system. All proposed development and redevelopment would tie into this existing system and would not require septic tanks or any alternative wastewater disposal system. Therefore, there would be no impact related to the capability of soils to support the use of such systems (criterion e).

The Specific EIR found that while no information exists to refute or confirm the presence of fossils beneath the Plan area, because the majority of the Plan area is underlain by a geologic unit (Pleistocene alluvium) with high paleontological potential, subsurface excavations beyond previously disturbed soils could disturb or destroy paleontological resources. Therefore, impacts to paleontological resources would be potentially significant. Mitigation Measure CUL-3 would reduce this impact to less than significant (2012 criterion c, Cultural Resources).

Impact Analysis

There are no active faults at the project site; however, the project is within the San Francisco Bay Area, an area that contains many active and potentially active faults and considered to be an area of high seismic activity. Significant earthquakes occurring in the San Francisco Bay Area are generally associated with crustal movement along well-defined, active fault zones of the San Andreas Fault system. The San Andreas fault is a historically active fault, approximately 6 miles west of the project. Seismic ground shaking can be expected during the design life of structures built on the project site due to the high seismic activity of the general area. The project would be designed and constructed in accordance with standard engineering practices and requirements. A site-specific geotechnical report that contains recommendations to reduce seismic, geologic, and soils hazards is required for the project and would inform the engineering/design of the project. Adherence to building code requirements would ensure the project would not result in exposure of the public or workers to any significant adverse effects associated with seismicity. Therefore, this impact would remain less than significant (criterion a).

Project construction activities, including grading and excavation, could disturb on-site soils, temporarily exposing them to wind and water erosion. However, the project would be designed and constructed in accordance with standard engineering practices. Further, a project-specific geotechnical report is being prepared, which contains recommendations to reduce seismic, geologic, and soils hazards, including soil erosion. The project would follow Best Management Practices (BMPs) that are specifically designed to reduce construction-related erosion. Construction techniques that could be implemented to reduce the

potential for stormwater runoff may include minimizing site disturbance, controlling water flow over the construction site, stabilizing bare soil, and ensuring proper site cleanup. BMPs that could be implemented to reduce erosion may include silt fences, staked straw bales/wattles, silt/sediment basins and traps, geofabric, trench plugs, terraces, water bars, soil stabilizers and re-seeding and mulching to revegetate disturbed areas (criterion b).

Potential geologic hazards including landslide, lateral spreading, subsidence, liquefaction, or collapse are not anticipated for the project area. The project area is relatively flat, therefore there would be no risk of landslides. The site is not in danger of resulting in lateral spreading or liquefaction due to there being no shallow water or saturated soils at the project site; the average depth to groundwater in the project area is anticipated to be around 30 feet. Further, the project-specific geotechnical report would inform the design of the undercrossing, ensuring the project would be designed and constructed in accordance with standard engineering practices specific for the type soil and geologic setting of the project site (criteria c and d).

No septic tanks or alternative wastewater disposal systems are included in the project (criterion e).

The project area, as outlined in the Specific Plan EIR, is underlain by a geologic unit with high paleontological potential; therefore, subsurface excavations beyond previously disturbed soils could disturb or destroy paleontological resources. Mitigation Measure CUL-3 would be required to reduce potential impacts to paleontological resources to a less-than-significant level (criterion f).

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, analyzed, and mitigated in the Specific Plan EIR. Mitigation measures from the EIR and standards, guidelines, and policies identified in the Plan have been previously adopted and found to substantially mitigate the impacts and would continue to be enforced through the project. No new mitigation measures are required to reduce impacts of the project.

Mitigation Measures

Geology/Soils Mitigation Measures		
Name	**Summary**	**Applicable to project?**
Mitigation Measure CUL-3	Training on paleontological resources for construction workers	Yes; training on paleontological resources is required for all project that include subsurface excavations that would extend beyond previously disturbed soils.

3.8 Greenhouse Gas Emissions

GREENHOUSE GAS EMISSIONS Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Generate greenhouse gas emissions,	☐	☐	☒

	either directly or indirectly, that may have a significant impact on the environment?			
b.	Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒

Prior Environmental Analysis

At the time of the Specific Plan EIR, the BAAQMD had not adopted a threshold of significance for construction related greenhouse gas (GHG) emissions for either projects or plans. Projects constructed within the Plan area would be required to implement Mitigation Measure AIR-1b (see Section 4.2, Air Quality). Moreover, construction-related GHG impacts may be further reduced through implementation of BMPs during construction, as recommended by the BAAQMD. Plan implementation would exceed the BAAQMD adopted threshold of 4.6 metric tons per service population per year. Even with Mitigation Measure GHG-1, emissions would exceed the BAAQMD adopted threshold. Therefore, Plan implementation would have a significant and unavoidable impact resulting from GHG emissions (criterion a).

The Specific Plan is guided by several plans and policies regarding emissions.

- Menlo Park Climate Action Plan
- California Air Resources Board GHG reduction strategies
- AB 32 and its Climate Change Scoping Plan
- City of Menlo Park General Plan (agency adopted for the purpose of reducing the emissions of greenhouse gases; a number of goals and policies in the General Plan would play a role in planning efforts to reduce GHG emissions)

The Specific Plan would not conflict with implementation of the Climate Action Plan; in fact, many sustainability strategies set forth in the Specific Plan would be consistent with the Climate Action Plan. Mitigation Measures GHG-2a and GHG-2b would complete the Specific Plan's implementation of strategies identified in the Climate Action Plan. Implementation of Mitigation Measure GHG-1 would also reduce the effect of this impact. The Specific Plan does not pose any explicit conflict with the applicable list of California Air Resources Board GHG reduction strategies. The Specific Plan would implement development guidelines that are consistent with, and would not conflict with, applicable General Plan policies. However, because the Specific Plan would emit GHGs greater than the service population-based efficiency thresholds of the BAAQMD which were derived based on AB 32 attainment goals, implementation of the Specific Plan would therefore conflict with AB 32 and its associated planning efforts. Even with mitigation, given that the Specific Plan would conflict with implementation of AB 32, impacts would be significant and unavoidable (criterion b).

Impact Analysis

Since the time of the Specific Plan EIR, the state legislature passed Senate Bill (SB) 32, which established a 2030 GHG emissions reduction target of 40 percent below 1990 levels. In response to SB 32 and the companion legislation of AB 197, the California Air Resources Board (CARB) approved the Final 2017 Scoping Plan Update: The Strategy for Achieving California's 2030 GHG Target in November 2017 (CARB 2017). The 2017 Scoping Plan draws from the previous plans to present strategies to reaching California's 2030 GHG reduction target. In addition, the City of Menlo Park released a Climate Action

Plan Update and Status Report in October 2015, with minor amendments in May 2018 (City of Menlo Park 2018). The most recent Climate Action Plan updates Menlo Park's GHG inventories between 2005 and 2013 and also provides GHG strategies beyond 2020.

Project-related GHG impacts would be related to the emissions from construction. Off-road equipment, materials transport, and worker commutes during construction of the project would generate GHG emissions. Total project construction GHG emissions were estimated using the methodology discussed earlier under Section 3.3, Air Quality. The total estimated construction-related emissions would be approximately 437 metric tons carbon dioxide equivalents (MT CO_2e) with the maximum emissions of 254 MT CO_2e in 2021. Additional modeling assumptions and details are provided in Appendix C.

BAAQMD has not adopted thresholds for evaluating GHG emissions from construction activities. However, BAAQMD recommends that the lead agency quantify and disclose GHG emissions that would occur during construction and make a determination on the significance of these construction-generated GHG emission impacts in relation to meeting Assembly Bill (AB) 32 GHG reduction goals (BAAQMD 2017a). As discussed in the Specific Plan EIR, construction-related emissions may be amortized over the lifetime of the project (anticipated 40-year lifespan) and included in the individual project inventory for comparison to project-level GHG thresholds. As such, the project's amortized construction-related GHG emissions would be approximately 11 MT CO_2e per year. As stated in the Specific Plan EIR, construction-related GHG impacts may be further reduced through implementation of BMPs during construction, as recommended by the BAAQMD.

Project operations would not generate GHG emissions and instead would encourage sustainable forms of transportation. In addition, the project would be consistent with BAAQMD-identified GHG Mitigation Measure for Plan Land Use Elements (as identified in Specific Plan EIR Table 4.6-5) to create and enhance landscaped greenway, trail, and sidewalk connections between neighborhoods, commercial areas, activity centers, and parks. Further, the project would also be consistent with BAAQMD's most recent Clean Air Plan, which calls for strategies to encourage planning for bicycle and pedestrian facilities in local plans and provide safe and convenient bicycle and pedestrian access to shopping and services (BAAQMD 2017b). Emissions would be limited to construction activities and implementation of the project would encourage sustainable forms of transportation. The project would be consistent with California's 2017 Climate Change Scoping Plan, BAAQMD Clean Air Plan, City of Menlo Park Climate Action Plan, and Specific Plan goals to reduce automobile dependence by improving bicycle and pedestrian infrastructure. Construction-related emissions and impacts associated with the proposed project would be result in an impact of less severity than previously identified in the 2012 Specific Plan EIR (criteria a and b).

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, analyzed, and mitigated in the Specific Plan EIR. Mitigation measures from the EIR and standards, guidelines, and policies identified in the Plan have been previously adopted and found to substantially mitigate the impacts and would continue to be enforced through the project. No new mitigation measures are required to reduce impacts of the project.

Mitigation Measures

Greenhouse Gas Emissions Mitigation Measures		
Name	**Summary**	**Applicable to project?**
Mitigation Measure GHG-1	Implement feasible BAAQMD-identified GHG Mitigation Measures and Proposed City CALGreen Amendments.	Yes; all projects under the Specific Plan should follow BAAQMD available mitigation measures, as applicable.
Mitigation Measure GHG-2a	LEED certification requirements for residential and/or mixed use developments	No; this project is not a residential and/or mixed use development project.
Mitigation Measure GHG-2b	City could implement a pilot program identified in the AB 32 Scoping Plan and included in the City's Climate Action Plan to reduce GHG emissions	No; this project would not have operational emissions and would not generate GHG emissions from waste.

3.9 Hazards and Hazardous Materials

HAZARDS AND HAZARDOUS MATERIALS Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has	☐	☐	☒

	not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?			
f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒
g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒

At the time of the Specific Plan EIR, Hazards and Hazardous Materials included a significance threshold criterion f for projects within the vicinity of a private airstrip. This significance criterion was deleted per the CEQA Appendix G Environmental Checklist Form update (2019).

Prior Environmental Analysis

Based on the age of some of the structures within the Plan area, some of the existing buildings in area may contain asbestos, lead-based paint, and/or polychlorinated biphenyls (PCBs). Mitigation Measure HAZ-1 requires a Phase I Site Assessment be performed prior to issuance of any building permit for sites where ground breaking activities would occur to assess if current or historical property uses have impacted the soil or groundwater beneath the property and could pose a threat to the environment and/or human health. Implementation of Mitigation Measure HAZ-1 would therefore minimize the potential exposure to workers, the public, and the environment. The Specific Plan EIR found that with adherence to the regulatory requirements that apply to hazardous building materials, the potential impacts from disturbance of these materials during demolition activities would be reduced to less than significant levels (criterion a).

Any future construction activities would require the use of certain hazardous materials, such as fuels, oils, lubricants, solvents, and glues. Hazardous materials used on any individual site during construction activities could be released to the environment through improper handling or storage. Implementation of Mitigation Measure HAZ-3 requires the use of construction Best Management Practices (BMPs) for all development and redevelopment projects, which would reduce the impacts to a less-than-significant level. Development and redevelopment in the Plan area would include commercial/retail, and residential uses that may handle, store, and transport various hazardous materials and consequently generate hazardous wastes. Future development would include land uses that would handle various commercial, transportation, and household hazardous materials in a range of quantities and could cause an adverse effect on the environment through accidental upset; however, this impact would be less than significant (criterion b).

Although portions of the Plan area would be within one-quarter mile of a school (such as Menlo School, Nativity School, and St. Raymond's School), hazardous materials use would be limited to either small quantities or emergency generator fuel that has been reviewed and approved by relevant agencies for adequate protections. As a result, the impact on nearby schools would be less than significant (criterion c).

At the time of the Specific Plan EIR, leaking underground storage tanks or spills, leaks, investigations and cleanup databases sites were present within the Plan area. These sites have had identified releases of

hazardous materials that impacted the subsurface soil or groundwater or both. These sites are in varying stages of investigation and cleanup with some having already received site closure. Implementation of Mitigation Measure HAZ-1 would reduce the impact to less than significant (criterion d).

The Plan is not located within an airport land use plan and is not within a two-mile radius of a private airstrip or airport. Development within the Plan area would not impair or interfere with any emergency response or emergency evacuation plans. There would be no impact for these topics and therefore they were not further analyzed in the Specific Plan EIR (2012 criteria e, f, and g).

Impact Analysis

Project construction activities may include refueling and minor maintenance of construction equipment on-site, which could lead to minor fuel and oil spills. The use and handling of hazardous materials during construction would occur in accordance with applicable federal, State, and local laws, including California Division of Occupational Safety and Health (Cal/OSHA) requirements. As stated in the Specific Plan EIR, implementation of Mitigation Measure HAZ-1 would minimize the potential exposure to workers, the public, and the environment. As such, a Phase I Environmental Site Assessment is being prepared for this project (criteria a and b).

The project site is not within one quarter of a mile of a school or a planned school; therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (criterion c).

The project site is not included on the list of hazardous waste sites (Cortese List) compiled by the California Department of Toxic Substances Control (DTSC) pursuant to Government Code Section 65962.5 and therefore would not release known hazardous materials due to ground-disturbing activities (DTSC 2019). According to GeoTracker, hazardous materials sites near the project area include (Geotracker 2019):

- Closed Leaking Underground Storage Tank (LUST) cleanup site approximately 200 feet southwest of project site (550 El Camino Real, Menlo Park, CA 94025)
- 2 Closed LUST cleanup sites at Shell Gas Station approximately 350 feet southeast of the project (495 El Camino Real, Menlo Park, CA 94025)
- Closed LUST cleanup site approximately 500 feet east of the project (444 El Camino Real, Menlo Park, CA 94025)

Per the site records, the sites are considered closed. Therefore, it is unlikely for contaminated soil to be encountered during project construction. In case contaminated soil would be encountered, the project would implement Mitigation Measure HAZ-3, which includes BMPs that relate to handling of contaminated soil.

The project would include a project-specific soil management plan (SMP) that would outline soil management practices if unknow hazardous materials are encountered at the site. The SMP would outline screening levels for soils and vapors and outline response actions if those screening levels are exceeded. Additionally, the SMP would outline appropriate personal protective equipment for workers and dust and vapor management practices to minimize impacts to the surrounding community (criterion d).

As stated in the Specific Plan EIR, the project is not located with an airport land use plan or within 2 miles of a public airport; therefore, no impact would occur (criterion e). The project would not impair or

interfere with any emergency response or emergency evacuation plans and would not result in impacts (criterion f).

The project is not mapped within or near a Very High Fire Hazard Severity Zone within the Local Responsibility Area (CAL FIRE 2008); therefore, no impact regarding wildland fires would occur (criterion g).

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, analyzed, and mitigated in the Specific Plan EIR. Mitigation measures from the EIR and standards, guidelines, and policies identified in the Plan were previously adopted and found to substantially mitigate the impacts and would continue to be enforced through the project. No new mitigation measures are required to reduce project impacts.

Mitigation Measures

Hazardous Resources Mitigation Measures		
Name	**Summary**	**Applicable to project?**
Mitigation Measure HAZ-1	Requirements for Phase I and Phase II site assessment	Yes; a Phase I Environmental Site Assessment is being completed for this project.
Mitigation Measure HAZ-3	Best Management Practices	Yes; all development and redevelopment shall require the use of construction BMPs.

3.10 Hydrology and Water Quality

HYDROLOGY AND WATER QUALITY Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒

i. result in substantial erosion or siltation on- or off-site	☐	☐	☒
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite	☐	☐	☒
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒

At the time of the Specific Plan EIR, the Appendix G Environmental Checklist Form significance threshold criterion c was broken down into criteria d and e, and criteria f was combined with criteria a. The 2012 criteria g, h, i, and j are now combined into criterion d.

The updated Appendix G Environmental Checklist Form (2019) also added a new significance threshold, included in criterion e, for consistency with water quality control or sustainable groundwater plans. Information on water regulatory plans was known when the Specific Plan EIR was certified and is not new information as specifically defined under CEQA.

Prior Environmental Analysis

The Plan area lies within the San Francisco Bay hydrologic region. The Plan area is bounded on the northwest by Atherton Channel and the southeast by San Francisquito Creek. Both of these creeks run perpendicular to El Camino Real and eventually drain into the southern San Francisco Bay. The site topography is generally flat to gently sloping, and stormwater is collected via the street network and conveyed to two storm drains along El Camino Real.

Specific Plan implementation would include subsequent construction activities that could adversely affect water quality and drainage patterns in the short term due to erosion and sedimentation. Specific Plan implementation could adversely affect water resources in the long term by reducing permeable surfaces, which could degrade water quality in receiving waters, increase runoff volume and associated downstream flood potential, decrease groundwater recharge, or alter drainage patterns. All projects that would disturb one acre or more are required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), in accordance with the State Water Resources Control Board's General Construction Permit. The City of Menlo Park Engineering Division requires a Grading and Drainage Permit and preparation of a construction plan for any construction project disturbing 500 square feet or more. Incorporation of these requirements would be expected to reduce the impact of erosion and sedimentation on water resources to less than significant (2012 criteria a through f).

The Plan area is not located near an enclosed body of water capable of producing seiche waves and is too far inland to be at risk for tsunami hazards. The relatively flat topography of the Plan area is also not in an area susceptible to mudflows. No impact related to seiche, tsunami, or mudflow would occur. The

only Plan area in a FEMA-designated flood zone (Zone A) is contained entirely within the channel of San Francisquito Creek, in which construction is not likely to be allowed. Implementation of the Specific Plan would not expose people or structures to a significant risk of loss, injury or death involving flooding and would not place housing or other structures that would impede or redirect flood flows within a 100-year flood zone. The impact was less than significant (2012 criteria g, h, i, and j).

Impact Analysis

The maximum (highest) groundwater elevations are about 15-20 feet below the bottom of the tunnel. The handling of groundwater during construction is not anticipated. Project construction would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. As stated in the Specific Plan EIR, incorporation of these requirements would reduce the impact of erosion and sedimentation on water resources to a less-than-significant level (criteria a and b).

The project would include a trench drain system at each entrance to the tunnel and a pump at the low point of the tunnel entrance. The system would convey stormwater to a storm drain line to prevent localized ponding or flooding. Incorporation of these requirements would be expected to reduce the impact of erosion and sedimentation on water resources to less than significant (criterion c).

As stated in the Specific Plan EIR, the Plan area, and therefore the project area, is not located near an enclosed body of water capable of producing seiche waves and is too far inland to be at risk for tsunami hazards. The relatively flat topography of the project area is also not in an area susceptible to mudflows. The project is not within the Federal Emergency Management Agency (FEMA)-designated flood zone of San Francisquito Creek; therefore, no flood hazard would occur, and the impact would remain less than significant (criterion d).

Water quality in stormwater runoff is regulated locally by the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP), the municipal storm water requirements set by the Regional Water Quality Control Board. Other plans the Plan would adhere to include the City's Hydrology Report requirements and City's Grading and Drainage Guidelines. The project would adhere to and be consistent with all water quality and water management plans for the region, as well as the Specific Plan Guidelines, as discussed in the Specific Plan EIR. Since the adoption of the Specific Plan EIR, the City Council also adopted the 2015 Urban Water Management Plan. Due to the small nature of the project and implementation of project design features and compliance with all regulations and water-related plans, the impact would remain less than significant (criterion e).

Conclusion

The project would not create any new significant impacts related to hydrology and water quality that were not identified in the Specific Plan EIR. No mitigation measures were adopted with the EIR and none are required to reduce impacts of the project.

Mitigation Measures

No existing or new mitigation is required.

3.11 Land Use

LAND USE Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Physically divide an established community?	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒

At the time of the Specific Plan EIR, the Appendix G Environmental Checklist Form also included a significance threshold relating to conflicts with habitat conservation or natural community conservation plans. The updated Appendix G Environmental Checklist Form (2019) deleted this criterion due to its redundancy with criteria under biological resources.

Prior Environmental Analysis

Specific Plan implementation would not alter the existing street grid, and therefore would not create a new physical barrier that would divide the community. In particular, the Plan's improvements to pedestrian and bicycle travel, including widened sidewalks, street crossings, public plaza space and bicycle facilities, would serve to enhance connections both within the Plan area and to the neighborhoods east of the Plan area. Therefore, the Specific Plan would enhance connectivity in, rather than physically divide, the community and the impact would be less than significant (criterion a).

In line with the identified guiding principles, the Plan created several new land uses. By implementing the Specific Plan standards and guidelines, all impacts would be less than significant (criterion b).

The Specific Plan area does not lie within the planning area for any adopted or proposed habitat conservation or natural community plans; therefore, there would be no impact (2012 criterion c).

Impact Analysis

The project would encourage access to community resources such as the downtown area and the proposed Middle Plaza west of El Camino Real and the Menlo Park Caltrain station, Burgess Park, the Menlo Park Civic Center complex to the east, which are currently separated by the Caltrain railroad tracks. Because the project would eliminate this division for pedestrians and bicyclists, it would enhance connectivity in, rather than physically divide, the community and the impact would remain less than significant (criterion a).

The project would meet the goals of the Specific Plan and be consistent with the design features put forth in the Specific Plan EIR for the project (criterion b).

- D.4.12 Visually extend Middle Avenue.
- D.4.13 Allow for seating and informal gatherings.
- D.4.14 Provide green space and shaded areas.

- D.4.15 Integrate with vehicular access needs and associated development.
- D.4.16 Provide a pedestrian and bicycle linkage between El Camino Real, the new open space and Burgess Park at Middle Avenue; this linkage would involve a grade separated crossing if tracks remain at grade.
- D.4.17 Emphasize safety and comfort for all users.

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, in the Specific Plan EIR. No existing or new mitigation measures are required to reduce impacts of the project.

Mitigation Measures

No existing or new mitigation measures are required.

3.12 Mineral Resources

MINERAL RESOURCES Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☒

Prior Environmental Analysis

The Specific Plan EIR determined mineral resources to not be directly relevant to the Plan and was excluded from discussion in the EIR. It was briefly addressed in Section 6.5, Effects Found Not to Be Significant (City of Menlo Park 2012a).

The Plan area is mapped by the California Department of Mines and Geology as Mineral Resource Zone (MRZ)-1, an area where adequate information indicates a low likelihood of significant mineral resources. Therefore, Plan implementation would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; and would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Implementation of the Specific Plan would have no impact on mineral resources (criteria a and b).

Impact Analysis

The project area is encompassed within the Specific Plan area and remains unchanged from the setting for mineral resources discussed in the Specific Plan EIR. As such, the project study area is also mapped as MRZ-1 and there would be no impact (criteria a and b).

Conclusion

The project would not create any new significant impacts. No standard conditions and no mitigation measures were adopted with the EIR and none are required to reduce impacts of the project.

Mitigation Measures

No existing or new mitigation required.

3.13 Noise

NOISE Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒

The updated Appendix G Environmental Checklist Form (2019) deleted criteria c and d for whether the project would permanently or temporarily increase the ambient noise levels above levels existing without the project. Criterion f was also combined with new criterion c in the updated Appendix G Environmental Checklist Form (2019).

Prior Environmental Analysis

The main contributors to the noise environment in the El Camino Real/Downtown Specific Plan area include roadway noise and noise associated with the nearby Caltrain line. The Specific Plan area includes and is surrounded by a number of residential receptors.

Construction activities associated with Specific Plan implementation would result in substantial temporary or periodic increases in ambient noise levels in the Specific Plan area and in excess of

standards established in the local general plan or noise ordinance. Implementation of Mitigation Measures NOI-1a and NOI-1b are identified to ensure that potential impacts to sensitive receptors within and adjacent to the Specific Plan area would be reduced to less-than-significant levels. Most of the noise generated through Plan implementation would be traffic-generated noise. Increased traffic from Specific Plan implementation would not result in a substantial permanent increase in ambient noise levels in the Plan vicinity (criterion a).

The main source of groundborne vibration in the Plan area is Caltrain. Implementation of the Plan would not generate excessive groundborne vibration or groundborne noise levels; therefore, no impact would occur (criterion b).

Plan implementation would contribute to an increase in local traffic volumes, resulting in higher noise levels along local roadways; however, increased traffic would not result in a substantial permanent increase in ambient noise levels in the Plan vicinity above levels existing without Plan implementation (2012 criteria c and d).

The nearest airport to the Specific Plan area is the Palo Alto Airport of Santa Clara County. This airport is located over three miles east of the Specific Plan area, therefore Plan implementation would not expose people working or residing in the area to excessive noise levels associated with airport operations. Additionally, there are no private airstrips within the vicinity of the Specific Plan and therefore no impact would occur (2012 criteria e and criteria f).

The Specific Plan EIR also assessed whether Plan implementation would introduce sensitive receptors to a noise levels in excess of standards considered acceptable, or to excessive groundborne vibration or groundborne noise levels. Plan implementation would allow for new residences near the Caltrain station and mainline tracks, thereby exposing sensitive receptors to excessive noise levels associated with rail noise. Adherence to Mitigation Measure NOI-3 and NOI-4 was found to reduce that impact to less than significant.

Impact Analysis

General construction noise, such as excavation for the undercrossing, is anticipated to generate the most noise for the project. Per the City of Menlo Park noise ordinance (ordinance no. 8.06), construction activities cannot exceed 85 dBA for sensitive receptors between 8 a.m. and 6 p.m. or 60 dBA between 7 a.m. and 10 p.m., Monday through Friday, unless otherwise approved by the City (City of Menlo Park 2019a; 2019b). Construction of the tunnel may be outside of the approved daytime hours and may require construction activities over a 24-hour period during a holiday weekend to minimize disruption to Caltrain. According to Menlo Park's Noise ordinance, the project would qualify for an exemption to the noise limits in accordance with ordinance no. 8.06.050(d).[3] Further, implementation of Mitigation Measures NOI-1a and NOI-1b are identified to ensure that potential impacts to sensitive receptors within and adjacent to the Specific Plan area would be reduced to remain at less-than-significant levels. Operation of the undercrossing would not produce any noise; therefore, no permanent noise impacts would occur (criterion a).

The project is an undercrossing for pedestrian and bicycle use; therefore, it would not add any sources generating excessive groundborne vibration or groundborne noise levels. Consistent with the Specific Plan EIR, no impact would occur (criterion b).

[3] According to Menlo Park Municipal Code, this project would qualify for the exemption under 8.06.050(d). https://www.codepublishing.com/CA/MenloPark/?MenloPark08/MenloPark0806.html&?f

Since the project is within the Specific Plan area, and according to the Specific Plan EIR the nearest airport is located over three miles east of the Specific Plan area, the project would not expose people working or residing in the area to excessive noise levels associated with airport operations. Additionally, there are no private airstrips within the vicinity of the project and, consistent with the Specific Plan EIR, no impact would occur (criterion c).

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, analyzed, and mitigated in the EIR. No new standard conditions or mitigation measures are required to reduce impacts of the project.

Mitigation Measures

Noise Mitigation Measures		
Name	**Summary**	**Applicable to project?**
Mitigation Measure NOI-1a	Development projects shall utilize the best available noise control techniques when within 400 feet of sensitive receptor locations and shall prepares a construction noise control plan	Yes; the project is within 400 of sensitive receptors (Burgess Park and residences).
Mitigation Measure NOI-1b	Noise Control Measures for Pile Driving	No; only if the project includes pile driving.
Mitigation Measure NOI-1c	City shall condition approval of projects near receptors sensitive to construction noise	Yes; under the measure the City should do this for all projects near sensitive receptors.
Mitigation Measure NOI-3	Interior noise exposure within new home developments	No; the project is not a housing development.
Mitigation Measure NOI-4	Detailed vibration design study for development within 200 feet of the mainline track.	No; the project is not a development project.
Mitigation Measure NOI-5	City to use rubberized asphalt in paving projects if it will significantly reduce noise levels and is feasible given cost and durability	No; the project would not benefit from rubberized asphalt as footsteps and bike tires don't create enough noise to require reduction measures.

3.14 Population and Housing

POPULATION AND HOUSING Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure?	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒

Prior Environmental Analysis

The Specific Plan at full build-out would add 680 new housing units and 1,537 new residents. Total future employment growth associated with the Plan's proposed new retail, commercial, and hotel development is estimated to be 1,357. Overall, the Specific Plan is not expected to induce growth in excess of current projections either directly or indirectly. Consequently, the Specific Plan would have a less-than-significant impact on the City of Menlo Park's population and housing (criterion a).

The rate and type of development would be primarily determined by the private sector and would occur predominantly as market demand and individual property owners choose to sell or redevelop their properties. If existing housing units are removed, subsequent redevelopment under the Specific Plan would likely include new residential development that would replace any lost units and add additional housing in the Plan area. The Specific Plan would not cause growth elsewhere from the displacement of existing residents within the Plan area. Therefore, the Specific Plan would have a less-than-significant effect in requiring construction of replacement facilities outside the Plan area (criterion b).

Impact Analysis

The undercrossing project would enhance connectivity between neighborhoods, recreation areas, and retail space on either side of the Caltrain railway and would be used by the existing population. By nature of the project, it would not generate a permanent increase in population levels nor a decrease in available housing different from what was already considered for the Plan (criterion a).

The undercrossing would start at the boundary of what is now a vacant parking lot (planned development for the Middle Plaza at 500 El Camino Real), pass under the Caltrain railway tracks, and terminate at Alma Street. No housing exists on the site; therefore, no displacement or replacement of housing would take place (criterion b).

Conclusion

The project would not create any new significant impacts on population and housing. No standard conditions and no mitigation measures were adopted with the EIR and none are required to reduce impacts of the project.

Mitigation Measures

No existing or new mitigation measures are required.

3.15 Public Services

PUBLIC SERVICES Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Fire Protection?	☐	☐	☒
b. Police protection?	☐	☐	☒
c. Schools?	☐	☐	☒
d. Parks?	☐	☐	☒
e. Other public facilities?	☐	☐	☒

Public Service and Utilities and Service Systems were combined for analysis in the Specific Plan EIR. Other public facilities analyzed in the Specific Plan EIR under this section included water and wastewater treatment facilities and landfills and solid waste. Following the updated Appendix G Checklist Form (2019), these resources are described under Section 3.19, Utilities and Service Systems.

Prior Environmental Analysis

Specific Plan implementation would lead to an increase in population. Population growth would result in increased demand for fire and police services, as well as for school facilities and parks. Nonetheless, based on the availability of existing services as well as payment on development fees, the Specific Plan EIR found impacts related to public services would be less than significant (criteria a through e).

Impact Analysis

The project is a pedestrian and bicycle path for east-west connectivity and would therefore not require new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, for police or other public service protection. The facility would include nighttime lighting for safety and security. The users of the new facility are anticipated to be existing community members; therefore, the project would not induce growth in the project area or result in a need for new or

expanded police, fire, school, recreation, or other public facilities. The impact would remain less than significant (criteria a through e).

Conclusion

The project would not create any new significant impacts or any substantial increase in severity of previously identified significant impacts on public services. No standard conditions and no mitigation measures were adopted with the Specific Plan EIR and none are required to reduce impacts of the project.

Mitigation Measures

No existing or new mitigation measures are required.

3.16 Recreation

RECREATION	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒

The Specific Plan EIR analyzed impacts to recreation in Public Services as it analyzed parks. The analysis is separated out here per the updated Appendix G Environmental Checklist Form (2019).

Prior Environmental Analysis

Even with implementation of the Plan, the City would exceed the park-to-person ratio goal. Further, development within the Plan area would include the creation of additional open space areas in the form of plazas, pocket parks, and private open space. Given the availability of City-maintained parks, in addition to regional parks and the public-school resources for which there is a joint use agreement, population growth related to development under the Specific Plan is not anticipated to increase the use of recreational resources such that substantial physical deterioration would occur or necessitate new or expanded recreational facilities; therefore, the impact would be less than significant (2012 criterion d, Public Services).

Impact Analysis

The project would provide a new pedestrian and bicycle connection across the Caltrain tracks to recreational facilities at Burgess Park and other parks in the project area. The project would serve the

local population and would not increase the use of recreational resources such as Burgess Park, Burgess Pool, Burgess Recreation Center, Arillaga Family Gymnasium, Burgess Gymnastics Center, and Burgess Skate Park (City of Menlo Park 2012a) (criteria a and b).

Conclusion

The project would not create any new significant impacts or any substantial increase in severity of previously identified significant impacts on recreation. No standard conditions and no mitigation measures were adopted with the EIR and none are required to reduce impacts of the project.

Mitigation Measures

No existing or new mitigation measures are required.

3.17 Transportation

TRANSPORTATION Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☒

As allowed by the CEQA Guidelines, the Specific Plan EIR did not strictly follow the Appendix G Environmental Checklist Form to analyze impacts for Transportation. In addition, the CEQA Appendix G thresholds were updated in 2019 to emphasize VMT and de-emphasize level of service and parking impacts.

Prior Environmental Analysis

Specific Plan implementation would not alter the existing street grid; however, it would result in significant unavoidable traffic impacts to intersection operations and local roadway segments. Mitigation Measures TR-1a, TR-1b, TR-1c, and TR-1d would require project applicants to contribute funding toward intersection improvements for these areas. However, because funding is not in the City's Transportation Impact Fees (TIF), impacts were found to be significant and unavoidable. Mitigation Measures TR-2 requires new developments within the Specific Plan area to have in-place a City-approved Transportation Demand Management (TDM) program prior to project occupancy to mitigate impacts on roadway segments; however, because the effectiveness of a TDM program cannot be

guaranteed, the impact to roadway segments is considered to be significant and unavoidable. Specific Plan implementation was found to have a less-than-significant impact on freeway segment and transit operations. Specific Plan implementation would provide for new and enhanced pedestrian and bicycle facilities that would provide improved connectivity within the Plan area and outward to other neighborhoods. The Plan did not contain design aspects that would cause an increased potential for bicycle/vehicle conflicts. Development under the Plan area would affect parking supply in the downtown but would not result in inadequate parking capacity.

Overall, future development would not impede emergency access routes and would continue to maintain the existing city grid systems. Additionally, the Plan would not result in permanent road closures that would physically interfere with emergency response or evacuation plans. Therefore, development within the Plan area would not impair or interfere with any emergency response or emergency evacuation plans and no impact would occur.

Impact Analysis

The project is included in the transportation planning documents for the City, including the City's *Comprehensive Bicycle Development Plan*. The project is consistent with the transportation goals of the region, which is to reduce vehicle miles traveled, enhance connectivity, and encourage alternative modes of transportation, such as walking and bicycling (criterion a).

According to CEQA Guidelines Section 15064.3, subdivision (b), "transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact." Other than temporary vehicle trips from construction workers, the operation of the project would not include any vehicle trips and would reduce the vehicle miles traveled by creating a new connection in the community with the opportunity to bike or walk (criterion b).

As discussed in the EIR, the full build-out of the Plan would have significant unavoidable traffic impacts to some of the operation of intersections as well as some local roadway segments. However, the project would not be in the areas adversely affected by the Plan and would not add any traffic impacts. The project would encourage walking and biking as alternative modes of transportation. Although project construction would generate additional vehicle trips on the local roadways as workers commute and equipment and materials are transported to/from the project area, construction would take place over 12 to 18 months and would be coordinated to minimize impacts to street traffic.

Construction activities could require one-way traffic control (single lane closure) for various activities on or adjacent to Alma Street (utility relocations, tree removals, crosswalk placement, pavement markings, etc.). Full closures on Alma Street may be needed on a temporary basis. Construction activities would require the temporary closure of the Caltrain tracks in the project vicinity; however, the tunnel construction is proposed during a holiday weekend to minimize disruption to the system. Project construction and operation would require no long-term change in Caltrain's existing operations or maintenance activities (criterion c).

As discussed in the Specific Plan EIR, implementation of the Plan would not impede emergency access routes or interfere with emergency response or evacuation plans (criterion d).

Conclusion

The project would not create any new significant impacts or any substantial increase in severity of previously identified significant impacts. No new standard conditions and no mitigation measures are required to reduce impacts of the project.

Mitigation Measures

Traffic Mitigation Measures		
Name	**Summary**	**Applicable to project?**
Mitigation Measure TR-1a through TR-7n	Fair share funding for impacted roadways.	No; the project would not generate any new vehicle trips therefore would not contribute to any project specific or cumulative impacts.
Mitigation Measure TR-2	TDM program for new developments within the Specific Plan area	No; this project is not a development project.

3.18 Tribal Cultural Resources

TRIBAL CULTURAL RESOURCES	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is?			
a. listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒
b. resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe	☐	☐	☒

The Specific Plan EIR analyzed Tribal Cultural Resources impacts under Cultural Resources (Section 4.4 in City of Menlo Park 2016a).

Prior Environmental Analysis

The 2009 review of the records and literature on file at the Northwest Information Center (NWIC) indicated that no historic or prehistoric archaeological resources have been recorded within the Plan area. However, numerous prehistoric archaeological sites have been recorded along the San Francisquito Creek corridor just outside of the Plan area. Implementation of Mitigation Measures CUL-2a and CUL-2b would reduce potential impacts to archaeological resources to less than significant. Based upon the 2009 records search, no human remains are known to exist within the Plan area. However, the potential exists that construction could result in the disturbance of human remains, including those interred outside of formal cemeteries. If human remains are discovered during construction, Mitigation Measure CUL-4 requires CEQA Guidelines 15064.5(e)(1) be followed.

In accordance with Senate Bill 18, the City completed outreach in January 2011 and invited Native American tribes and individuals to consult on the Specific Plan EIR. No tribes contacted the City for consultation.

Impact Analysis

A site-specific records search and survey were performed for this project pursuant to the Specific Plan EIR Mitigation Measure CUL-2a. See Appendix D, Cultural Resources Memo.

On April 29, 2019, the Native American Heritage Commission (NAHC) was contacted to conduct a Sacred Lands File (SLF) search. The NAHC replied on April 30, 2019 that the search was negative for sensitive cultural resources. The NAHC also included a list of Native American tribes for AB 52 consultation. Since no cultural resources were identified in the NWIC records search or in the NAHC SLF search, and because consultation is not required when preparing an addendum to an existing EIR, consultation was not conducted. No tribal cultural resources were identified within or near the project area. Therefore, the proposed project would not result in a substantial adverse change to any tribal cultural resources, and no impact would occur (criterion a).

No prehistoric resources or tribal cultural resources were identified within or near the project area. Therefore, the proposed project would not result in a substantial adverse change to any tribal cultural resources and no impact would occur (criterion b).

Conclusion

The project would not result in new significant or cumulative impacts beyond those previously identified, analyzed, and mitigated in the Specific Plan EIR. Mitigation measures identified in the Plan have been previously adopted and found to substantially mitigate the impacts and would continue to be enforced through the project. No new mitigation measures are required to reduce impacts of the project.

Mitigation Measures

See Section 3.5, Cultural Resources for applicable mitigation measures.

3.19 Utilities and Service Systems

UTILITIES AND SERVICE SYSTEMS Would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒
d. 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?	☐	☐	☒
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒

The Specific Plan EIR analyzed Utilities and Service Systems under Public Services. Per the updated Appendix G Checklist Form (2019), these resources are separately described here, under Section 3.19, Utilities and Service Systems.

Prior Environmental Analysis

Specific Plan implementation would result in an increase in population that would generate additional needs for utilities and service. The Specific Plan EIR found that through implementation of conservation measures as outlined in Title 24 of the California Building Code and conservation measures included on the City's General Plan, Specific Plan implementation would have a less-than-significant effect on water supply; wastewater treatment; storm water drainage; and electric power, natural gas, and telecommunications facilities.

Specific Plan implementation would increase the amount of development in the Plan area, thereby increasing the generation of solid waste. San Carlos Transfer Station and the Ox Mountain Sanitary Landfill have the capacity able to accommodate the approximate 1.3 tons per day of additional solid waste (at buildout) from the development under the Specific Plan. As a result, the Specific Plan would have a less-than-significant impact on landfill capacities and would not violate solid waste goals or regulations. Individual

future projects under the Specific Plan would be required to comply with the City's Construction and Demolition Recycling Ordinance, which requires salvage or recycling of at least 60 percent of construction-related solid waste generation. Construction and demolition waste would not result in a significant impact.

Impact Analysis

The project site would be within existing public services areas. The project would require relocation of utilities, including a gas line on the west side of the tracks, a sewer line and (possibly) underground electrical lines on the east (Alma Street) side of the tracks, and two fiber optic lines and a signal (electrical) line inside the Caltrain right-of-way. As part of the project, the City also plans to add a sewer line inside the Cortana property and a new water main next to the undercrossing structure beneath the railroad tracks. The Specific Plan EIR anticipated the need for additional utilities and found that through implementation of conservation measures outlined the California Building Code and the City's General Plan, the impact would be less than significant. Therefore, this impact would remain less than significant (criteria a through c).

Project construction would generate solid waste that would require disposal at an off-site licensed waste facility. All wood, concrete, and metals would be recycled to the maximum extent practicable, minimizing consumption of landfill space. The project would be required to comply with the City's Construction and Demolition Recycling Ordinance, which requires salvage or recycling of at least 60 percent of construction-related solid waste generation. As stated in the Specific Plan EIR, waste facilities have ample capacity to handle the expected increase. The project impact would remain less than significant on landfill capacities and would not violate solid waste goals or regulations (criteria d and e).

Conclusion

The project would not have any potential impacts on utilities and service systems. It would not create any new significant impacts or any substantial increase in severity of previously identified in the Specific Plan EIR. No standard conditions and no mitigation measures were adopted with the Specific Plan EIR and none are required to reduce impacts of the project.

Mitigation Measures

No existing or new mitigation measures are required.

3.20 Wildfire

WILDFIRE If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	New Significant Impact	Substantial Increase in Severity of Previously Identified Significant Impact in EIR	Equal or Less Severity of Impact Previously Identified in the 2012 FEIR
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire	☐	☐	☒

or the uncontrolled spread of a wildfire?			
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒

Prior Environmental Analysis

Wildfire was added to the CEQA Guidelines Appendix G checklist in 2019, after the Specific Plan EIR was written and certified in 2012. Wildfire was mentioned in Section 4.6, Greenhouse Gas Emissions, as it was relating to effects of global warming. The Plan area was found not to be in a high fire hazard area that could be affected by climate-change-related drought.

Impact Analysis

The project is not mapped within or near a Very High Fire Hazard Severity Zone within the Local Responsibility Area (CAL FIRE 2008); therefore, there would be no impact regarding wildfires and no mitigation is required.

Conclusion

The project is not mapped within or near a Very High Fire Hazard Severity Zone within the Local Responsibility Area; therefore, no further analysis is warranted. No impact regarding wildfires would occur and no mitigation is required.

Mitigation Measures

No existing or new mitigation is proposed.

4. Conclusions

The City of Menlo Park has determined that the Middle Avenue Pedestrian & Bicycle Rail Crossing Study Project would not have a significant effect on the environment. The design measures, standard construction measures, and mitigation measures already adopted in the Menlo Park El Camino Real/Downtown Specific Plan EIR would reduce any impacts to less than significant. Therefore, this addendum, which considers the incremental effects of the project, is consistent with the EIR adopted by the City of Menlo Park in 2012.

1/10/2020

NAME NICOLE H. NAGAYA
TITLE INTERIM PUBLIC WORKS DIRECTOR

Date

5. References

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6. List of Preparers

City of Menlo Park

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Angela Obeso, P.E. ..... Senior Transportation Engineer
Nicole Nagaya, P.E. ..... Interim Public Works Director
Justin Murphy ..... Deputy City Manager

AECOM

Peter DeStefano, P.E. ..... Transportation Project Manager
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Lynn McIntyre ..... Senior Environmental Planner
Florentina Craciun ..... Environmental Planner
Teresa O'Grady ..... Environmental Planner
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Natalie Greer ..... Biologist
Jay Rehor, RPA ..... Senior Geoarchaeologist
Karin Beck, RPA ..... Senior Archaeologist
Katherine Kubal, RPA ..... Senior Archaeologist
Deborah Jew ..... Document Specialist

Appendix A: 2012 Appendix G Environmental Checklist Form

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APPENDIX G:
ENVIRONMENTAL CHECKLIST FORM

NOTE: The following is a sample form ~~and~~that may be tailored to satisfy individual agencies' needs and project circumstances. It may be used to meet the requirements for an initial study when the criteria set forth in CEQA Guidelines have been met. Substantial evidence of potential impacts that are not listed on this form must also be considered. The sample questions in this form are intended to encourage thoughtful assessment of impacts, and do not necessarily represent thresholds of significance.

1. Project title: _____
2. Lead agency name and address:
   _____
   _____
   _____
3. Contact person and phone number: _____
4. Project location: _____
5. Project sponsor's name and address:
   _____
   _____
   _____
6. General plan designation: _____ 7. Zoning: _____
8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)
   _____
   _____
   _____
9. Surrounding land uses and setting: Briefly describe the project's surroundings:
   _____
   _____
   _____
10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)
    _____
    _____
    _____
11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, ~~has consultation begun~~ is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.? _____

    Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section ~~21083~~21080.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of

Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology /Soils	☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials
☐ Hydrology / Water Quality	☐ Land Use / Planning	☐ Mineral Resources
☐ Noise	☐ Population / Housing	☐ Public Services
☐ Recreation	☐ Transportation~~/Traffic~~	☐ Tribal Cultural Resources
☐ Utilities / Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significance

SAMPLE QUESTION

Issues:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, w~~W~~ould the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☐
c) ~~In non-urbanized areas, s~~Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☐
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☐
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management distict or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☐
~~b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?~~	~~☐~~	~~☐~~	~~☐~~	~~☐~~
~~e~~b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard ~~(including releasing emissions which exceed quantitative thresholds for ozone precursors)~~?	☐	☐	☐	☐
~~e~~d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☐
~~d~~e) ~~Create objectionable~~ Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☐	☐
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☐

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
c) Have a substantial adverse effect on state or federally protected wetlands ~~as defined by Section 404 of the Clean Water Act~~ (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☐
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource ~~as defined in~~ pursuant to § 15064.5?	☐	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☐
~~c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?~~	☐	☐	☐	☐
~~d~~c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☐
VII. GEOLOGY AND SOILS. Would the project:				
a) ~~Expose people or structures to~~ Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☐
ii) Strong seismic ground shaking?	☐	☐	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☐
iv) Landslides?	☐	☐	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
waste water disposal systems where sewers are not available for the disposal of waste water?				
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☐
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☐
~~VIII~~IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☐
~~f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?~~	☐	☐	☐	☐
~~g~~f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☐
~~h~~g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires~~, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands~~?	☐	☐	☐	☐
~~I~~X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☐	☐
b) Substantially ~~deplete~~decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin~~ there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)~~?	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☐	☐
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☐
~~d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?~~	☐	☐	☐	☐
~~e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?~~	☐	☐	☐	☐
~~f) Otherwise substantially degrade water quality?~~	☐	☐	☐	☐
~~g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?~~	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
~~h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?~~	☒	☒	☒	☒
~~i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?~~	☒	☒	☒	☒
~~j) Inundation by seiche, tsunami, or mudflow?~~	☒	☒	☒	☒
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☐
b) Cause a significant environmental impact due to a conflict with any ~~applicable~~ land use plan, policy, or regulation ~~of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance)~~ adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☐
~~c) Conflict with any applicable habitat conservation plan or natural community conservation plan?~~	☒	☒	☒	☒
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☐
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☐
XIII. NOISE. Would the project result in:				
a) ~~Exposure of persons to or g~~Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) ~~Exposure of persons to or g~~Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☐
~~c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?~~	☐	☐	☐	☐
~~d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?~~	☐	☐	☐	☐
~~e~~c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☐
~~f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?~~	☐	☐	☐	☐
XIV~~II~~. POPULATION AND HOUSING. Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☐
~~c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?~~	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES.				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☐
Fire protection?	☐	☐	☐	☐
Police protection?	☐	☐	☐	☐
Schools?	☐	☐	☐	☐
Parks?	☐	☐	☐	☐
Other public facilities?	☐	☐	☐	☐
XVI. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION~~/TRAFFIC~~. Would the project:				
a) Conflict with a~~n applicable~~ program, plan, ordinance or policy ~~establishing measures of effectiveness for the performance of~~ addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? ~~taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?~~	☐	☐	☐	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?~~Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?~~	☐	☐	☐	☐
~~c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?~~	☐	☐	☐	☐
~~d~~c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☐
~~e~~d) Result in inadequate emergency access?	☐	☐	☐	☐
~~f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?~~	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Tribal Cultural Resources. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☐
XIX~~VIII~~. UTILITIES AND SERVICE SYSTEMS. Would the project:				
~~a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?~~	☐	☐	☐	☐
~~b~~a) Require or result in the relocation or construction of new or expanded water, ~~or~~ wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities ~~or expansion of existing facilities~~, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☐
~~c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?~~	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
~~d~~b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? ~~from existing entitlements and resources, or are new or expanded entitlements needed?~~	☐	☐	☐	☐
~~e~~c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☐
~~f~~d) 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? ~~Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?~~	☐	☐	☐	☐
~~g~~e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☐
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☐
XXI~~VIV~~. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☐

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino,*(1988) 202 Cal.App.3d 296; *Leonoff v. Monterey Board of Supervisors,* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Revised 2016
Authority: Public Resources Code sections 21083 and 21083.09
Reference: Public Resources Code sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3/ 21084.2 and 21084.3

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Appendix B: 2012 Specific Plan EIR MMRP

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TABLE 2-1 SUMMARY OF IMPACTS, MITIGATION MEASURES, AND RESIDUAL IMPACTS		
Environmental Impact	**Mitigation Measures**	**Level of Significance after Mitigation**
Air Quality		
Impact AIR-1: Implementation of the Specific Plan would result in increased long-term emissions of criteria pollutants associated with construction activities that could contribute substantially to an air quality violation. (Significant)	**Mitigation Measure AIR-1a:** During construction of individual projects under the Specific Plan, project applicants shall require the construction contractor(s) to implement the following measures required as part of Bay Area Air Quality Management District's (BAAQMD) basic dust control procedures required for construction sites. For projects for which construction emissions exceed one or more of the applicable BAAQMD thresholds, additional measures shall be required as indicated in the list following the Basic Controls. ***Basic Controls that Apply to All Construction Sites*** 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as	Significant and Unavoidable

Impact AIR-1 (cont.)	soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. 8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations. ***Additional Measures for Development Projects that Exceed Significance Criteria*** 1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. 2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.	

Impact AIR-1 (cont.)	3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. 4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. 5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. 6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site. 7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel. 8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent. 9. Minimizing the idling time of diesel powered construction equipment to two minutes. 10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide	

Impact AIR-1 (cont.)	fleet-average 20 percent nitrogen oxides reduction and 45 percent particulate matter reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. 11. Use low volatile organic compound (VOC) (i.e., reactive organic gases) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings). 12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of nitrogen oxides and particulate matter. 13. Requiring all contractors use equipment that meets the California Air Resources Board's most recent certification standard for off-road heavy duty diesel engines. **Mitigation Measure AIR-1b:** Each applicant for development projects to be implemented under the Specific Plan for projects that exceed the BAAQMD screening criteria shall develop an Exhaust Emissions Control Plan outlining how construction exhaust emissions will be controlled during construction activities. These plans shall be submitted to the City for review and approval and shall be distributed to all employees and construction contractors prior to	

Impact AIR-1 (cont.)	commencement of construction activities. The plan shall describe all feasible control measures that will be implemented during construction activities. Feasible control measures may include, but not be limited to, those identified in Mitigation Measure AIR-1a.	
Biological Resources		
Impact BIO-1: The Specific Plan could result in the take of special-status birds or their nests. (Potentially Significant)	**Mitigation Measure BIO-1a: Pre-Construction Special-Status Avian Surveys.** No more than two weeks in advance of any tree or shrub pruning, removal, or ground-disturbing activity that will commence during the breeding season (February 1 through August 31), a qualified wildlife biologist will conduct pre-construction surveys of all potential special-status bird nesting habitat in the vicinity of the planned activity. Pre- construction surveys are not required for construction activities scheduled to occur during the non-breeding season (August 31 through January 31). Construction activities commencing during the non-breeding season and continuing into the breeding season do not require surveys (as it is assumed that any breeding birds taking up nests would be acclimated to project-related activities already under way). Nests initiated during construction activities would be presumed to be unaffected by the activity, and a buffer zone around such nests would not be necessary. However, a nest initiated during construction cannot be moved or altered. **If pre-construction surveys indicate that no nests of special-status birds are present or that nests are inactive or potential habitat is unoccupied**: no further mitigation is required.	Less than Significant

Impact BIO-1 (cont.)	**If active nests of special-status birds are found during the surveys:** implement Mitigation Measure BIO-1b. **Mitigation Measure BIO-1b: Avoidance of active nests.** If active nests of special-status birds or other birds are found during surveys, the results of the surveys would be discussed with the California Department of Fish and Game and avoidance procedures will be adopted, if necessary, on a case-by-case basis. In the event that a special-status bird or protected nest is found, construction would be stopped until either the bird leaves the area or avoidance measures are adopted. Avoidance measures can include construction buffer areas (up to several hundred feet in the case of raptors), relocation of birds, or seasonal avoidance. If buffers are created, a no disturbance zone will be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zones and types of construction activities restricted will take into account factors such as the following: 1. Noise and human disturbance levels at the Plan area and the nesting site at the time of the survey and the noise and disturbance expected during the construction activity; 2. Distance and amount of vegetation or other screening between the Plan area and the nest; and 3. Sensitivity of individual nesting species and behaviors of the nesting birds	

Impact BIO-3: Impacts to migratory or breeding special-status birds and other special-status species due to lighting conditions. (Potentially Significant)	**Mitigation Measure BIO-3a: Reduce building lighting from exterior sources.** a. Minimize amount and visual impact of perimeter lighting and façade up-lighting and avoid up-lighting of rooftop antennae and other tall equipment, as well as of any decorative features; b. Installing motion-sensor lighting; c. Utilize minimum wattage fixtures to achieve required lighting levels; d. Comply with federal aviation safety regulations for large buildings by installing minimum intensity white strobe lighting with a three-second flash interval instead of continuous flood lighting, rotating lights, or red lighting; **e.** Use cutoff shields on streetlight and external lights to prevent upwards lighting	Less than Significant
Impact BIO-5: The Specific Plan could result in the take of special-status bat species. (Potentially Significant)	**Mitigation Measure BIO-5a: Preconstruction surveys.** Potential direct and indirect disturbances to special-status bats will be identified by locating colonies and instituting protective measures prior to construction of any subsequent development project. No more than two weeks in advance of tree removal or structural alterations to buildings with closed areas such as attics, a qualified bat biologist (e.g., a biologist holding a California Department of Fish and Game collection permit and a Memorandum of Understanding with the California Department of Fish and Game allowing the biologist to handle and collect bats) shall conduct pre-construction surveys for potential bats in the vicinity of the planned activity. A qualified biologist will survey buildings and trees (over 12 inches in	Less than Significant

Impact BIO-5 (cont.)	diameter at 4.5-foot height) scheduled for demolition to assess whether these structures are occupied by bats. No activities that would result in disturbance to active roosts will proceed prior to the completed surveys. If bats are discovered during construction, any and all construction activities that threaten individuals, roosts, or hibernacula will be stopped until surveys can be completed by a qualified bat biologist and proper mitigation measures implemented. ***If no active roosts present*:** no further action is warranted. ***If roosts or hibernacula are present*:** implement Mitigation Measures BIO-2b through 2e. **Mitigation Measure BIO-5b: Avoidance.** If any active nursery or maternity roosts or hibernacula of special-status bats are located, the subsequent development project may be redesigned to avoid impacts. Demolition of that tree or structure will commence after young are flying (i.e., after July 31, confirmed by a qualified bat biologist) or before maternity colonies forms the following year (i.e., prior to March 1). For hibernacula, any subsequent development project shall only commence after bats have left the hibernacula. No-disturbance buffer zones acceptable to the California Department of Fish and Game will be observed during the maternity roost season (March 1 through July 31) and during the winter for hibernacula (October 15 through February 15). Also, a no-disturbance buffer acceptable in size to the California Department of Fish and	

Impact BIO-5 (cont.)	Game will be created around any roosts in the Project vicinity (roosts that will not be destroyed by the Project but are within the Plan area) during the breeding season (April 15 through August 15), and around hibernacula during winter (October 15 through February 15). Bat roosts initiated during construction are presumed to be unaffected, and no buffer is necessary. However, the "take" of individuals is prohibited **Mitigation Measure BIO-5c: Safely evict non-breeding roosts.** Non-breeding roosts of special-status bats shall be evicted under the direction of a qualified bat biologist. This will be done by opening the roosting area to allow airflow through the cavity. Demolition will then follow no sooner or later than the following day. There should not be less than one night between initial disturbance with airflow and demolition. This action should allow bats to leave during dark hours, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. Trees with roosts that need to be removed should first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours. However, the "take" of individuals is prohibited.	
Cultural Resources		
Impact CUL-2: The proposed Specific Plan could impact currently unknown archaeological resources. (Potentially Significant)	**Mitigation Measure CUL-2a:** When specific projects are proposed that involve ground disturbing activity, a site-specific cultural resources study shall be performed by a qualified archaeologist or equivalent cultural resources professional that will include an	Less than Significant

Impact CUL-2 (cont.)	updated records search, pedestrian survey of the project area, development of a historic context, sensitivity assessment for buried prehistoric and historic-period deposits, and preparation of a technical report that meets federal and state requirements. If historic or unique resources are identified and cannot be avoided, treatment plans will be developed in consultation with the City and Native American representatives to mitigate potential impacts to less than significant based on either the Secretary of the Interior's Standards described in Mitigation Measure CUL-1 (if the site is historic) or the provisions of Public Resources Code Section 21083.2 (if a unique archaeological site). **Mitigation Measure CUL-2b:** Should any archaeological artifacts be found during construction, all construction activities within 50 feet shall immediately halt and the City must be notified. A qualified archaeologist shall inspect the findings within 24 hours of the discovery. If the resource is determined to be a historical resource or unique resource, the archaeologist shall prepare a plan to identify, record, report, evaluate, and recover the resources as necessary, which shall be implemented by the developer. Construction within the area of the find shall not recommence until impacts on the historical or unique archaeological resource are mitigated as described in Mitigation Measure CUL-2a above. Additionally, Public Resources Code Section 5097.993 stipulates that a project sponsor must inform project personnel that collection of any Native American artifact is prohibited by law.	

Impact CUL-3: The proposed Specific Plan may adversely affect unidentifiable paleontological resources. (Potentially Significant)	**Mitigation Measure CUL-3:** Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, all construction forepersons and field supervisors shall receive training by a qualified professional paleontologist, as defined by the Society of Vertebrate Paleontology (SVP),[1] who is experienced in teaching non-specialists, to ensure they can recognize fossil materials and will follow proper notification procedures in the event any are uncovered during construction. Procedures to be conveyed to workers include halting construction within 50 feet of any potential fossil find and notifying a qualified paleontologist, who will evaluate its significance. Training on paleontological resources will also be provided to all other construction workers, but may involve using a videotape of the initial training and/or written materials rather than in-person training by a paleontologist. If a fossil is determined to be significant and avoidance is not feasible, the paleontologist will develop and implement an excavation and salvage plan in accordance with SVP standards.	Less than Significant
Impact CUL-4: Implementation of the Plan may cause disturbance of human remains including those interred outside of formal cemeteries. (Potentially Significant)	**Mitigation Measure CUL-4:** If human remains are discovered during construction, CEQA Guidelines 15064.5(e)(1) shall be followed, which is as follows: • In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken: 1. There shall be no further excavation or disturbance of the site or any nearby	Less than Significant

Impact CUL-4 (cont.)	area reasonably suspected to overlie adjacent human remains until a. The San Mateo County coroner must be contacted to determine that no investigation of the cause of death is required; and b. If the coroner determines the remains to be Native American: i. The coroner shall contact the Native American Heritage Commission within 24 hours; ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American; iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; or 2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.	

Impact CUL-4 (cont.)	a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the Commission. b. The descendant identified fails to make a recommendation; or c. The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.	
Greenhouse Gases		
Impact GHG-1: The Specific Plan would generate GHG emissions, both directly and indirectly, that would have a significant impact on the environment. (Significant)	**Mitigation Measure GHG-1: Implement feasible BAAQMD-identified GHG Mitigation Measures and Proposed City CALGreen Amendments.** BAAQMD has identified a menu of over 100 available mitigation measures for the purposes of addressing significant air quality impacts, including GHG impacts that arise from implementation of plans including Specific Plans. Many of the GHG reduction measures are already part of the proposed Specific Plan and discussed in the Project Description. Several BAAQMD identified mitigation measures are not applicable to a Specific Plan as they are correlated to specific elements of a general plan. As an example, Table 4.6-5 presents the mitigation measures contained in the BAAQMD CEQA Guidelines related to Land Use elements and either correlates each to a	Significant and Unavoidable

Impact GHG-1 (cont.)	specific element of the project, explains why it is inapplicable to the proposed project or identifies it as a mitigation measure to be implemented by the proposed project. This method was used in consideration of all BAAQMD identified GHG mitigation measures for plans to develop the following list of available mitigation measures (with BAAQMD-identified category) for the proposed Specific Plan: • Facilitate lot consolidation that promotes integrated development with improved pedestrian and vehicular access (Land Use Element: Compact Development); Ensure that new development finances the full cost of expanding public infrastructure and services to provide an economic incentive for incremental expansion (Land Use Element: Compact Development); • Ensure new construction complies with California green Building Code Standards and local green building ordinances (Land Use Element: Sustainable Development); • Provide permitting incentives for energy efficient and solar building projects (Land Use Element: Sustainable Development); • Support the use of electric vehicles; where appropriate. Provide electric recharging facilities (Circulation Element: Local Circulation; see also Mitigation Measure GHG-2 below). • Allow developers to reach agreements with auto-oriented shopping center owners to use commercial parking lots as park-and-ride lots and multi-modal	

Impact GHG-1 (cont.)	transfer sites (Circulation Element: Regional Circulation); • Eliminate [or reduce] parking requirements for new development in the Specific Plan area (Circulation Element: Parking); • Encourage developers to agree to parking sharing between different land uses (Circulation Element: Parking); • Require developers to provide preferential parking for low emissions and carpool vehicles (Circulation Element: Parking); • Minimize impervious surfaces in new development and reuse project in the Specific Plan area (Conservation Element: Water Conservation); • Require fireplaces installed in residential development to be energy efficient in lieu of open hearth. Prohibit the installation of wood burning devices (Conservation Element: Energy Conservation); and • Sealing of HVAC ducts. This is a project level BAAQMD measure that requires the developer to obtain third party HVAC commissioning to ensure proper sealing of ducts and optimal heating and cooling efficiencies. BAAQMD estimated that this measure reduces air conditioning electrical demand by 30 percent. The California Energy commission estimates that air conditioning electrical demand represents approximately 20 percent of total demand for a single family residence and this measure would reduce electrical-related GHG emissions by approximately 100 metric tons/year	

Impact GHG-1 (cont.)	of CO_2e. Additionally, the City of Menlo Park is planning its own amendments to the CALGreen building code (California Green Building Standards Code, Title 24, Part 11). These amendments will be designed to require a further 15 percent reduction over baseline Title 24 green building standards requirements for all new development in the City, as well as mandatory duct testing (discussed above) and cool roof materials. As these amendments are only in the planning stages, they are identified here as further mitigation. Reductions in GHG emissions from these amendments were calculated using the mitigations tab in the BGM model. While BAAQMD also identifies use of cool roof materials as a potential GHG mitigation measure, per CAPCOA3, reflective roofs are covered under Title 24 Part 6 and the electricity savings is therefore incorporated in savings due to Title 24 (CALGreen) and no further reduction was taken for this measure as reductions up to 15 percent beyond Title	
Hazards and Hazardous Materials		
Impact HAZ-3: Hazardous materials used on any individual site during construction activities (i.e., fuels, lubricants, solvents) could be released to the environment through improper handling or storage. (Potentially Significant)	**Mitigation Measure HAZ-3:** All development and redevelopment shall require the use of construction Best Management Practices (BMPs) to control handling of hazardous materials during construction to minimize the potential negative effects from accidental release to groundwater and soils. For projects that disturb less than one acre, a list of BMPs to be implemented shall be part of building	Less than Significant

Impact HAZ-3 (cont.)	specifications and approved of by the City Building Department prior to issuance of a building permit.	
Noise		
Impact NOI-1: Construction activities associated with implementation of the Specific Plan would result in substantial temporary or periodic increases in ambient noise levels in the Specific Plan area above levels existing without the Specific Plan and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Potentially Significant)	**Mitigation Measure NOI-1a:** Construction contractors for subsequent development projects within the Specific Plan area shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds, etc.) when within 400 feet of sensitive receptor locations. Prior to demolition, grading or building permit issuance, a construction noise control plan that identifies the best available noise control techniques to be implemented, shall be prepared by the construction contractor and submitted to the City for review and approval. The plan shall include, but not be limited to, the following noise control elements: • Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler shall achieve lower noise levels from the exhaust by approximately 10 dBA. External jackets on the tools themselves shall be used where feasible in order to achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever	Less than Significant

Impact NOI-1 (cont.)	feasible; • Stationary noise sources shall be located as far from adjacent receptors as possible and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures to the extent feasible; and • When construction occurs near residents, affected parties within 400 feet of the construction area shall be notified of the construction schedule prior to demolition, grading or building permit issuance. Notices sent to residents shall include a project hotline where residents would be able to call and issue complaints. A Project Construction Complaint and Enforcement Manager shall be designated to receive complaints and notify the appropriate City staff of such complaints. Signs shall be posted at the construction site that include permitted construction days and hours, a day and evening contact number for the job site, and day and evening contact numbers, both for the construction contractor and City representative(s), in the event of problems. **Mitigation Measure NOI-1c:** The City shall condition approval of projects near receptors sensitive to construction noise, such as residences and schools, such that, in the event of a justified complaint regarding construction noise, the City would have the ability to require changes in the construction	

Impact NOI-1 (cont.)	control noise plan to address complaints.	

Source: City of Menlo Park El Camino Real and Downtown Specific Plan EIR, Section 2.2, Environmental Impacts and Mitigation Measures (City of Menlo Park 2012a)

Note: This table only lists applicable mitigation measures

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Appendix C: Construction Emissions Calculations

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Construction Emissions Summary

Annual Construction Emissions											
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	CO2e
Year	tons/year										MT/year
2020	0.13	1.31	1.02	0.00	0.05	0.06	0.12	0.01	0.06	0.07	182.3544
2021	0.17	1.49	1.68	0.00	0.02	0.08	0.10	0.01	0.08	0.08	254.7063
Total Emissions (tons)	0.30	2.80	2.70	0.01	0.08	0.14	0.22	0.01	0.14	0.15	437.06

Notes: ROG = reactive organic gases; NOx = nitrogen oxides; CO = carbon monoxide; SO2 = sulfur dioxide; PM10 = particulate matter equal or less than 10 micrometers in diameter; PM2.5 = particulate matter equal or less than 2.5 micrometers in diameter

Average Daily Construction Emissions										
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Annual Emissions	0.30	2.80	2.70	0.01	0.08	0.14	0.22	0.01	0.14	0.15
Average Daily Emissions (pounds/day)[1]	1.52	14.13	13.64	0.03	0.38	0.71	1.09	0.07	0.69	0.76
Threshold[2]	54	54				82			54	
Exceed Threshold?	No	No				No			No	

Notes:
[1] Average daily emissions are calculated based on 22 working days per month over an 18-month construction period.
[2] Thresholds from Table 2-1 of the BAAQMD CEQA Air Quality Guidelines (BAAQMD 2017)
ROG = reactive organic gases; NOx = nitrogen oxides; CO = carbon monoxide; SO2 = sulfur dioxide; PM10 = particulate matter equal or less than 10 micrometers in diameter; PM2.5 = particulate matter equal or less than 2.5 micrometers in diameter

Total Months of Construction	18
Working Days/Month	22
lb/ton	2000

Construction-Related Greenhouse Gas Emissions	
Year	MT CO2e
2020	182.35
2021	254.71
Total GHG Emissions	437.06
Amortized GHG Emissions[1]	10.93

Notes:
[1] Amortized construction GHG emissions calculated assuming 40-year project lifetime, consistent with Specific Plan EIR analysis.
CO2e = carbon dioxide equivalents; MT = metric tons

Middle Avenue Undercrossing Project

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.21	Acre	0.21	9,239.99	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction only run.

Land Use - Other non-asphalt surfaces land use and associated acreage based on project specific details to account for tunnel, ped/bike improvements, retaining walls, and stairways.

Construction Phase - Utilties relocation to occur in 2020 for 3-6 months. Main construction to occur in 2021 for 9-12 months. Default CalEEMod schedule scaled up to account for project specific details and 4-day tunnel construction period.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment with additional pump and generator.

Off-road Equipment - Default equipment with additional pump and generator.

Off-road Equipment - Default equipment with additional pump and generator.

Off-road Equipment - Default equipment with additional pump and generator.

Off-road Equipment - Default equipment with additional pump and generator.

Trips and VMT - Default worker trips. Haul truck trips during building construction to account for delivery of pre-cast tunnel segments. Haul trucks during the paving phase to account for poured cement trucks. Vehicle class for hauling changed to match vendor vehicle class: HHDT, MHDT.

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	12.00
tblConstructionPhase	NumDays	100.00	4.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	5.00	232.00
tblConstructionPhase	NumDays	1.00	132.00
tblConstructionPhase	NumDays	1.00	3.00
tblGrading	AcresOfGrading	1.50	0.50
tblGrading	MaterialExported	0.00	2,000.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Utility Relocation
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Utility Relocation
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	UsageHours	4.00	24.00
tblOffRoadEquipment	UsageHours	6.00	24.00
tblOffRoadEquipment	UsageHours	8.00	24.00
tblTripsAndVMT	HaulingTripNumber	0.00	20.00
tblTripsAndVMT	HaulingTripNumber	0.00	202.00
tblTripsAndVMT	HaulingVehicleClass	HHDT	HDT_Mix
tblTripsAndVMT	VendorTripNumber	1.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1294	1.3118	1.0249	2.0700e-003	0.0532	0.0627	0.1160	8.1800e-003	0.0604	0.0686	0.0000	181.6053	181.6053	0.0300	0.0000	182.3544
2021	0.1723	1.4854	1.6764	2.9700e-003	0.0219	0.0783	0.1002	5.8700e-003	0.0755	0.0814	0.0000	253.7584	253.7584	0.0379	0.0000	254.7063
Maximum	**0.1723**	**1.4854**	**1.6764**	**2.9700e-003**	**0.0532**	**0.0783**	**0.1160**	**8.1800e-003**	**0.0755**	**0.0814**	**0.0000**	**253.7584**	**253.7584**	**0.0379**	**0.0000**	**254.7063**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1294	1.3118	1.0249	2.0700e-003	0.0295	0.0627	0.0923	5.1600e-003	0.0604	0.0656	0.0000	181.6051	181.6051	0.0300	0.0000	182.3542
2021	0.1723	1.4854	1.6764	2.9700e-003	0.0219	0.0783	0.1002	5.8700e-003	0.0755	0.0814	0.0000	253.7581	253.7581	0.0379	0.0000	254.7060
Maximum	**0.1723**	**1.4854**	**1.6764**	**2.9700e-003**	**0.0295**	**0.0783**	**0.1002**	**5.8700e-003**	**0.0755**	**0.0814**	**0.0000**	**253.7581**	**253.7581**	**0.0379**	**0.0000**	**254.7060**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**31.54**	**0.00**	**10.96**	**21.49**	**0.00**	**2.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-1-2020	8-31-2020	0.5582	0.5582
2	9-1-2020	11-30-2020	0.5523	0.5523
3	12-1-2020	2-28-2021	0.6288	0.6288
4	3-1-2021	5-31-2021	0.4870	0.4870
5	6-1-2021	8-31-2021	0.4868	0.4868
6	9-1-2021	9-30-2021	0.1587	0.1587
		Highest	0.6288	0.6288

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	11/9/2021	11/24/2021	5	12	
2	Utility Relocation	Site Preparation	6/1/2020	12/1/2020	5	132	
3	Building Construction	Building Construction	12/12/2020	12/17/2020	5	4	
4	Paving	Paving	12/18/2020	11/8/2021	5	232	
5	Site Preparation	Site Preparation	12/2/2020	12/4/2020	5	3	
6	Grading	Grading	12/5/2020	12/11/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.21

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 549 (Architectural Coating – sqft)

OffRoad Equipment

Middle Avenue Undercrossing Project - San Mateo County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Generator Sets	1	8.00	84	0.74
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Pumps	1	8.00	84	0.74
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Generator Sets	1	8.00	84	0.74
Grading	Pumps	1	8.00	84	0.74
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	24.00	231	0.29
Building Construction	Forklifts	2	24.00	89	0.20
Building Construction	Generator Sets	1	24.00	84	0.74
Building Construction	Pumps	1	24.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	24.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Generator Sets	1	8.00	84	0.74
Paving	Pavers	1	7.00	130	0.42
Paving	Pumps	1	8.00	84	0.74
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Utility Relocation	Generator Sets	1	8.00	84	0.74
Utility Relocation	Graders	1	8.00	187	0.41
Utility Relocation	Pumps	1	8.00	84	0.74
Utility Relocation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	10.00	0.00	250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	4.00	0.00	20.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	9	23.00	0.00	202.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HDT_Mix
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utility Relocation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	9.1600e-003	0.0109	2.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	1.5320	1.5320	1.1000e-004	0.0000	1.5346
Total	**3.2200e-003**	**9.1600e-003**	**0.0109**	**2.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**1.5320**	**1.5320**	**1.1000e-004**	**0.0000**	**1.5346**

3.2 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.1000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0379	0.0379	0.0000	0.0000	0.0380
Total	**2.0000e-005**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0379**	**0.0379**	**0.0000**	**0.0000**	**0.0380**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3100e-003	9.1600e-003	0.0109	2.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	1.5320	1.5320	1.1000e-004	0.0000	1.5346
Total	**3.2200e-003**	**9.1600e-003**	**0.0109**	**2.0000e-005**		**5.6000e-004**	**5.6000e-004**		**5.6000e-004**	**5.6000e-004**	**0.0000**	**1.5320**	**1.5320**	**1.1000e-004**	**0.0000**	**1.5346**

3.2 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.1000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0379	0.0379	0.0000	0.0000	0.0380
Total	**2.0000e-005**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0379**	**0.0379**	**0.0000**	**0.0000**	**0.0380**

3.3 Utility Relocation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0408	0.0000	0.0408	4.4100e-003	0.0000	4.4100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0995	1.0189	0.7631	1.5100e-003		0.0488	0.0488		0.0470	0.0470	0.0000	131.0979	131.0979	0.0226	0.0000	131.6630
Total	**0.0995**	**1.0189**	**0.7631**	**1.5100e-003**	**0.0408**	**0.0488**	**0.0896**	**4.4100e-003**	**0.0470**	**0.0514**	**0.0000**	**131.0979**	**131.0979**	**0.0226**	**0.0000**	**131.6630**

3.3 Utility Relocation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-003	1.2200e-003	0.0128	5.0000e-005	5.2000e-003	3.0000e-005	5.2300e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.3265	4.3265	8.0000e-005	0.0000	4.3286
Total	**1.8000e-003**	**1.2200e-003**	**0.0128**	**5.0000e-005**	**5.2000e-003**	**3.0000e-005**	**5.2300e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.3265**	**4.3265**	**8.0000e-005**	**0.0000**	**4.3286**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0184	0.0000	0.0184	1.9800e-003	0.0000	1.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0995	1.0189	0.7631	1.5100e-003		0.0488	0.0488		0.0470	0.0470	0.0000	131.0978	131.0978	0.0226	0.0000	131.6628
Total	**0.0995**	**1.0189**	**0.7631**	**1.5100e-003**	**0.0184**	**0.0488**	**0.0671**	**1.9800e-003**	**0.0470**	**0.0490**	**0.0000**	**131.0978**	**131.0978**	**0.0226**	**0.0000**	**131.6628**

3.3 Utility Relocation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-003	1.2200e-003	0.0128	5.0000e-005	5.2000e-003	3.0000e-005	5.2300e-003	1.3800e-003	3.0000e-005	1.4100e-003	0.0000	4.3265	4.3265	8.0000e-005	0.0000	4.3286
Total	**1.8000e-003**	**1.2200e-003**	**0.0128**	**5.0000e-005**	**5.2000e-003**	**3.0000e-005**	**5.2300e-003**	**1.3800e-003**	**3.0000e-005**	**1.4100e-003**	**0.0000**	**4.3265**	**4.3265**	**8.0000e-005**	**0.0000**	**4.3286**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1152	0.0990	1.7000e-004		6.5100e-003	6.5100e-003		6.1800e-003	6.1800e-003	0.0000	14.7098	14.7098	2.9600e-003	0.0000	14.7837
Total	**0.0119**	**0.1152**	**0.0990**	**1.7000e-004**		**6.5100e-003**	**6.5100e-003**		**6.1800e-003**	**6.1800e-003**	**0.0000**	**14.7098**	**14.7098**	**2.9600e-003**	**0.0000**	**14.7837**

3.4 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.2300e-003	1.3500e-003	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8353	0.8353	1.0000e-004	0.0000	0.8379
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0524	0.0524	0.0000	0.0000	0.0525
Total	**1.1000e-004**	**3.2400e-003**	**1.5100e-003**	**1.0000e-005**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**7.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**0.8878**	**0.8878**	**1.0000e-004**	**0.0000**	**0.8904**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.1152	0.0990	1.7000e-004		6.5100e-003	6.5100e-003		6.1800e-003	6.1800e-003	0.0000	14.7098	14.7098	2.9600e-003	0.0000	14.7837
Total	**0.0119**	**0.1152**	**0.0990**	**1.7000e-004**		**6.5100e-003**	**6.5100e-003**		**6.1800e-003**	**6.1800e-003**	**0.0000**	**14.7098**	**14.7098**	**2.9600e-003**	**0.0000**	**14.7837**

3.4 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	3.2300e-003	1.3500e-003	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.8353	0.8353	1.0000e-004	0.0000	0.8379
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0524	0.0524	0.0000	0.0000	0.0525
Total	**1.1000e-004**	**3.2400e-003**	**1.5100e-003**	**1.0000e-005**	**2.3000e-004**	**1.0000e-005**	**2.4000e-004**	**7.0000e-005**	**1.0000e-005**	**8.0000e-005**	**0.0000**	**0.8878**	**0.8878**	**1.0000e-004**	**0.0000**	**0.8904**

3.5 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9700e-003	0.0712	0.0729	1.2000e-004		3.9900e-003	3.9900e-003		3.8500e-003	3.8500e-003	0.0000	10.3485	10.3485	1.7000e-003	0.0000	10.3909
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9700e-003**	**0.0712**	**0.0729**	**1.2000e-004**		**3.9900e-003**	**3.9900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**10.3485**	**10.3485**	**1.7000e-003**	**0.0000**	**10.3909**

3.5 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	9.6000e-004	3.9000e-004	0.0000	1.2900e-003	1.0000e-005	1.3000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.2879	0.2879	2.0000e-005	0.0000	0.2885
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.1000e-004	2.2400e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7539	0.7539	1.0000e-005	0.0000	0.7542
Total	**3.5000e-004**	**1.1700e-003**	**2.6300e-003**	**1.0000e-005**	**2.2000e-003**	**2.0000e-005**	**2.2100e-003**	**5.6000e-004**	**2.0000e-005**	**5.8000e-004**	**0.0000**	**1.0418**	**1.0418**	**3.0000e-005**	**0.0000**	**1.0428**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9700e-003	0.0712	0.0729	1.2000e-004		3.9900e-003	3.9900e-003		3.8500e-003	3.8500e-003	0.0000	10.3485	10.3485	1.7000e-003	0.0000	10.3909
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9700e-003**	**0.0712**	**0.0729**	**1.2000e-004**		**3.9900e-003**	**3.9900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**10.3485**	**10.3485**	**1.7000e-003**	**0.0000**	**10.3909**

3.5 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	9.6000e-004	3.9000e-004	0.0000	1.2900e-003	1.0000e-005	1.3000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.2879	0.2879	2.0000e-005	0.0000	0.2885
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.1000e-004	2.2400e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7539	0.7539	1.0000e-005	0.0000	0.7542
Total	**3.5000e-004**	**1.1700e-003**	**2.6300e-003**	**1.0000e-005**	**2.2000e-003**	**2.0000e-005**	**2.2100e-003**	**5.6000e-004**	**2.0000e-005**	**5.8000e-004**	**0.0000**	**1.0418**	**1.0418**	**3.0000e-005**	**0.0000**	**1.0428**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1620	1.4534	1.6112	2.7100e-003		0.0776	0.0776		0.0748	0.0748	0.0000	229.7326	229.7326	0.0370	0.0000	230.6574
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1620**	**1.4534**	**1.6112**	**2.7100e-003**		**0.0776**	**0.0776**		**0.0748**	**0.0748**	**0.0000**	**229.7326**	**229.7326**	**0.0370**	**0.0000**	**230.6574**

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2000e-004	0.0186	8.3600e-003	6.0000e-005	1.7800e-003	6.0000e-005	1.8300e-003	5.1000e-004	5.0000e-005	5.7000e-004	0.0000	6.3156	6.3156	5.3000e-004	0.0000	6.3287
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5100e-003	4.2300e-003	0.0459	1.8000e-004	0.0201	1.2000e-004	0.0202	5.3500e-003	1.1000e-004	5.4600e-003	0.0000	16.1403	16.1403	2.9000e-004	0.0000	16.1477
Total	**7.1300e-003**	**0.0228**	**0.0542**	**2.4000e-004**	**0.0219**	**1.8000e-004**	**0.0221**	**5.8600e-003**	**1.6000e-004**	**6.0300e-003**	**0.0000**	**22.4559**	**22.4559**	**8.2000e-004**	**0.0000**	**22.4764**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1620	1.4534	1.6112	2.7100e-003		0.0776	0.0776		0.0748	0.0748	0.0000	229.7323	229.7323	0.0370	0.0000	230.6571
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.1620**	**1.4534**	**1.6112**	**2.7100e-003**		**0.0776**	**0.0776**		**0.0748**	**0.0748**	**0.0000**	**229.7323**	**229.7323**	**0.0370**	**0.0000**	**230.6571**

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2000e-004	0.0186	8.3600e-003	6.0000e-005	1.7800e-003	6.0000e-005	1.8300e-003	5.1000e-004	5.0000e-005	5.7000e-004	0.0000	6.3156	6.3156	5.3000e-004	0.0000	6.3287
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.5100e-003	4.2300e-003	0.0459	1.8000e-004	0.0201	1.2000e-004	0.0202	5.3500e-003	1.1000e-004	5.4600e-003	0.0000	16.1403	16.1403	2.9000e-004	0.0000	16.1477
Total	**7.1300e-003**	**0.0228**	**0.0542**	**2.4000e-004**	**0.0219**	**1.8000e-004**	**0.0221**	**5.8600e-003**	**1.6000e-004**	**6.0300e-003**	**0.0000**	**22.4559**	**22.4559**	**8.2000e-004**	**0.0000**	**22.4764**

3.6 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.8000e-004	0.0000	3.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2600e-003	0.0232	0.0173	3.0000e-005		1.1100e-003	1.1100e-003		1.0700e-003	1.0700e-003	0.0000	2.9795	2.9795	5.1000e-004	0.0000	2.9923
Total	**2.2600e-003**	**0.0232**	**0.0173**	**3.0000e-005**	**3.8000e-004**	**1.1100e-003**	**1.4900e-003**	**5.0000e-005**	**1.0700e-003**	**1.1200e-003**	**0.0000**	**2.9795**	**2.9795**	**5.1000e-004**	**0.0000**	**2.9923**

3.6 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1100e-003	0.0403	0.0168	1.0000e-004	2.0900e-003	1.3000e-004	2.2200e-003	5.7000e-004	1.2000e-004	6.9000e-004	0.0000	10.4414	10.4414	1.3000e-003	0.0000	10.4740
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0983	0.0983	0.0000	0.0000	0.0984
Total	**1.1500e-003**	**0.0404**	**0.0171**	**1.0000e-004**	**2.2100e-003**	**1.3000e-004**	**2.3400e-003**	**6.0000e-004**	**1.2000e-004**	**7.2000e-004**	**0.0000**	**10.5398**	**10.5398**	**1.3000e-003**	**0.0000**	**10.5724**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.7000e-004	0.0000	1.7000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2600e-003	0.0232	0.0173	3.0000e-005		1.1100e-003	1.1100e-003		1.0700e-003	1.0700e-003	0.0000	2.9795	2.9795	5.1000e-004	0.0000	2.9923
Total	**2.2600e-003**	**0.0232**	**0.0173**	**3.0000e-005**	**1.7000e-004**	**1.1100e-003**	**1.2800e-003**	**2.0000e-005**	**1.0700e-003**	**1.0900e-003**	**0.0000**	**2.9795**	**2.9795**	**5.1000e-004**	**0.0000**	**2.9923**

3.6 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1100e-003	0.0403	0.0168	1.0000e-004	2.0900e-003	1.3000e-004	2.2200e-003	5.7000e-004	1.2000e-004	6.9000e-004	0.0000	10.4414	10.4414	1.3000e-003	0.0000	10.4740
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	2.9000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0983	0.0983	0.0000	0.0000	0.0984
Total	**1.1500e-003**	**0.0404**	**0.0171**	**1.0000e-004**	**2.2100e-003**	**1.3000e-004**	**2.3400e-003**	**6.0000e-004**	**1.2000e-004**	**7.2000e-004**	**0.0000**	**10.5398**	**10.5398**	**1.3000e-003**	**0.0000**	**10.5724**

3.7 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.8800e-003	0.0000	1.8800e-003	1.0300e-003	0.0000	1.0300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2200e-003	0.0372	0.0377	6.0000e-005		2.1800e-003	2.1800e-003		2.1200e-003	2.1200e-003	0.0000	5.4279	5.4279	6.6000e-004	0.0000	5.4443
Total	**4.2200e-003**	**0.0372**	**0.0377**	**6.0000e-005**	**1.8800e-003**	**2.1800e-003**	**4.0600e-003**	**1.0300e-003**	**2.1200e-003**	**3.1500e-003**	**0.0000**	**5.4279**	**5.4279**	**6.6000e-004**	**0.0000**	**5.4443**

3.7 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2458	0.2458	0.0000	0.0000	0.2459
Total	**1.0000e-004**	**7.0000e-005**	**7.3000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2458**	**0.2458**	**0.0000**	**0.0000**	**0.2459**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.5000e-004	0.0000	8.5000e-004	4.7000e-004	0.0000	4.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2200e-003	0.0372	0.0377	6.0000e-005		2.1800e-003	2.1800e-003		2.1200e-003	2.1200e-003	0.0000	5.4279	5.4279	6.6000e-004	0.0000	5.4443
Total	**4.2200e-003**	**0.0372**	**0.0377**	**6.0000e-005**	**8.5000e-004**	**2.1800e-003**	**3.0300e-003**	**4.7000e-004**	**2.1200e-003**	**2.5900e-003**	**0.0000**	**5.4279**	**5.4279**	**6.6000e-004**	**0.0000**	**5.4443**

3.7 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	7.3000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2458	0.2458	0.0000	0.0000	0.2459
Total	**1.0000e-004**	**7.0000e-005**	**7.3000e-004**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2458**	**0.2458**	**0.0000**	**0.0000**	**0.2459**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.476244	0.050164	0.262181	0.139658	0.017521	0.006864	0.023236	0.006525	0.004137	0.003158	0.009064	0.000471	0.000777

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	7.9000e-004	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9000e-004**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Appendix D: Cultural Resources Memo

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AECOM
300 Lakeside Drive, Suite 400
Oakland, CA 94612
aecom.com

Project name:
EIR Addendum: Middle Avenue Undercrossing Project, Menlo Park, San Mateo County, California

To:
Morad Fakhrai, Project Manager

From:
Karin G. Beck, RPA, RPH

Date:
August 30, 2019

Memo

Subject: Results of Cultural Resources Analysis

This memorandum documents the results of a cultural resources inventory and analysis of potential impacts from the implementation of the Middle Avenue Pedestrian and Bicycle Rail Crossing Project (project) for an Addendum to the Menlo Park El Camino Real and Downtown Specific Plan Environment Impact Report (EIR), which was certified in June 2012. The study was conducted to meet the requirements of the California Environmental Quality Act (CEQA) and ensure that no significant impacts would occur to historical resources, unique archaeological resources, or tribal cultural resources because of the proposed construction.

The cultural resources study consisted of two record searches at the Northwest Information Center (NWIC) of the California Historical Resources Information System, as well as a literature review and historic map analysis; a pedestrian survey; subsurface geoarchaeological testing; and a search of the California Native American Heritage Commission's (NAHC) Sacred Land File (SLF). In addition, the studies documented in this memorandum are being used to inform an addendum to an existing EIR for which Native American consultation has already been completed.

PROJECT LOCATION AND DESCRIPTION

The project is located approximately 300 feet north of Middle Avenue and extends from the northern most edge of what is now a vacant parking lot across the Caltrain rail system, to Alma Street near Burgess Park in the City of Menlo Park, San Mateo County, California. The southern connection point for the rail crossing at Middle Avenue is the location for the open space plaza proposed as part of Stanford University's development at 500 El Camino Real (Middle Plaza at 500 El Camino Real Project), a planned mixed-use development. The project would construct a pedestrian and bicycle path undercrossing that would consist of a 62-foot-long by 20-foot-wide tunnel, with ramps and retaining walls. The tunnel would be excavated to a maximum depth of 25 feet below Caltrain track level, or 20 feet below ground surface. Construction of the tunnel would take place over an extended weekend with the complete shutdown of the Caltrain through the area and the removal of tracks to install the concrete tunnel. The pedestrian/bike ramps would be 10 feet wide (minimum) with a concrete surface; overall ramp length would be about 350 feet. The maximum depth of disturbance for the ramps is 12 feet below ground surface. There are eight retaining walls with an average length of 80 feet and an average height of 6 to 8 feet.

While most of the work would occur within the Caltrain right-of-way, a portion of the Cortana property (Big 5; Assessor's Parcel Number 071333200) on the west side of the tunnel, would be acquired for this project.

ENVIRONMENTAL AND HISTORICAL SETTING

People have resided in the San Francisco Bay Area for at least 10,000 years (Milliken et al. 2007:114). Ethnographic literature indicates that the project area is in the traditional territory of the Ohlone, a linguistically-related group comprised of eight separate languages (Levy 1978:485). *Ramaytush* Ohlone speakers resided in present day San Francisco and San Mateo counties; the nearest tribelet to the project area was *lamšin* (Las Pulgas), north of San Francisquito Creek (Milliken 1995: 246-247; Levy 1978:485).

The project area is located on the *Rancho Las Pulgas* land grant, near its border with the *Rancho Rinconada del Arroyo de San Francisquito* Mexican land grant; a 1700-acre portion of the former being sold off to two Irish immigrants in 1851. Three years later, these immigrants, Dennis J. Oliver and his brother-in-law D.C. McGlynn, erected an arched, wooden gate with the inscription “Menlo Park” (after Menlough, the name of their Irish hometown) at the entrance to their property. A decade later, the San Francisco and San Jose Railroad began running trains between San Francisco to Menlo Park, providing the wealthy barons of San Francisco a speedy means of transportation to their country estates (City of Menlo Park 2019). The City was permanently incorporated in 1927.

REGULATORY CONTEXT

California law provides for the protection of cultural resources by requiring evaluations of the significance of prehistoric and historic-period resources identified in documents prepared consistent with the California Environmental Quality Act (CEQA). The CEQA Statute is contained in Public Resources Code (PRC) 21000 to 21177 and the CEQA Guidelines are contained in California Code of Regulations (CCR), Title 14, Division 6, Chapter 3, Sections 15000 to 15387.

Under CEQA, a cultural resource is considered a “historical resource” if it meets any of the criteria found in Section 15064.5(a) of the CEQA Guidelines. Under CEQA, the lead agency determines whether projects may have a significant effect on archaeological and historical resources. CEQA Guidelines Section 15064.5 defines what constitutes a historical resource, including 1) a resource determined by the State Historical Resources Commission to be eligible for the California Register of Historical Resources (CRHR) (including all properties on the National Register of Historic Places [NRHP]); 2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k); 3) a resource identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or 4) any object, building, structure, site, area, place, record, or manuscript that the lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided that the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered historically significant if it meets the criteria for listing on the California Register.

If the lead agency determines that a project may have a significant effect on a historical resource, the project is determined to have a significant effect on the environment, and these effects must be addressed. However, no further environmental review needs to be completed if, under the qualifying criteria, a cultural resource is not found to be a historical resource or unique archaeological resource.

Public Resources Code Section 5097.5

California Public Resources Code (PRC) Section 0597.5 prohibits “knowing and willful” excavation or removal of any “archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands.” Public lands are defined to include lands owned by or under the jurisdiction of the State, or any city, county, district, authority, or public corporation, or any agency thereof.

Laws Pertaining to Human Remains

Any human remains encountered during ground-disturbing activities are required to be treated in accordance with CCR Section 15064.5(e) (CEQA), PRC Section 5097.98, California Health and Safety Code (CHSC) Section 7050.5. California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. Specifically, Section 7050.5 of the CHSC states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner’s authority.

If the human remains are determined to be of Native American origin, the county coroner must contact the NAHC within 24 hours of this identification. An NAHC representative will then identify a Native American Most Likely Descendant to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. In addition, CEQA Guidelines Section 15064.5 specifies the procedures to be followed in case of the discovery of human remains on non-federal land. The disposition of Native American burials falls within the jurisdiction of the NAHC.

Assembly Bill 52

Assembly Bill (AB) 52 sets a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. Projects subject to AB 52 are those that file a Notice of Preparation for an Environmental Impact Report or Notice of Intent to adopt a negative or mitigated negative declaration on or after July 1, 2015. AB 52 adds Tribal Cultural Resources (TCR) to the specific cultural resources protected under CEQA. Under AB 52, a TCR is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a TCR. AB 52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation.

The current project is an addendum to an existing EIR, which was certified in June 2012, and as such, AB 52 does not apply.

City of Menlo Park

The City of Menlo Park General Plan (City of Menlo Park 2016) identifies goals and policies intended to preserve documented and unrecorded historical and prehistoric cultural resources within the City:

- Policy LU-7.8: Cultural Resource Preservation. Promote preservation of buildings, objects, and sites with historic and/or cultural significance.
- Goal OSC-3: Protect and enhance historic resources.
- Policy OSC-3.6: Identification of Potential Historic Resources. Identify historic resources for the historic district in the Zoning Ordinance and require design review of proposals affecting historic buildings.

RECORD SEARCHES

A cultural resources records search of the project area, including a 0.25-mile buffer, was conducted at the NWIC on April 2, 2019, to identify previous cultural resources studies and recorded resources in the area (NWIC File Number 18-1883). A second search was conducted on August 2, 2019, after the tunnel was relocated further north due to design constraints (NWIC File Number 19-0228). The NRHP, the CRHR, and the Office of Historic Preservation (OHP) Historic Properties Directory data files were also reviewed. Five previous studies (Alonso et al. 2017; Carrico et al. 2000; Hatoff et al. 1995; JRP 2002; Nelson et al. 2002) were conducted within portions of the project area. No archaeological sites have been previously recorded within or adjacent to the project area. However, prehistoric archaeological site CA-SMA-424 is located approximately 0.5-mile southeast of the project area along the Caltrain right-of-way, and the area of San Francisquito Creek (0.5-mile south of the project area) was identified by numerous studies as sensitive for prehistoric archaeological resources (including CA-SCL-609) that contain human burials.

CA-SMA-424 was identified and tested in 2010 (Martinez), again in 2017 (Alonso et al.) and recommended as eligible for the NRHP under Criterion D (although the site was not formally evaluated under Section 106 of the NHPA or CEQA). At the time of identification, CA-SMA-424 had no surface evidenced, but instead was identified in soil samples extracted by mechanical bores.

CA-SCL-609 is located approximately 0.75-mile southeast of the project area adjacent to San Francisquito Creek, in neighboring Santa Clara County. CA-SCL-609 was first identified in 1987 (Bocek), then later in 2014 (Conway 2016), numerous burials were identified.

The NRHP-listed Barron-Latham-Hopkins Gate Lodge/House is the nearest built environment resource identified during the record searches (OHP 2012:18). The resource is located on Ravenswood Avenue and is not visible from the project area; therefore, this resource will not be considered further.

LITERATURE AND MAP REVIEW

A review of historical topographic quadrangle maps and aerial photographs depict the railroad and surrounding streets, but no buildings or other structures on or near the project area, just open space or farmland (NETR 1948; USGS 1899, 1953). It was not until 1968 that the area surrounding the project began to be developed (NETR 1968).

A review of *Five Views – An Ethnic Historic Site Survey for California* (OHP 1988) was negative. Likewise, Caltrans' *Research Design and Treatment Plan for Native American Archaeological Resources in the San Francisco Bay-Delta Region* (Byrd, Whitaker, and Mikkelsen 2016), which contains a geoarchaeological sensitivity assessment, was reviewed and it was concluded that the potential sensitivity for surface archaeological resources is moderate while the sensitivity for buried archaeological resources in the project area is low.

NATIVE AMERICAN CONSULTATION

On April 29, 2019, the NAHC was contacted to conduct a SLF search. The NAHC replied on April 30, 2019, that the search was negative for sensitive cultural resources. A list of Native American tribes was also included for AB 52 consultation; however, consultation is not required when preparing an addendum to an existing EIR. Furthermore, no tribes have contacted the City of Menlo Park to request consultation under AB 52. However, a letter will be sent to the Native American tribes on the NAHC list to notify them of the project and the efforts made to rule out archaeological resources in the project area.

FIELD METHODS & RESULTS

A cultural resources survey was conducted by AECOM archaeologist Karin G. Beck on April 15, 2019. Visibility of the ground surface ranged from fair to good due to the vegetation covering it. No cultural resources were identified during the survey. However, due to the presence of prehistoric archaeological site CA-SMA-424, and the area of San Francisquito Creek being identified as sensitive for prehistoric archaeological resources that contain human burials all within 0.5-mile of the project area, the decision was made (prior to the relocation of the tunnel) to conduct subsurface Geoprobe boring to identify if buried cultural resources are present within the original tunnel location proposed beneath the Caltrain corridor. The tunnel originally located approximately 200 feet northwest of the northern edge of Burgess Drive at its intersection with Alma Street.

On May 20, 2019, AECOM geoarchaeologist Jay Rehor conducted boring at both sides of the undercrossing to a maximum depth of disturbance (up to 25 feet). Four bores were excavated with a direct-push ("Geoprobe") drill rig. Two sediment samples were collected and submitted to a laboratory for radiocarbon dating to constrain the timing of initiation and/or cessation of deposition. The dates of the two samples (the shallower of the samples retrieved from about 19 feet) were almost identical at approximately 26,250 years Before Present, indicating that these sediments were buried during the late Pleistocene, and have no potential for buried archaeological resources.

No archaeological resources were observed in any of the bores. The subsurface profile observed in the four Geoprobe bores was generally consistent throughout the project area. This profile consisted of a cumulic profile of alluvial sediment (likely originating from San Francisquito Creek) with no distinct buried soils (paleosols). This is indicative of more-or-less continual alluvial deposition over time, with only brief periods of landscape stability. Several indistinct weak color and structural subsurface soil horizons were observed which may be indicative of weak paleosols and brief breaks in deposition. Given this geomorphic regime, it is unlikely that a large stratified archaeological site would have developed. However, the possibility of a minor prehistoric archaeological site or isolated artifact cannot be completely ruled out within the project footprint.

The updated tunnel location was surveyed during the original site visit on April 15, 2019, with negative results.

DISCUSSION OF IMPACTS

Cultural Resources

a) Cause a substantial adverse change in the significance of a historical resource as defined by §15064.5?

Less-than-Significant Impact. No historical resources have been identified within or adjacent to the project area. No historic-period buildings are in the project area. Construction of the proposed project would not include any direct or indirect effects to any historical resources. Construction of the proposed project would have a **Less than Significant Impact** on historical resources.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less-than-Significant Impact with Mitigation. No evidence of prehistoric resources was identified within the project area. However, the potential for accidental discovery of archaeological resources during construction of the proposed project cannot be completely discounted. A significant impact would occur if the project would cause a substantial adverse change to an archaeological resource through physical demolition, destruction, relocation, or alteration of the resource. Given the proximity to sensitive prehistoric archaeological resources that contain human burials, and the compressed timeline for completion of the undercrossing portion of the project and need to address any unanticipated archaeological resources in a timely and efficient manner, archaeological monitoring during construction is warranted.

In addition to requiring an archaeological monitor, a treatment plan should be prepared prior to construction activities that contains: a brief research design that discusses the nature of archaeological sites in the vicinity and resource types which may reasonably be expected to occur within the project area; decision thresholds for assessing a resources' significance; procedures for notifying interested parties; and a schedule for completing these tasks. The treatment plan should also establish a notification list and plan of action if human remains are discovered, starting with contacting the NAHC prior to the start of construction to designate a Most Likely Descendant (MLD) for the project. Likewise, the County Coroner's office should be notified so that no delays occur in the management of inadvertent discovery of human remains. Mitigation Measure CUL-2a and -2b of the Specific Plan EIR would reduce to a less than significant level the potential impacts of construction of the undercrossing on as-yet unidentified archaeological resources.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Less-than-Significant with Mitigation. No known burial sites were identified in the project area or in the immediate vicinity. The potential exists, however, for previously unknown human remains to be discovered during construction. Damage to or destruction of human remains would constitute a significant impact. However, implementation of Mitigation Measure CUL-4 of the Specific Plan EIR and the requirements established in a treatment plan would ensure that if an inadvertent discovery of previously unknown human remains is made, that appropriate steps will be taken to determine the significance of the find and pursue appropriate management. With implementation of the existing mitigation measure, this impact would be reduced to less than significant.

SUMMARY

Based on the two record searches, background research which included a geoarchaeological review of the project area that concluded a low likelihood for encountering buried archaeological resources due to the age of the landform and a moderate likelihood for surface sensitivity, a negative archaeological survey, and a negative Geoprobe testing investigation approximately 200 feet south of the updated location, no resources were identified within the project area. Although it is anticipated that there is a low likelihood for encountering buried archaeological resources, the potential for discover on unknown resources cannot be discounted. As such, avoidance and minimization efforts included in the Specific Plan EIR would be implemented to address potential effects to unanticipated resources. Therefore, the project is not anticipated to cause a substantial adverse effect to any known historical resources, unique archaeological resources, or tribal cultural resources beyond what was analyzed in the Specific Plan EIR.

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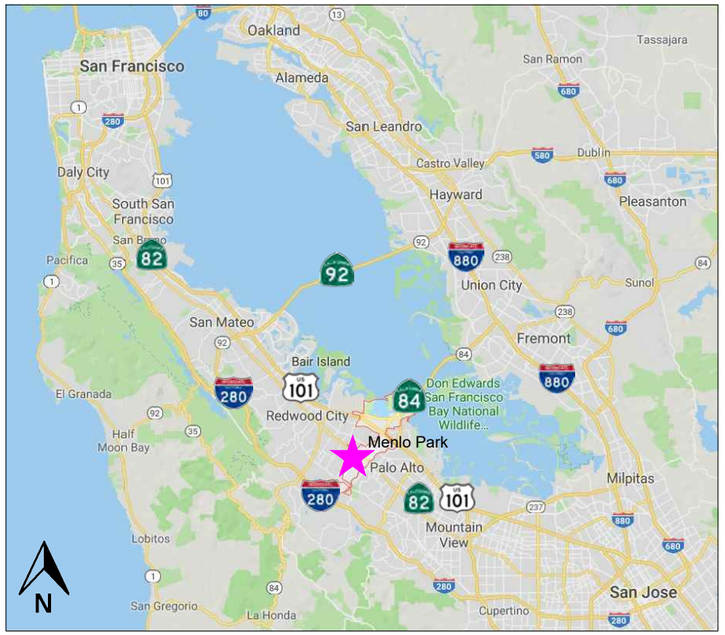
ATTACHMENT C

MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT

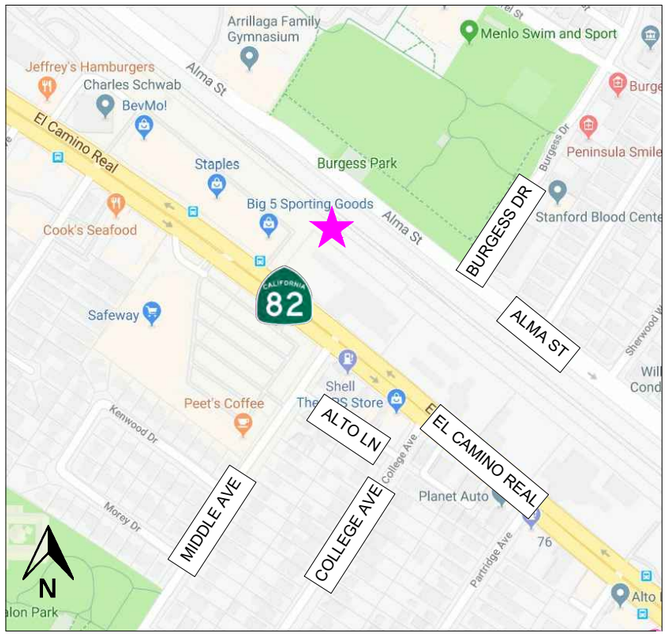
CITY PROJECT NO. 70-101

CITY OF MENLO PARK, CALIFORNIA



VICINITY MAP

NO SCALE



LOCATION MAP

NO SCALE

SHEET INDEX

ENGINEER'S STATEMENT

THESE IMPROVEMENT PLANS HAVE BEEN PREPARED BY ME OR UNDER MY DIRECTION IN ACCORDANCE WITH STANDARD ENGINEERING PRACTICE.

NICOLE H. NAGAYA, P.E. #76085
INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

PETER DESTEFANO, PROJECT MANAGER — DATE
P.E. #50630
AECOM

JAN HUESER, CIVIL ENGINEER — DATE
P.E. #50215
AECOM

30% FINAL - JANUARY 9, 2020

DATE:
SCALE:
DRAWN BY:
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE — 76085 R.C.E. #

NO.	BY	DATE	REVISIONS

CITY OF MENLO PARK
ENGINEERING DIVISION
701 LAUREL STREET, MENLO PARK, CA 94025-3483
PHONE (650) 330-6740 FAX (650) 327-5497

MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
COVER SHEET

SHEET 1 OF 23 SHEETS
PROJ. NAME

XREFS:

GENERAL NOTES:

1. GENERAL NOTES ARE APPLICABLE TO ALL WORK, UNLESS NOTED OTHERWISE.
2. ACCESS TO THE PROJECT IS LIMITED TO ALMA STREET AND EL CAMINO REAL.
3. SEE PROJECT CONTROL AND MONUMENTATION SHEET FOR INFORMATION REGARDING ELEVATION DATA AND THE PROJECT'S COORDINATE SYSTEM.
4. CONTRACTOR SHALL COMPLY WITH ALL WPC BEST MANAGEMENT PRACTICES (BMPs) AND MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL, INCLUDING SWEEPING OF PAVEMENT AT ALL PUBLIC ACCESS ROAD INGRESS AND EGRESS POINTS.
5. EROSION CONTROL FENCING AND OTHER BMPs ARE NOT SHOWN ON THE PLANS; HOWEVER, CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE QUALIFIED WPC PRACTIONER AND/OR QUALIFIED WPC DEVELOPER.
6. FOR GEOTECHNICAL DESIGN INFORMATION, REFER TO THE DRAFT PRELIMINARY GEOTECHNICAL TECHNICAL MEMORANDUM PREPARED BY AECOM DATED DECEMBER 16, 2019.
7. CONTRACTOR SHALL OBTAIN THE REQUIRED PERMITS FROM CITY OF MENLO PARK AND CALTRAIN FOR ACCESS FROM ALMA STREET AND EL CAMINO REAL.
8. THESE PLANS TO BE SUPPLEMENTED BY THE CITY'S STANDARD DETAILS AND CALTRANS STANDARD PLANS, DATED 2018.

LEGEND:

2:1	SLOPE (HORIZONTAL:VERTICAL)
65	CONTOUR LINE WITH ELEVATION
C	CUT LINE
	MONUMENT POINT
#	DRAINAGE SYSTEM No
	BALLAST
	SUB-BALLAST
	HMA (TYPE A)
	TRACK REMOVAL
X X X	CABLE RAILING
	WELDED WIRE MESH FENCE
	PEDESTRIAN BARRICADE

ABBREVIATIONS:

AB	AGGREGATE BASE
APC	ALTERNATIVE PIPE CULVERT
Beg.	BEGINNING
BC	BEGIN CURVE
BVC	BEGIN VERTICAL CURVE
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CALWATER	CALIFORNIA WATER SERVICE
CAMUTCD	CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
CITY	CITY OF MENLO PARK
Conc	CONCRETE
CVIN	CENTRAL VALLEY INDEPENDENT NETWORK
Elev	ELEVATION
ETW	EDGE OF TRAVELED WAY
EC	END CURVE
EVC	END VERTICAL CURVE
Exist	EXISTING
FG	FINISHED GRADE
FL	FLOW LINE
FO	FIBER OPTIC
FT	FEET
HMA	HOT MIX ASPHALT
HP	HINGE POINT
IN.	INCHES
JPB	PENINSULA CORRIDOR JOINT POWERS BOARD
LOL	LAYOUT LINE
Lt	LEFT
Max	MAXIMUM
Min	MINIMUM
NB	NORTHBOUND
No.	NUMBER
OCS	OVERHEAD CONTACT SYSTEM
OG	ORIGINAL GROUND
PCC	PORTLAND CEMENT CONCRETE
PG	PROFILE GRADE
PG&E	PACIFIC GAS AND ELECTRIC
PI	POINT OF INTERSECTION
POT	POINT OF TANGENT
RR	RAILROAD
RRFD	RECTANGULAR RAPID FLASHING BEACONS
Rt	RIGHT
RW	RETAINING WALL
R/W	RIGHT OF WAY
SB	SOUTHBOUND
SS	SANITARY SEWER
Sta	STATION

ABBREVIATIONS (CONTINUED):

TG	TOP OF GRATE
Typ	TYPICAL
WBSD	WEST BAY SANITARY DISTRICT
WPC	WATER POLLUTION CONTROL

30% FINAL - JANUARY 9, 2020

DATE:
SCALE:
DRAWN BY:
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

NO.	BY	DATE	REVISIONS

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MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
NOTES, LEGEND AND ABBREVIATIONS

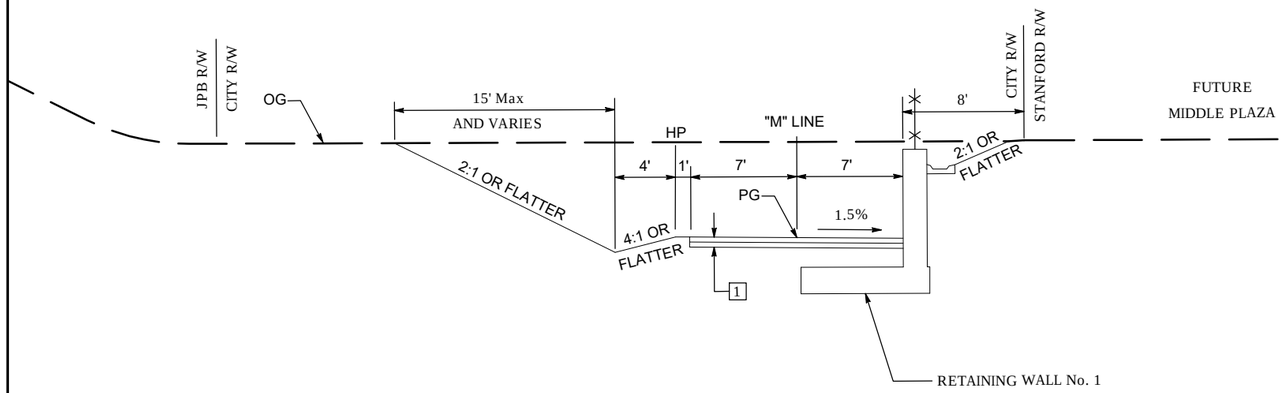
SHEET 2 OF 23 SHEETS
PROJ. NAME

XREFs:

PROPOSED PAVEMENT
STRUCTURE SECTION

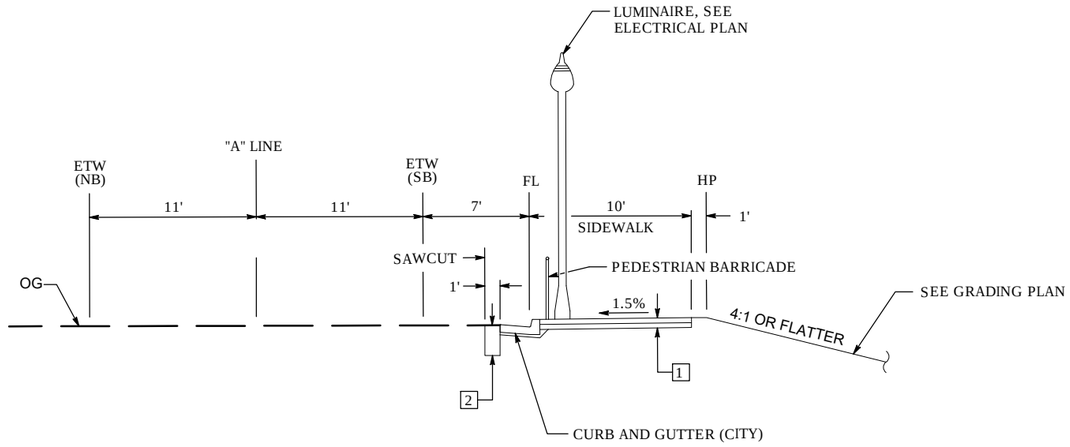
[1] 0.33' PCC
0.33' CLASS 2 AB

[2] 2.00' HMA (TYPE A)



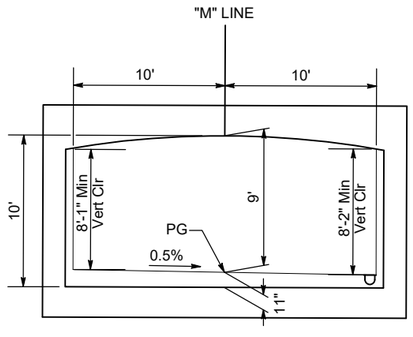
"M" LINE Sta 11+00 to 12+37

SCALE: 1" = 5'-0"



"A" LINE Sta 6+93 to 10+34

SCALE: 1" = 5'-0"



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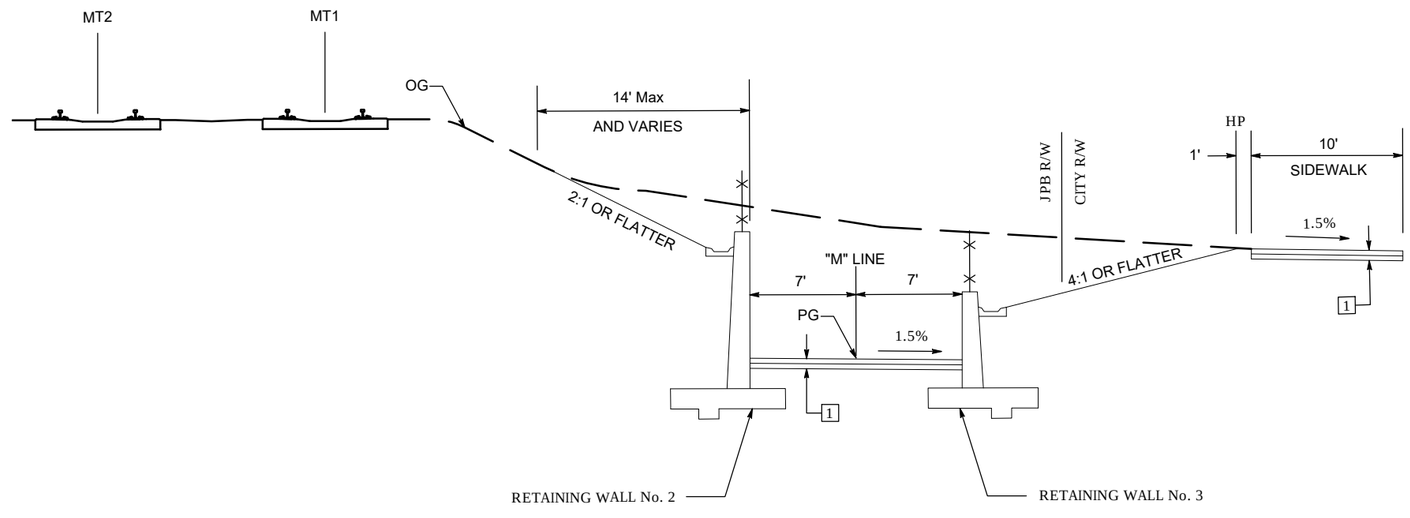

"M" LINE Sta 8+32 to 9+15

SCALE: 1" = 5'-0"

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: AS NOTED
DRAWN BY: J. LIN
DRAWING NAME:
DESIGNED BY:
CHECKED BY: P. DESTEFANO
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

NO.	BY	DATE	REVISIONS

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PHONE (650) 330-6740 FAX (650) 327-5497

MIDDLE AVENUE PEDESTRIAN & BICYCLE
RAIL CROSSING PROJECT
TYPICAL SECTIONS

SHEET 3 OF 23 SHEETS
PROJ. NAME

NOTES:

1. COORDINATES, DISTANCES AND BEARINGS SHOWN ARE BASED ON CALIFORNIA COORDINATE SYSTEM ZONE 3 US FEET. THE HORIZONTAL DATUM IS NAD83 (2011) 2010.00 EPOCH.
2. ELEVATIONS FOR THIS PROJECT ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

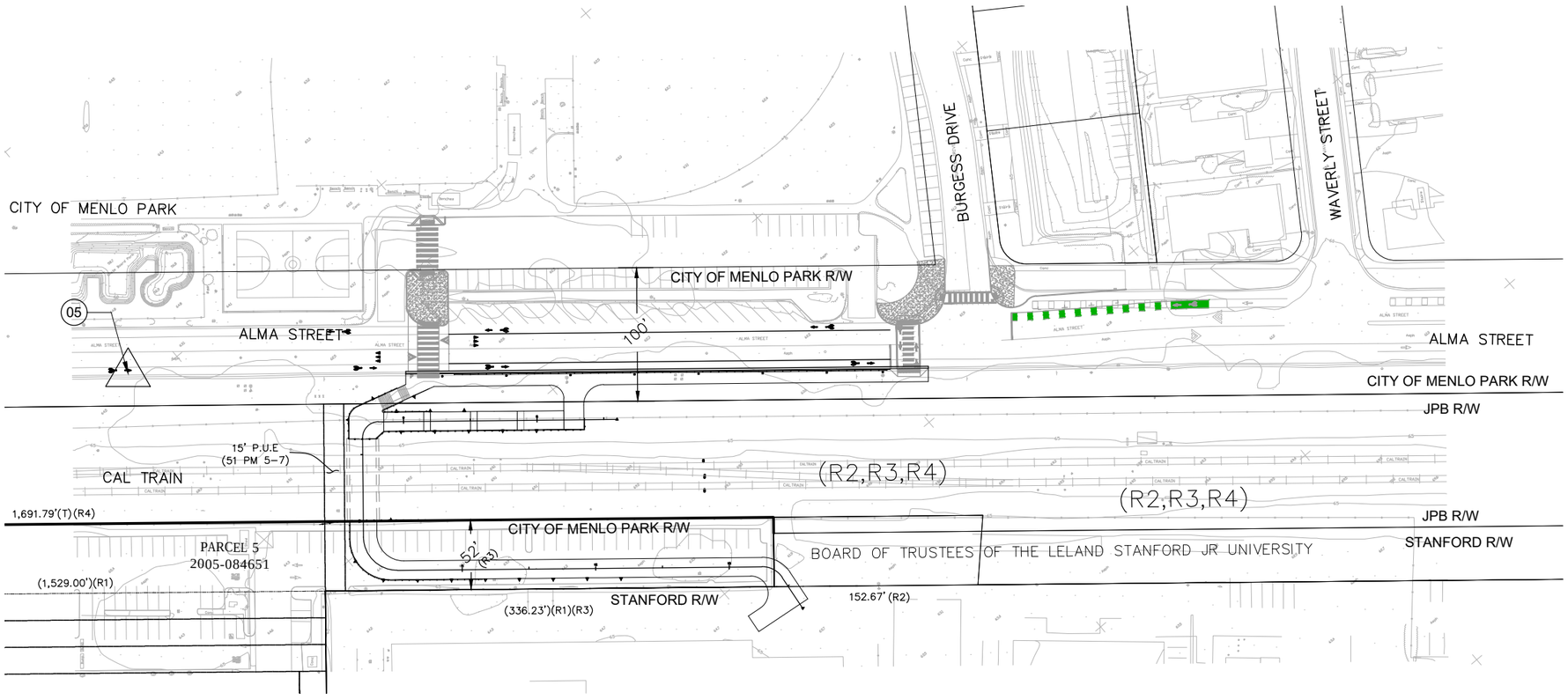
DISTANCE STATEMENT:

ALL COORDINATES, DISTANCES, AND ELEVATIONS SHOWN HEREON ARE GROUND DISTANCES.
TO OBTAIN GRID DISTANCES, MULTIPLY BY THE SCALE FACTOR OF 0.99994277.

01

02

N



04

CONTROL FOR DESIGN AND CONSTRUCTION

No.	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1991819.30	6074811.97	65.17	CUT X, FLIGHT CROSS
2	1991146.97	6075684.52	58.87	MAG NAIL & TOWILL TAG, FLIGHT CROSS
3	1990520.82	6075219.29	64.69	CUT X, FLIGHT CROSS IN MEDIAN
4	1991264.17	6074398.15	66.27	CUT X, FLIGHT CROSS
5	1991413.80	6074763.68	62.46	MAG & TT

03

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS ACT ON _____, 20__.

FRANK A. BORGES,
PLS 7922

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1"=50'
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

NO.	BY	DATE	REVISIONS

CITY OF MENLO PARK
ENGINEERING DIVISION
701 LAUREL STREET, MENLO PARK, CA 94025-3483
PHONE (650) 330-6740 FAX (650) 327-5497

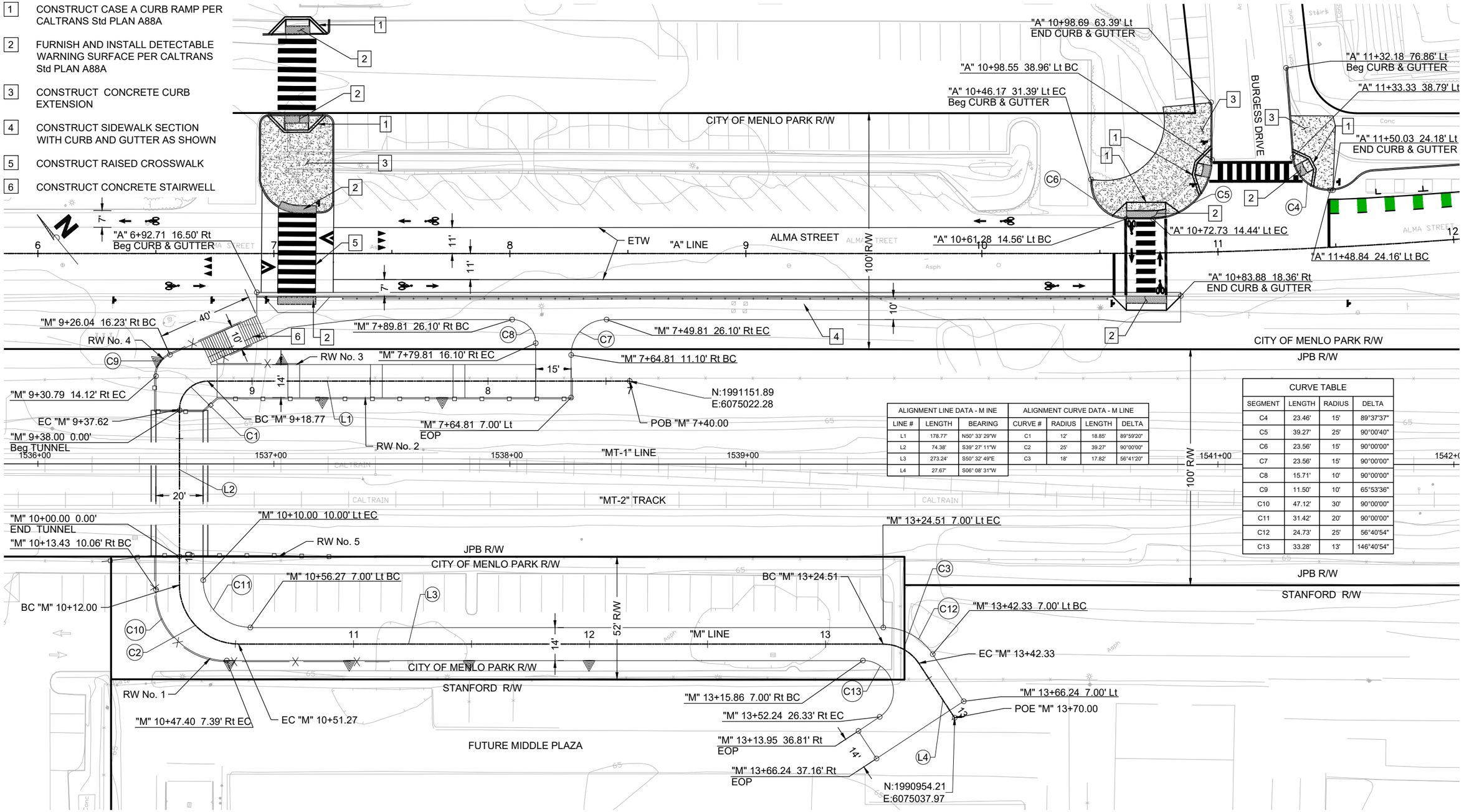
MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
PROJECT CONTROL & MONUMENTATION

SHEET 4 OF 23 SHEETS
PROJ. NAME

XREFS:

CONSTRUCTION NOTES:

1. CONSTRUCT CASE A CURB RAMP PER CALTRANS Std PLAN A88A
2. FURNISH AND INSTALL DETECTABLE WARNING SURFACE PER CALTRANS Std PLAN A88A
3. CONSTRUCT CONCRETE CURB EXTENSION
4. CONSTRUCT SIDEWALK SECTION WITH CURB AND GUTTER AS SHOWN
5. CONSTRUCT RAISED CROSSWALK
6. CONSTRUCT CONCRETE STAIRWELL



ALIGNMENT LINE DATA - M INE		
LINE #	LENGTH	BEARING
L1	178.77'	N50° 33' 29"W
L2	74.38'	S39° 27' 11"W
L3	273.24'	S50° 32' 49"E
L4	27.67'	S06° 08' 31"W

ALIGNMENT CURVE DATA - M LINE			
CURVE #	RADIUS	LENGTH	DELTA
C1	12'	18.85'	89°59'20"
C2	25'	39.27'	90°00'00"
C3	18'	17.82'	56°41'20"

CURVE TABLE			
SEGMENT	LENGTH	RADIUS	DELTA
C4	23.46'	15'	89°37'37"
C5	39.27'	25'	90°00'40"
C6	23.56'	15'	90°00'00"
C7	23.56'	15'	90°00'00"
C8	15.71'	10'	90°00'00"
C9	11.50'	10'	65°53'36"
C10	47.12'	30'	90°00'00"
C11	31.42'	20'	90°00'00"
C12	24.73'	25'	56°40'54"
C13	33.28'	13'	146°40'54"

20 10 0 20 40 60
SCALE: 1"=20'

GENERAL NOTES (THIS SHEET ONLY)
1. SEE SHEET 11 FOR "A" LINE INFORMATION AND PAVEMENT DELINEATION AND SIGNING.
2. UTILITY LINES NOT SHOWN FOR CLARITY.

30% FINAL - JANUARY 9, 2020

DATE:
SCALE:
DRAWN BY:
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

NO.	BY	DATE	REVISIONS

CITY OF MENLO PARK
ENGINEERING DIVISION
701 LAUREL STREET, MENLO PARK, CA 94025-3483
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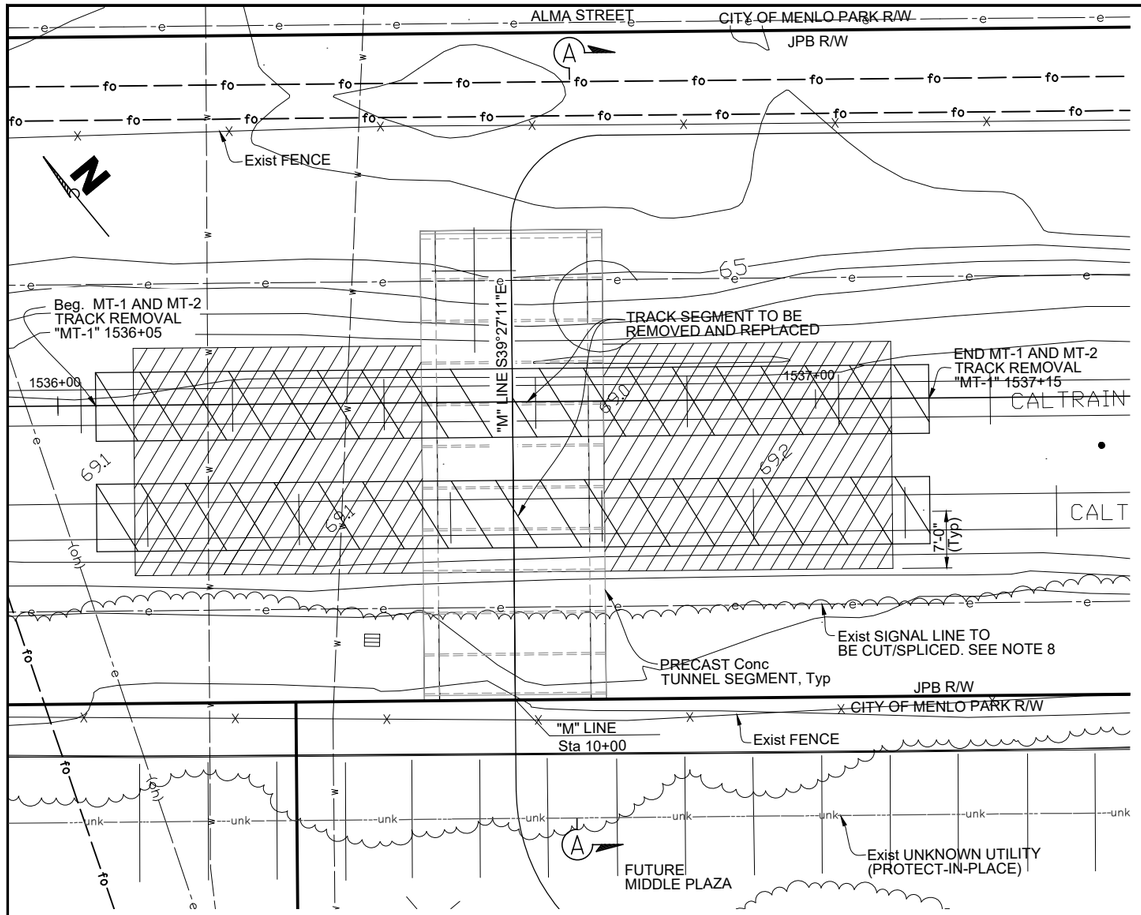
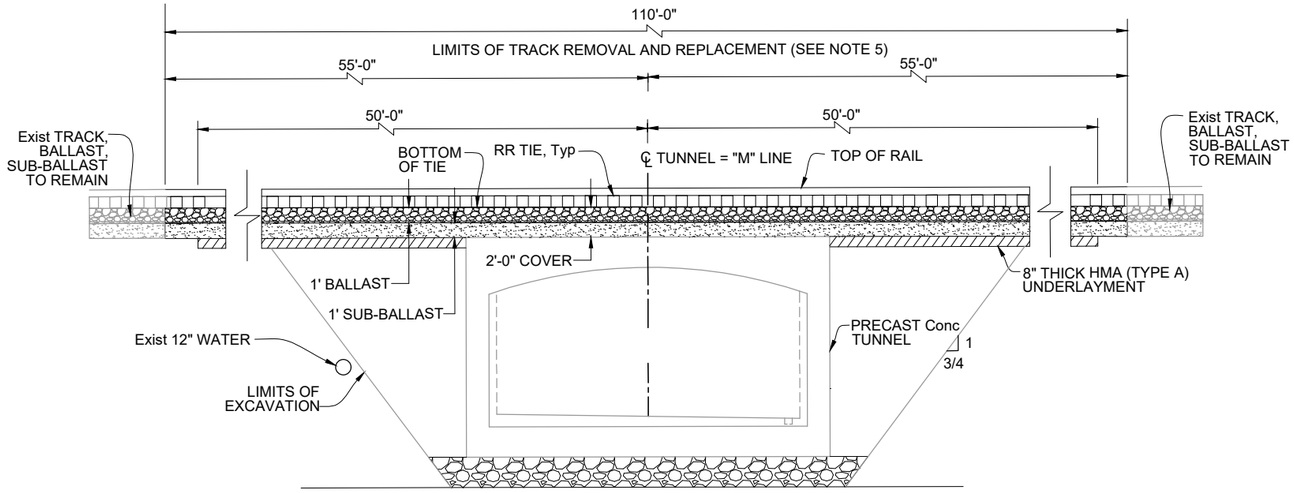
MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
SITE PLAN

SHEET 5 OF 23 SHEETS
PROJ. NAME

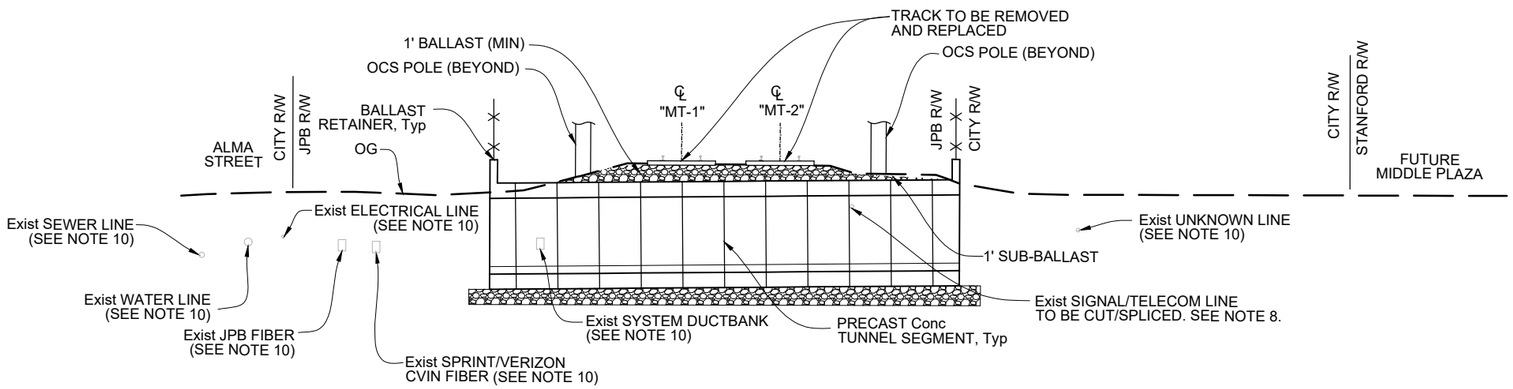
XREFS:



PLAN
SCALE: 1" = 10'-0"



TYPICAL SECTION
SCALE: 1" = 5'-0"



SECTION A-A
LONGITUDINAL SECTION
SCALE: 1" = 10'-0"

GENERAL NOTES:

1. DESIGN IS IN CONFORMANCE WITH:
   a) AREMA "MANUAL FOR RAILWAY ENGINEERING", 2014
   b) BNSF/UPRR "GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS" MAY 2016.
2. FOR CONSTRUCTION STAGING DETAILS, SEE "CONSTRUCTION SEQUENCE" DRAWINGS.
3. FOR STRUCTURAL DETAILS, SEE STRUCTURAL DRAWINGS.
4. ALL DEMOLITION WITHIN THE RAILROAD'S RIGHT-OF-WAY AND/OR DEMOLITION THAT MAY IMPACT THE RAILROAD'S TRACKS OR OPERATION SHALL COMPLY WITH THE RAILROAD'S DEMOLITION REQUIREMENTS.
5. TRACK REMOVAL LIMITS ARE APPROXIMATE AND MAY BE ADJUSTED AT THE CONTRACTOR'S OPTION AND CALTRAIN APPROVAL. CONTRACTOR TO SURVEY THE LOCATION AND ELEVATION OF THE EXISTING RAILS. STAGGER THE RAIL CUTS TWO TIE SPACING IN LENGTH AND CUT BETWEEN TIES. RELEASE THE RAIL FROM THE TIES, LABEL AND REMOVE THE RAIL. REMOVE TIES. AFTER PRECAST CONCRETE TUNNEL INSTALLATION, REPLACE THE TIES ON BALLAST, ATTACH THE RAILS TO THE TIES AND WELD TO THE EXISTING RAIL UTILIZING THE THERMITE WELDING METHOD. SURFACE AND ALIGN RAIL TO THE ORIGINAL LINE AND ELEVATION.
6. CALTRAIN WILL REMOVE EXISTING TRAIN CONTROL DIODES AND INSTALL NEW DIODES IN ACCORDANCE WITH CALTRAIN STANDARDS.
7. DURING CONSTRUCTION, INSTALLATION OF SIGNAL BONDS ON ALL BOLTED RAIL JOINTS SHALL BE PERFORMED BY CALTRAIN.
8. CALTRAIN WILL PERFORM THE SIGNAL WORK BY CUTTING THE LINE PRIOR TO EXCAVATION. DURING CONSTRUCTION, PROTECT THE LINE IN PLACE. SPLICE THE LINE AND PUT BACK IN PLACE ON TOP OF THE BOX AFTER INSTALLATION OF STRUCTURAL BOX HAS BEEN FINISHED.
9. DURING CONSTRUCTION, PROTECT EXISTING YARD LEAD TURNOUT AND EXISTING TRACKS.
10. SOME UTILITIES TO BE RELOCATED PRIOR TO TRACK REMOVAL AND PLACEMENT OF PRECAST CONCRETE SEGMENTS. SEE UTILITY PLAN FOR DETAILS.

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: AS NOTED
DRAWN BY: D.LEE
DRAWING NAME:
DESIGNED BY: E.WONG
CHECKED BY: J. MAHER
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

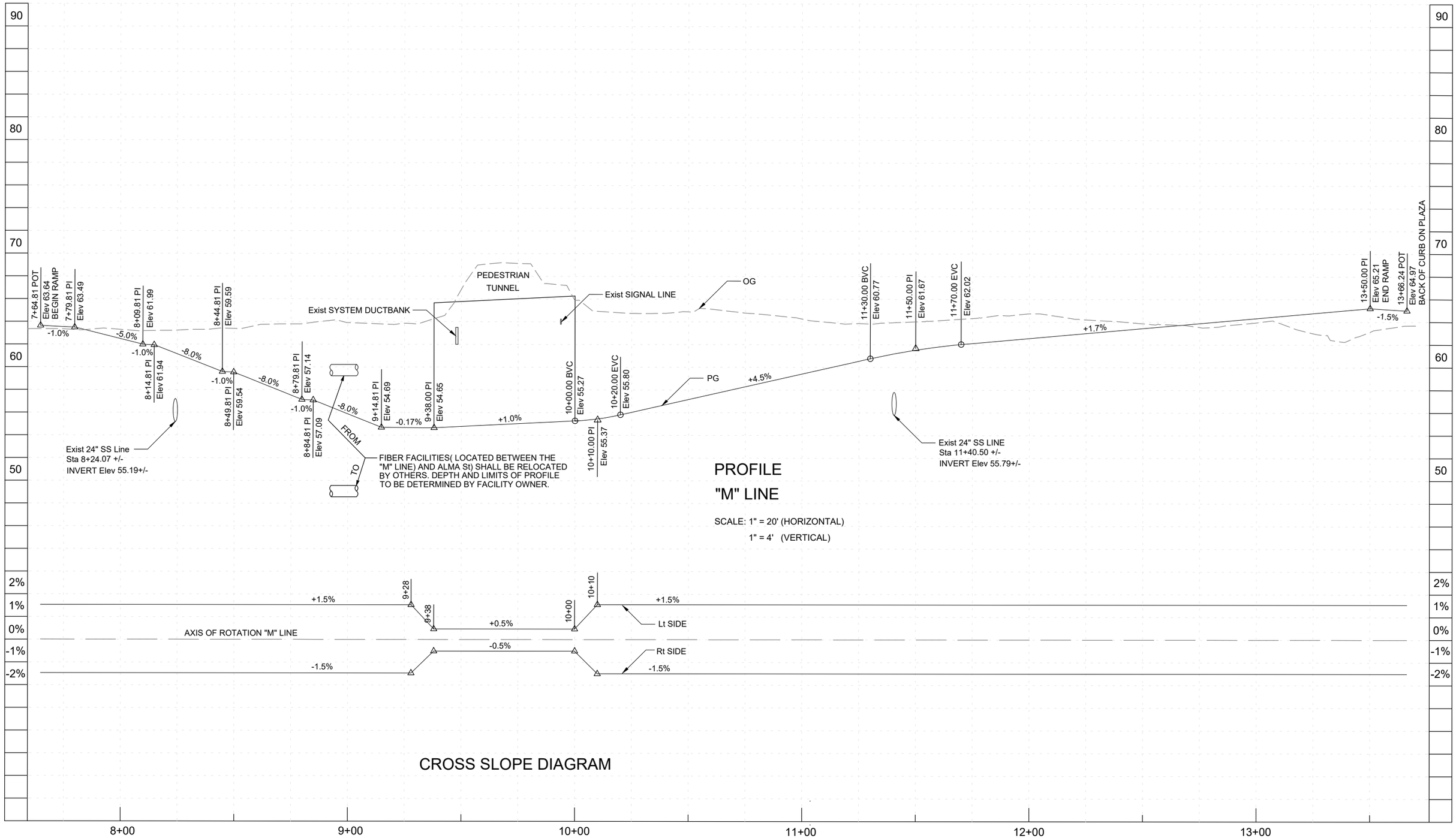
NO.	BY	DATE	REVISIONS

CITY OF MENLO PARK
ENGINEERING DIVISION
701 LAUREL STREET, MENLO PARK, CA 94025-3483
PHONE (650) 330-6740 FAX (650) 327-5497

MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
TRACK REMOVAL PLAN & DETAILS

SHEET 6 OF 23 SHEETS
PROJ. NAME

XREFS:



PROFILE
"M" LINE

SCALE: 1" = 20' (HORIZONTAL)
1" = 4' (VERTICAL)

CROSS SLOPE DIAGRAM

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1" = 20'
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

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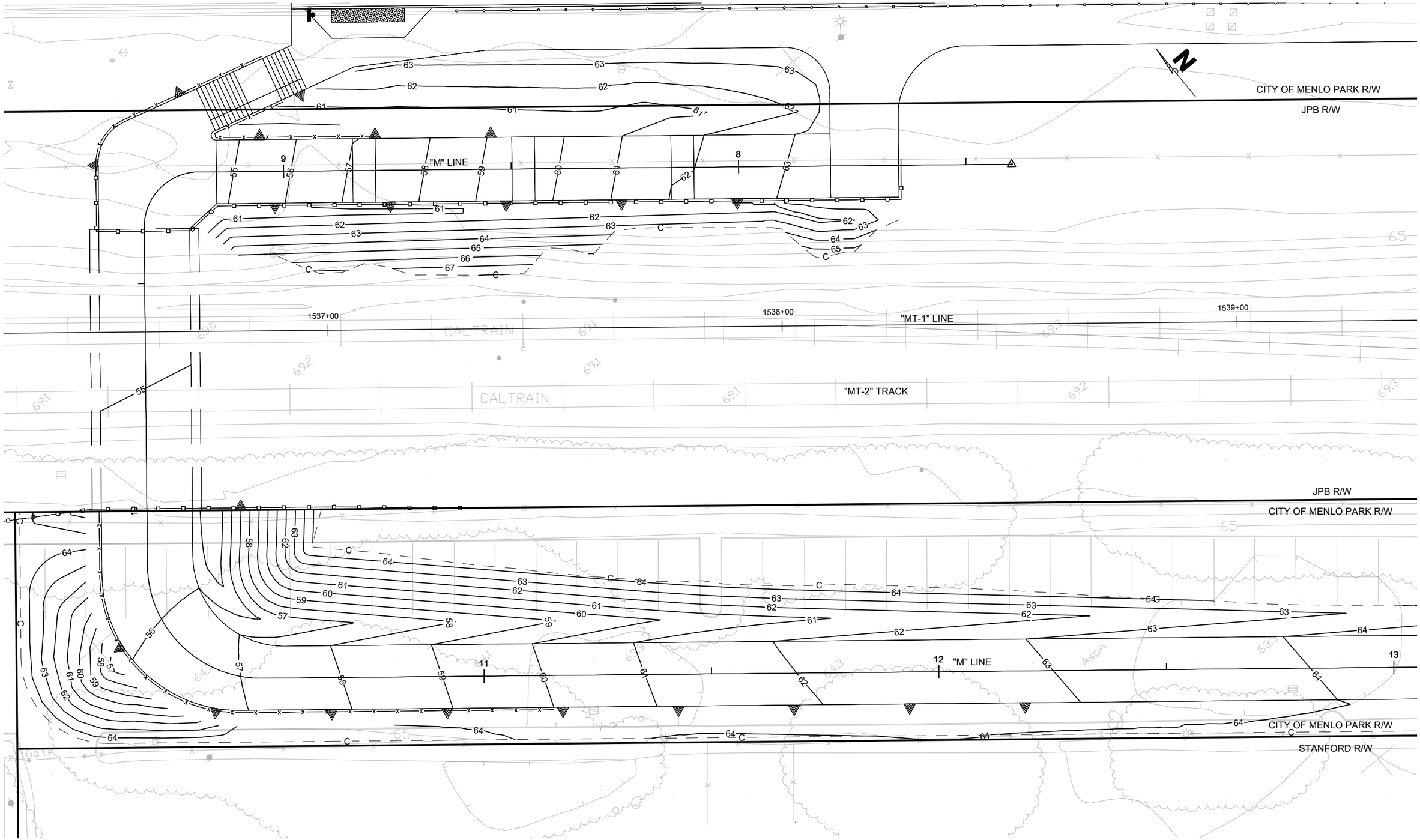
CITY OF MENLO PARK
ENGINEERING DIVISION
701 LAUREL STREET, MENLO PARK, CA 94025-3483
PHONE (650) 330-6740 FAX (650) 327-5497

MIDDLE AVENUE PEDESTRIAN & BICYCLE
RAIL CROSSING PROJECT
PROFILE

SHEET 7 OF 23 SHEETS
PROJ. NAME

XREFS:



30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1"=10'
DRAWN BY: DH
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
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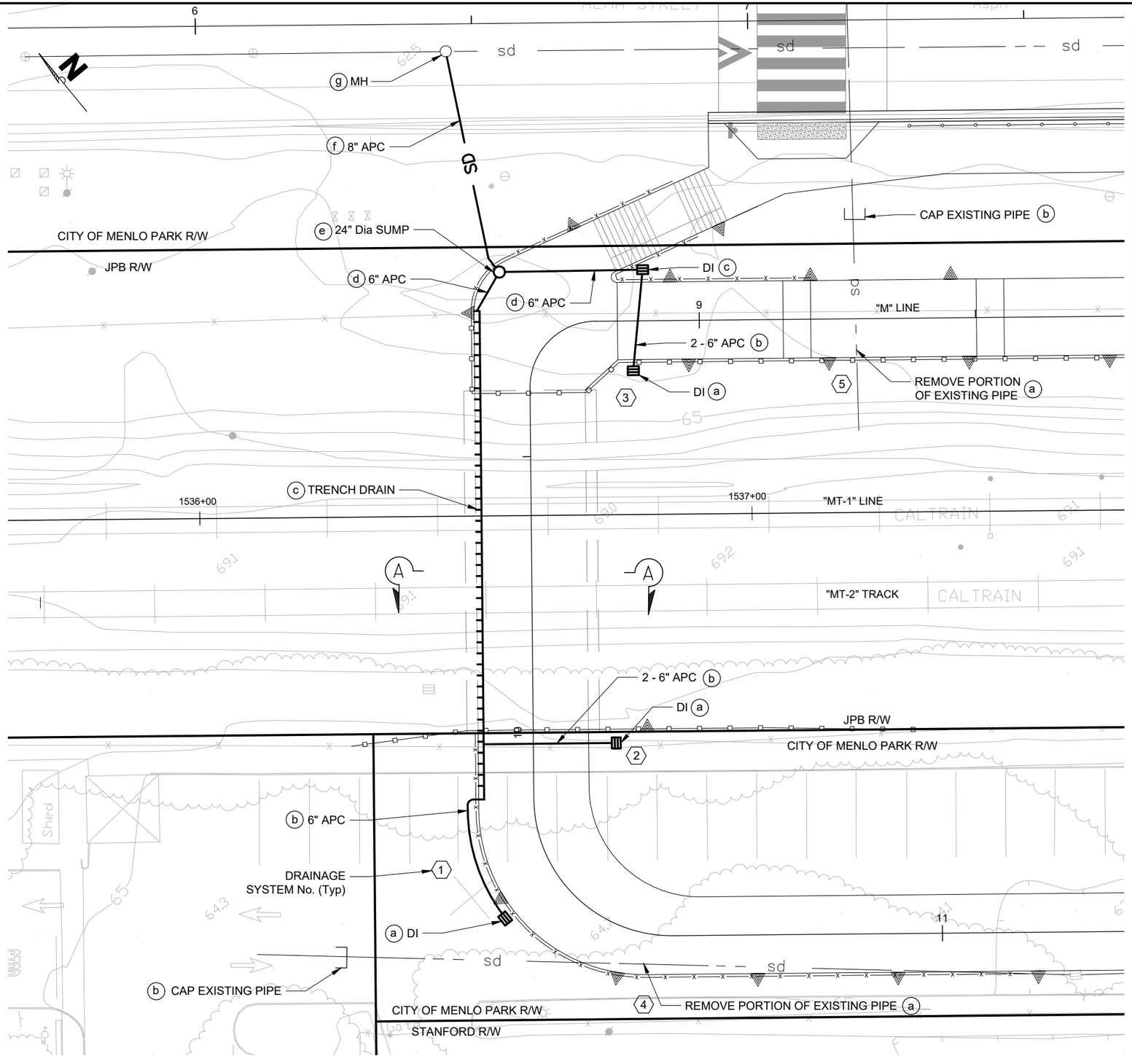
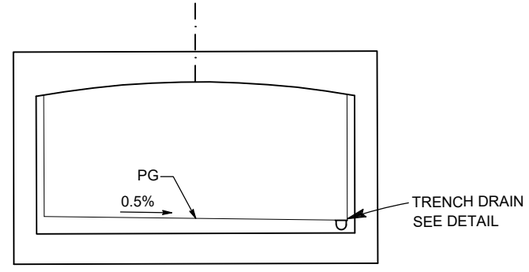
MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
CONTOUR GRADING PLAN

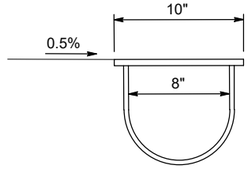
SHEET 8 OF 23 SHEETS
PROJ. NAME



DRAINAGE SYSTEM No	DRAINAGE UNIT	NOTES
1	a	DRAINAGE INLET (TYPE G1 Mod); TG Elev 57.00
	b	6" APC; Beg Inv Elev 55.50, END Inv Elev 54.74
	c	TRENCH DRAIN; Beg Inv Elev 54.69, END Inv Elev 53.60
	d	6" APC; Beg Inv Elev 53.65, END Inv Elev 53.40
	e	24" Dia SUMP; TG Elev 54.20
	f	8" APC; Beg Inv Elev 52.50, END Inv Elev 59.00
	g	CITY STORM DRAIN MANHOLE; RIM Elev 62.50
2	a	DRAINAGE INLET (TYPE G1 Mod); TG Elev 54.60
	b	2 - 6" APC; Beg Inv Elev 54.10, END Inv Elev 53.98
3	a	DRAINAGE INLET (TYPE G1 Mod); TG Elev 60.80
	b	6" APC; Beg Inv Elev 53.50, END Inv Elev 53.20
	c	DRAINAGE INLET (TYPE G1 Mod); TG Elev 59.90
	d	6" APC; Beg Inv Elev 53.20, END Inv Elev 52.70
4	a	REMOVE PORTION OF EXISTING PIPE
	b	CAP EXISTING PIPE
5	a	REMOVE PORTION OF EXISTING PIPE
	b	CAP EXISTING PIPE



SECTION A-A
LONGITUDINAL SECTION
SCALE: 1" = 5'-0"



TRENCH DRAIN DETAIL
SCALE: 2" = 1'-0"

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1"=10'
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

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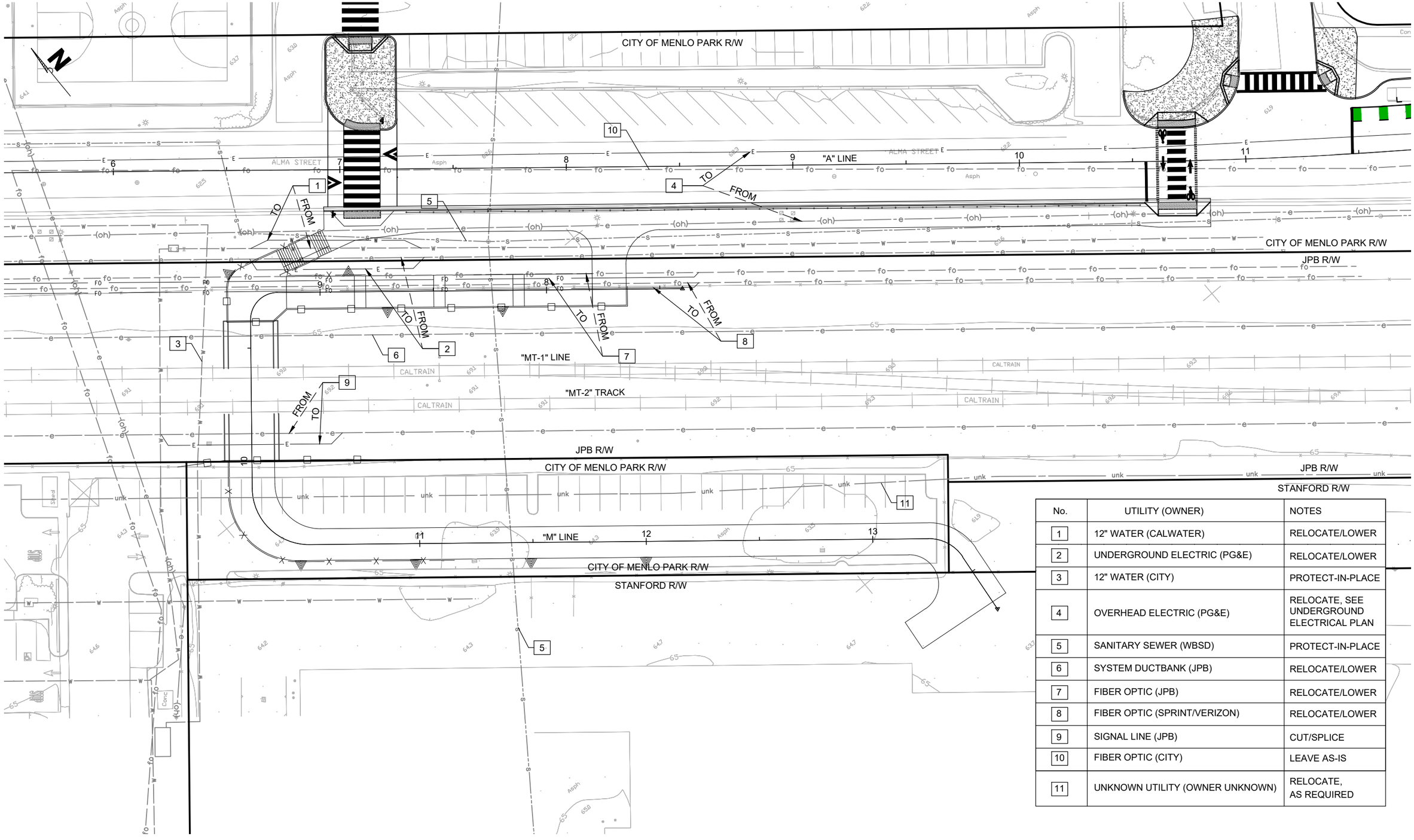
MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
DRAINAGE PLAN

SHEET 9 OF 23 SHEETS
PROJ. NAME

XREFS:



No.	UTILITY (OWNER)	NOTES
1	12" WATER (CALWATER)	RELOCATE/LOWER
2	UNDERGROUND ELECTRIC (PG&E)	RELOCATE/LOWER
3	12" WATER (CITY)	PROTECT-IN-PLACE
4	OVERHEAD ELECTRIC (PG&E)	RELOCATE, SEE UNDERGROUND ELECTRICAL PLAN
5	SANITARY SEWER (WBSD)	PROTECT-IN-PLACE
6	SYSTEM DUCTBANK (JPB)	RELOCATE/LOWER
7	FIBER OPTIC (JPB)	RELOCATE/LOWER
8	FIBER OPTIC (SPRINT/VERIZON)	RELOCATE/LOWER
9	SIGNAL LINE (JPB)	CUT/SPLICE
10	FIBER OPTIC (CITY)	LEAVE AS-IS
11	UNKNOWN UTILITY (OWNER UNKNOWN)	RELOCATE, AS REQUIRED

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1" = 20'
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
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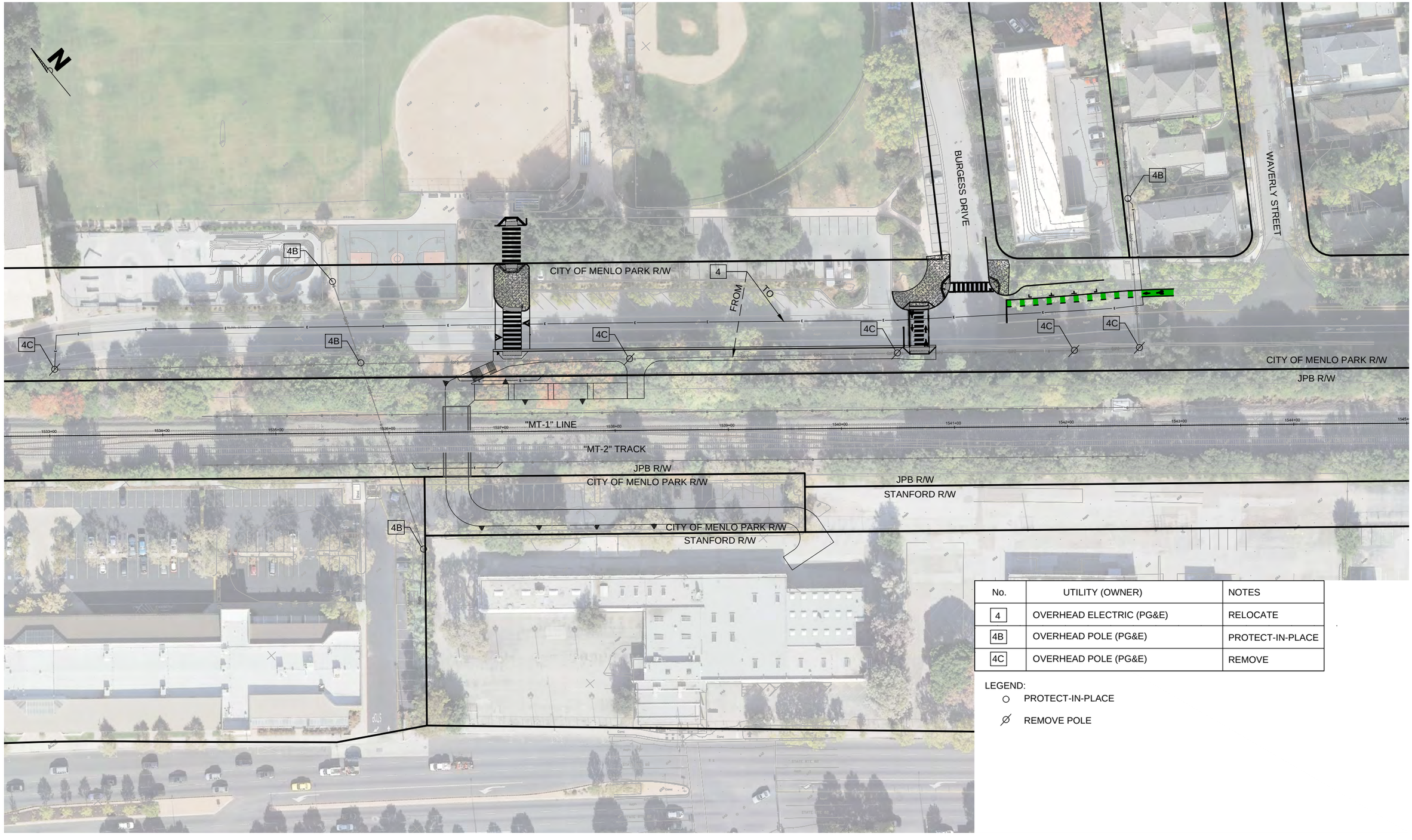
MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
UTILITY PLAN

SHEET 10 OF 23 SHEETS
PROJ. NAME

XREFS:



No.	UTILITY (OWNER)	NOTES
4	OVERHEAD ELECTRIC (PG&E)	RELOCATE
4B	OVERHEAD POLE (PG&E)	PROTECT-IN-PLACE
4C	OVERHEAD POLE (PG&E)	REMOVE

LEGEND:

○ PROTECT-IN-PLACE

⊘ REMOVE POLE

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1" = 40'
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

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MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
UNDERGROUND ELECTRICAL PLAN

SHEET 11 OF 23 SHEETS
PROJ. NAME

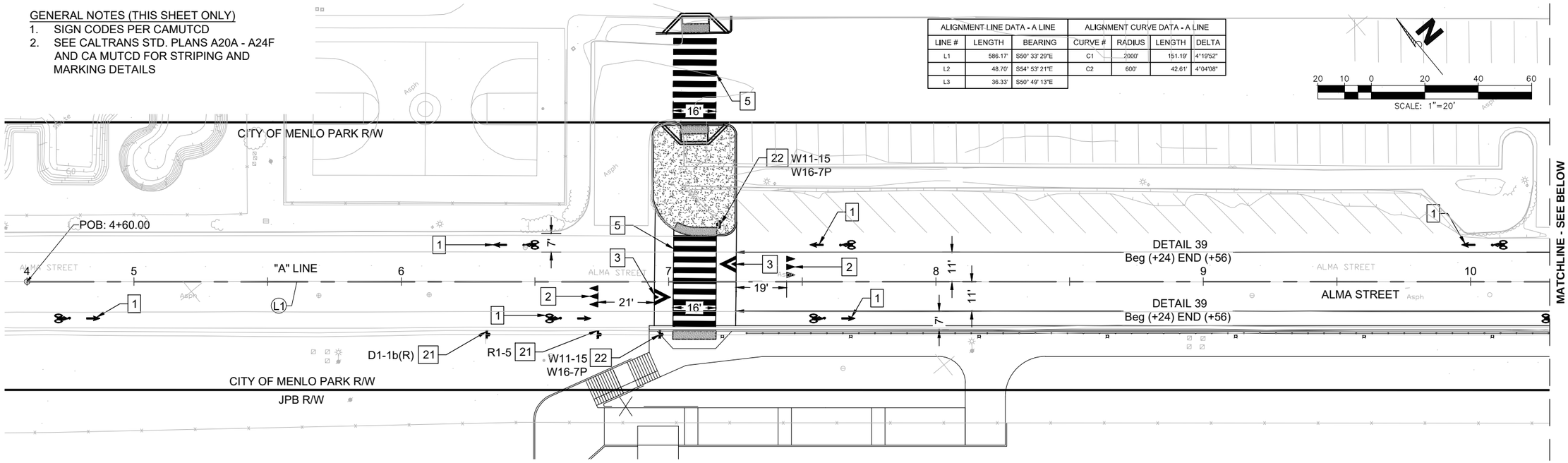
XREFs:

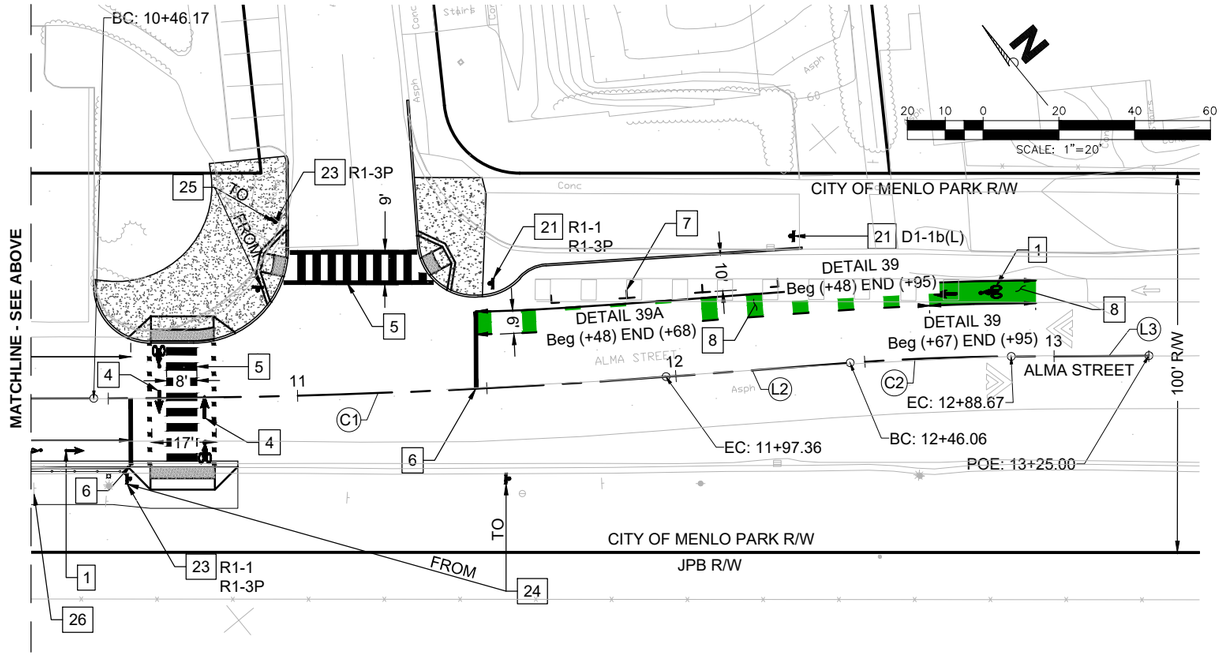
GENERAL NOTES (THIS SHEET ONLY)

1. SIGN CODES PER CAMUTCD
2. SEE CALTRANS STD. PLANS A20A - A24F AND CA MUTCD FOR STRIPING AND MARKING DETAILS

ALIGNMENT LINE DATA - A LINE		
LINE #	LENGTH	BEARING
L1	586.17'	S50° 33' 29"E
L2	48.70'	S54° 53' 21"E
L3	36.33'	S50° 49' 13"E

ALIGNMENT CURVE DATA - A LINE			
CURVE #	RADIUS	LENGTH	DELTA
C1	2000'	151.19'	4°19'52"
C2	600'	42.61'	4°04'08"

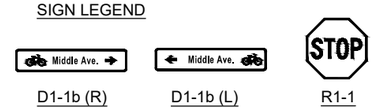




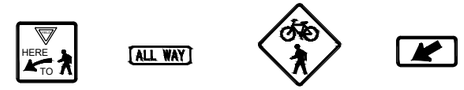
STRIPING NOTES (THIS SHEET ONLY):

1. INSTALL BICYCLE LANE SYMBOL
2. INSTALL YIELD LINE
3. INSTALL SPEED HUMP PAVEMENT MARKING
4. INSTALL BICYCLE TRAIL CROSSING MARKINGS
5. INSTALL HIGH VISIBILITY CROSSWALK - 2 FT WHITE STRIPES @ 2 FT O.C.
6. INSTALL 12" LIMIT LINE
7. INSTALL PARALLEL PARKING STALL MARKINGS ('T's AND 'L's)
8. INSTALL GREEN BICYCLE CONFLICT MARKINGS

SIGN LEGEND



D1-1b (R) D1-1b (L) R1-1



R1-5 R1-3P W11-15 W16-7P

SIGNING NOTES (THIS SHEET ONLY):

21. FURNISH AND INSTALL NEW SIGN AND POST, PER SIGN LEGEND
22. FURNISH AND INSTALL NEW SIGN AND POLE, WITH ACTUATED, WIRELESS RRFB SYSTEM, PER SIGN LEGEND
23. FURNISH AND INSTALL NEW SIGN ON EXISTING POST, PER SIGN LEGEND
24. RELOCATE EXISTING SIGNS TO NEW POST
25. RELOCATE EXISTING SIGN AND POST
26. EXISTING TO REMAIN

30% FINAL - JANUARY 9, 2020

DATE:
SCALE:
DRAWN BY:
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

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MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
PAVEMENT DELINEATION & SIGNING

SHEET 12 OF 23 SHEETS
PROJ. NAME

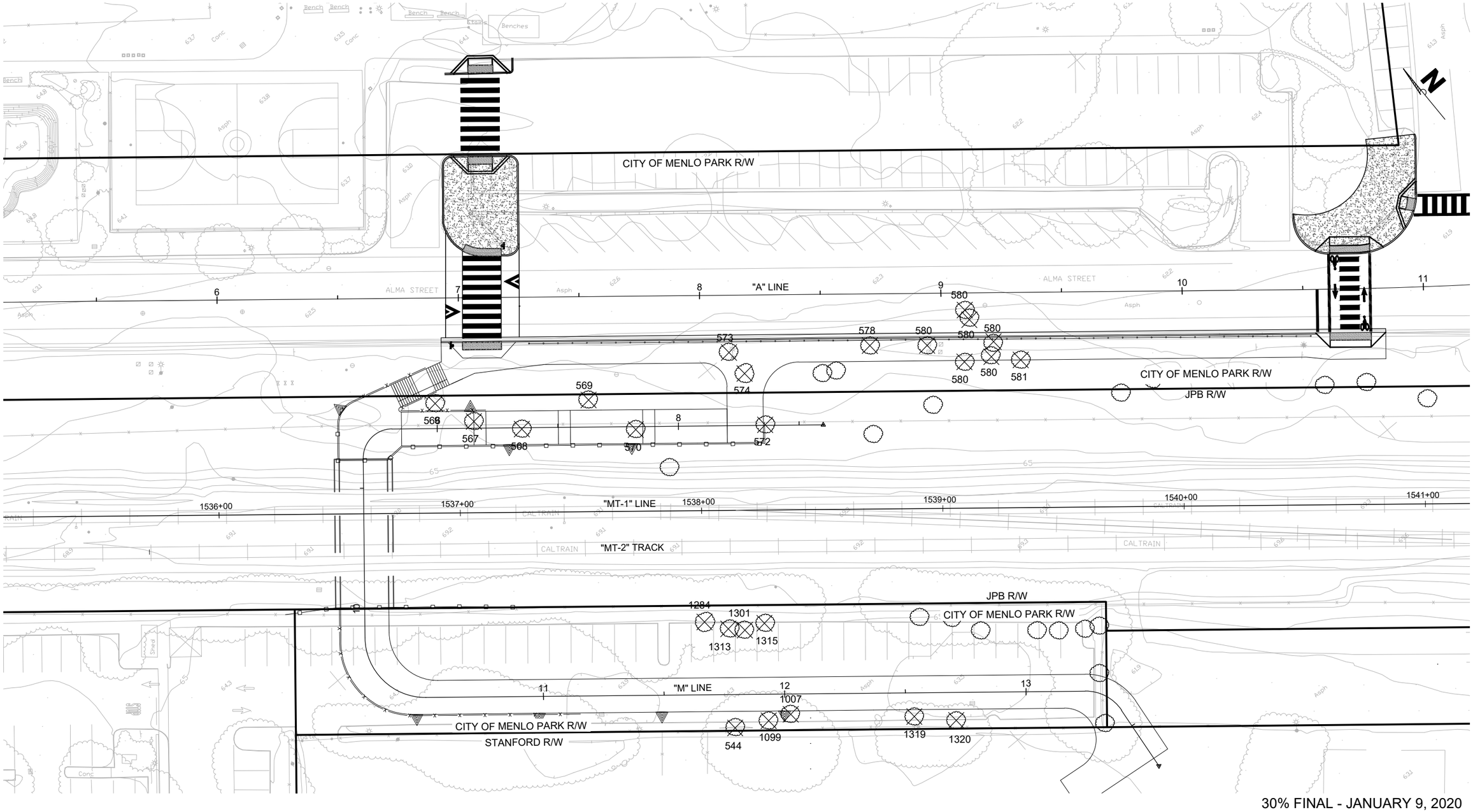
GENERAL NOTES:

1. OBTAIN ENGINEER'S WRITTEN APPROVAL FOR THE REMOVAL OF ANY TREE.
2. PLACE TEMPORARY FENCE (TYPE ESA) AROUND TREES DESIGNATED TO REMAIN.
3. THIS PLAN TO BE SUPPLEMENTED WITH ADDITIONAL TREE SURVEYS DURING FINAL DESIGN.

LEGEND:

REMOVE TREE

TREE TO REMAIN



30% FINAL - JANUARY 9, 2020

DATE:	1/9/2020	APPROVED:	
SCALE:	1" = 20'		
DRAWN BY:	JL	NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR	
DRAWING NAME:		CITY OF MENLO PARK	
DESIGNED BY:		DATE	76085 R.C.E. #
CHECKED BY:			
SURVEYED BY:			

NO.	BY	DATE	REVISIONS

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MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
TREE REMOVAL PLAN

SHEET 13 OF 23 SHEETS
PROJ. NAME

XREFS:

TREE SIZE AND SPECIES SUMMARY

TREE ID	CALIPER SIZE (DIAMETER AT BREAST HEIGHT) (in)	SPECIES/DESCRIPTION
544	13	LONDON PLANE TREE
566	12	CHINESE PISTACHE
567	13	CHINESE PISTACHE
568	14	CHINESE PISTACHE
569	10,14	CHINESE PISTACHE
570	13	CHINESE PISTACHE
572	28	COAST REDWOOD
573	6,7	TREE OF HEAVEN
574	19	COAST REDWOOD
578	11	CHINESE PISTACHE
580	15 STEMS > 4 to < 8	TREE OF HEAVEN
581	23	COAST LIVE OAK
1007	14	LONDON PLANE TREE
1099	8	LONDON PLANE TREE
1284	8	LONDON PLANE TREE
1301	21	COAST REDWOOD
1313	22	COAST REDWOOD
1315	24	COAST REDWOOD
1319	30	COAST REDWOOD
1320	4,3,2,2,2,2	PRUNE TREE

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: NO SCALE
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

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MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
TREE REMOVAL PLAN DETAILS

SHEET 14 OF 23 SHEETS
PROJ. NAME

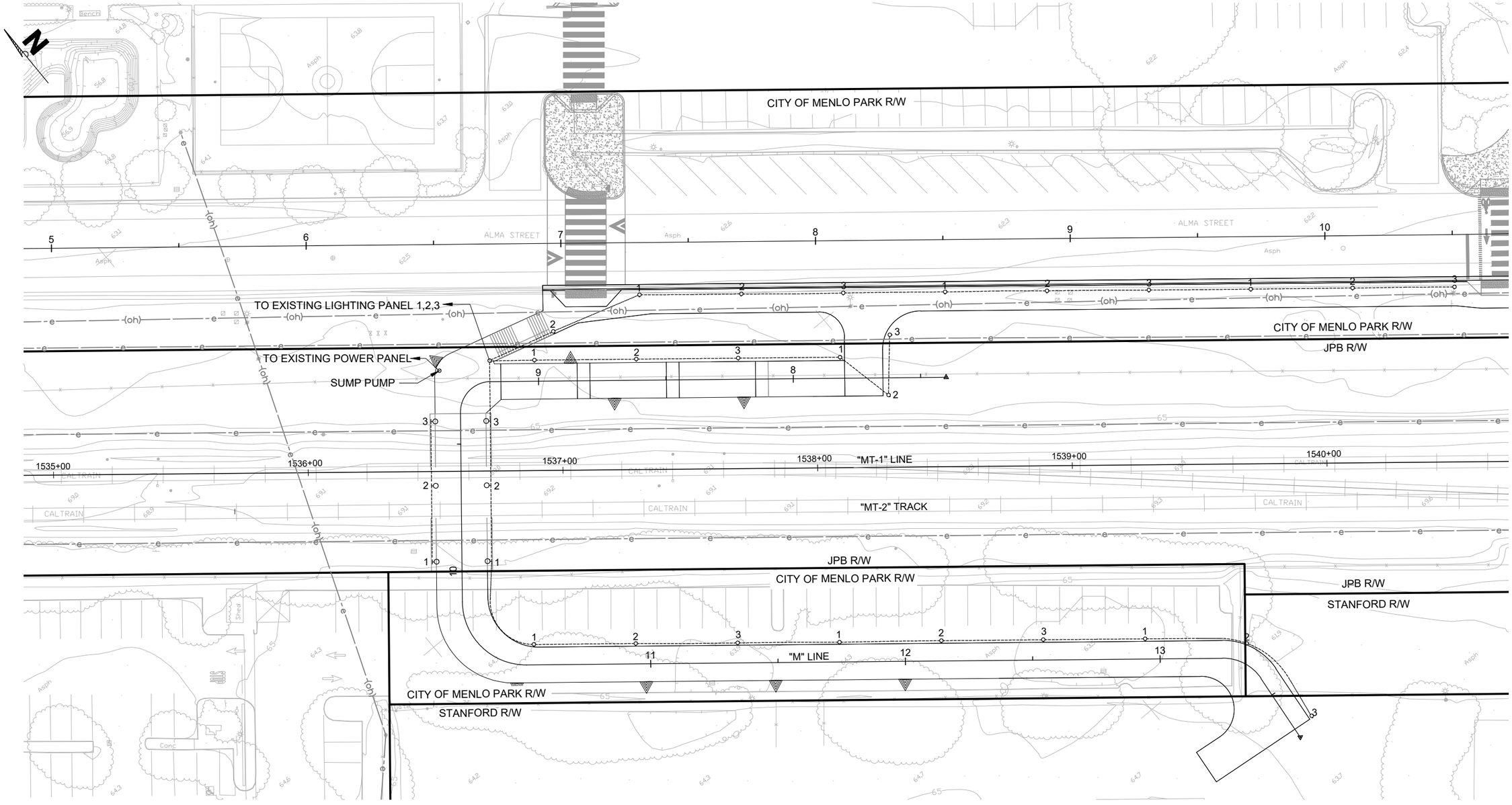
XREFS:

GENERAL NOTES:

1. CONTRACTOR SHALL ENSURE EXISTING UTILITIES NOT TO BE DAMAGED DURING CONSTRUCTION.
2. CONTRACTOR SHALL PROVIDE LED FIXTURES FOR POLE AND WALL MOUNT LIGHTING FIXTURES SIMILAR TO EXISTING WALKWAY INSTALLATION.
3. PROVIDE ELECTRICAL CIRCUIT WHICH INCLUDE BOXES, CONDUIT BODIES, CONDUIT/ACCESSORIES, COPPER CONDUCTORS, MOUNTING SUPPORTS AND NECESSARY APPURTENANCES FROM EXISTING POWER PANEL TO SUMP PUMP, PROVIDED WITH MANUAL TRANSFER SWITCH.
4. CONNECT CIRCUIT 1, 2, AND 3 TO EXISTING LIGHTING PANEL. EXTEND THE WIRE AND CONDUIT AS NECESSARY.
5. ONLY OVERHEAD AND UNDERGROUND ELECTRICAL LINES ARE SHOWN ON THIS PLAN. ALL OTHER UNDERGROUND UTILITY LINES ARE NOT SHOWN FOR CLARITY.

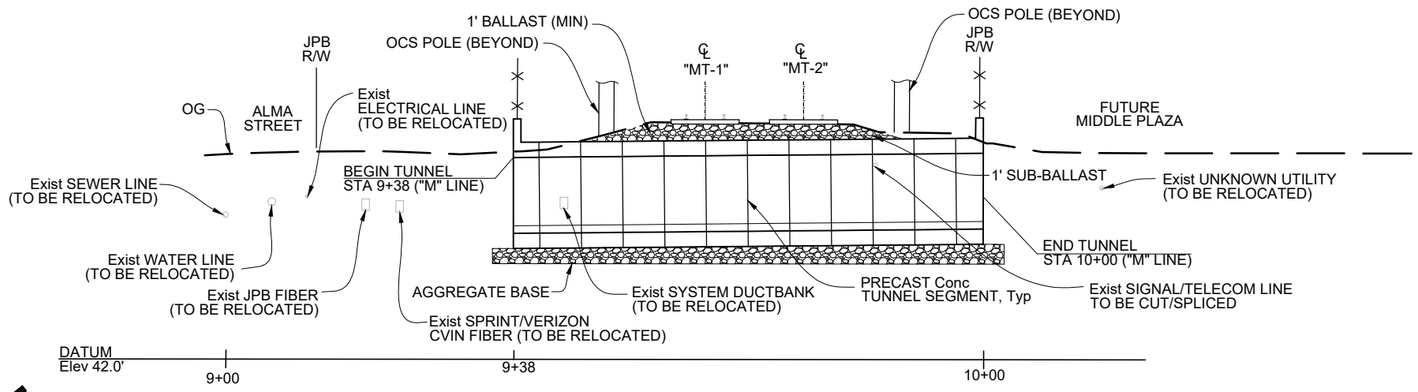
LEGEND:

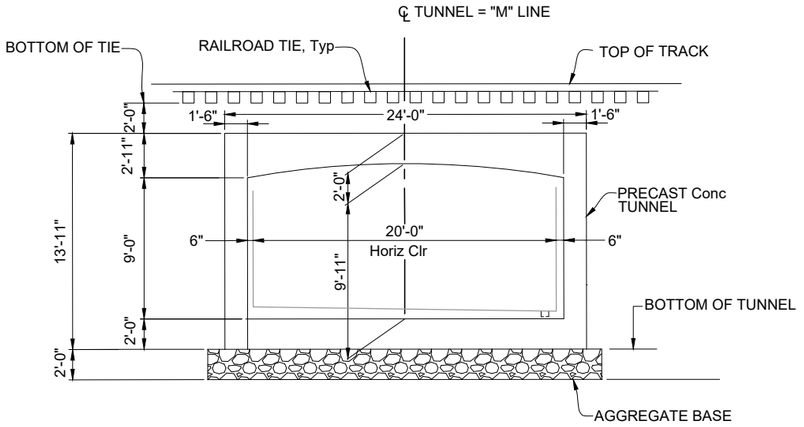
- WALL LIGHT FIXTURE - NUMBER DENOTES CIRCUIT No. (1,2,3)
- POLE LIGHT FIXTURE - NUMBER DENOTES CIRCUIT No. (1,2,3)
- BELOW GROUND CONDUIT OR EMBEDDED IN CONCRETE
- ABOVE GROUND CONDUIT



30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020 SCALE: 1" = 20' DRAWN BY: J. LIN DRAWING NAME: DESIGNED BY: A. TANJOCO CHECKED BY: SURVEYED BY:	APPROVED: NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR CITY OF MENLO PARK DATE / 76085 R.C.E. #	NO. / BY / DATE / REVISIONS	CITY OF MENLO PARK ENGINEERING DIVISION 701 LAUREL STREET, MENLO PARK, CA 94025-3483 PHONE (650) 330-6740 FAX (650) 327-5497	MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT ELECTRICAL PLAN	SHEET 15 OF 23 SHEETS PROJ. NAME



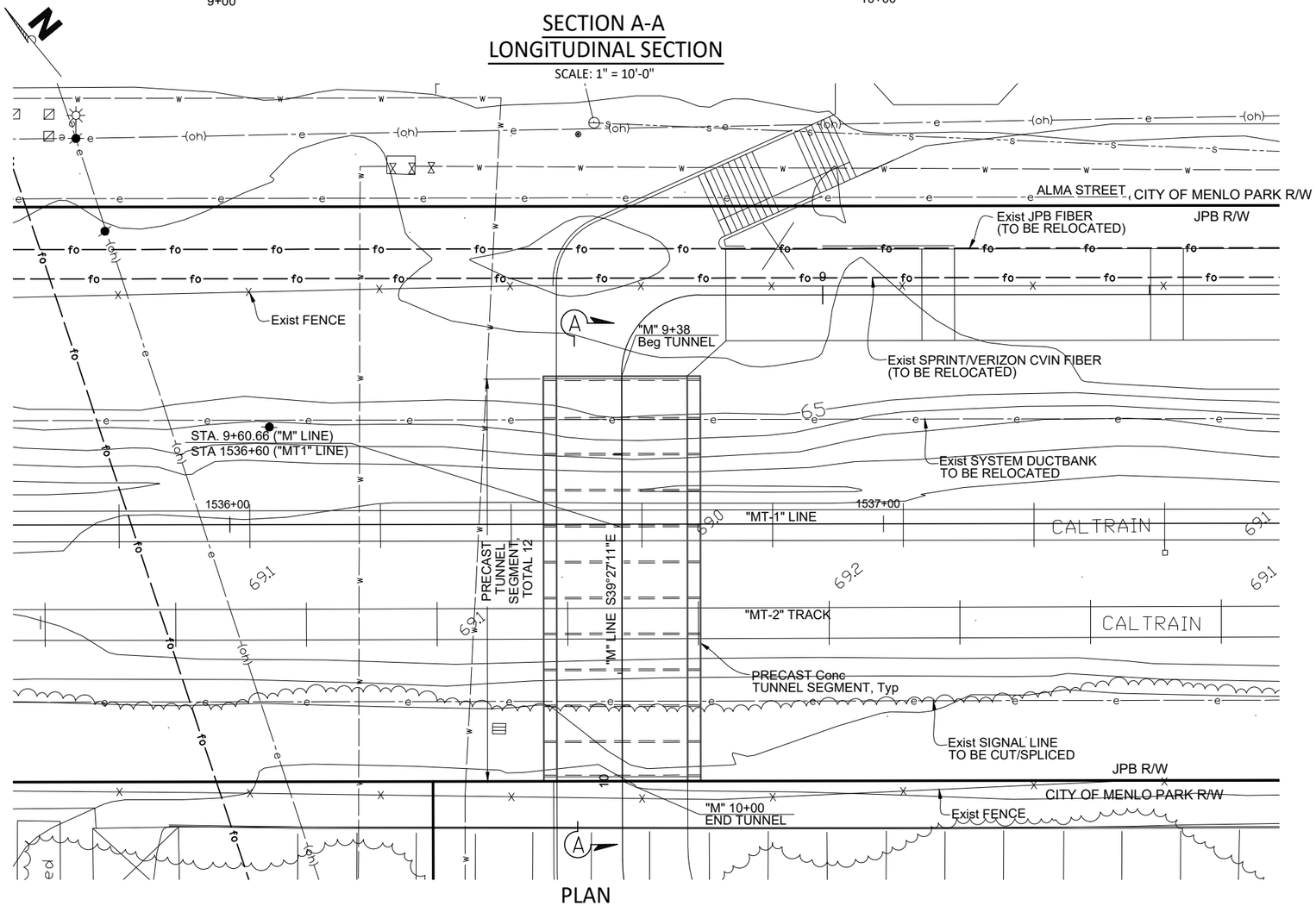


TYPICAL SECTION

SCALE: 1" = 5'-0"

SECTION A-A LONGITUDINAL SECTION

SCALE: 1" = 10'-0"



PLAN

SCALE: 1" = 10'-0"

GENERAL NOTES:

1. DESIGN IS IN CONFORMANCE WITH:
   a) AREMA "MANUAL FOR RAILWAY ENGINEERING", 2019
   b) BNSF/UPRR "GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECTS" MAY 2016.
2. DESIGN LOADING: COOPER E80
3. DESIGN IS BASED ON MINIMUM 8'-6" TIES.
4. PEDESTRIAN TUNNEL DESIGN LOADS:
   - DEAD LOAD: SELF WEIGHT, BALLAST, TIES, AND RAIL
   - LIVE LOAD: COOPER E80, PLUS IMPACT OR 100 PSF PEDESTRIAN LOAD
   - EARTH FORCES: PER GEOTECHNICAL REPORT BY AECOM (INCLUDING SEISMIC AND RAILROAD SURCHARGE)
   - BUOYANCY: FACTOR-OF-SAFETY = 1.50 MIN

   THE GENERAL PLAN TO REFER TO THE DRAFT PRELIMINARY GEOTECHNICAL TECHNICAL MEMORANDUM PREPARED BY AECOM DATED DECEMBER 16, 2019.
5. FOUNDATION DESIGN IS BASED ON THE PRELIMINARY GEOTECHNICAL PARAMETERS PRESENTED IN THE DRAFT PRELIMINARY GEOTECHNICAL MEMORANDUM BY AECOM (2019).
6. FOR CONSTRUCTION STAGING DETAILS, SEE "CONSTRUCTION SEQUENCE" DRAWINGS.
7. ALL TEMPORARY SHORING SYSTEMS THAT IMPACT RAILROAD OPERATIONS AND/OR SUPPORT THE RAILROAD EMBANKMENT SHALL BE DESIGNED AND CONSTRUCTED PER THE CURRENT VERSION OF THE BNSF/UPRR GUIDELINES FOR TEMPORARY SHORING.
8. ALL DEMOLITION WITHIN THE RAILROAD'S RIGHT-OF-WAY AND/OR DEMOLITION THAT MAY IMPACT THE RAILROAD'S TRACKS OR OPERATION SHALL COMPLY WITH THE RAILROAD'S DEMOLITION REQUIREMENTS.
9. THE ASSUMED ELEVATION OF EXISTING TOP OF RAIL (69.3') SHALL BE VERIFIED BEFORE BEGINNING CONSTRUCTION.
10. THE CONTRACTOR MUST SUBMIT A PROPOSED METHOD OF EROSION AND SEDIMENT CONTROL AND HAVE THE METHOD APPROVED BY THE RAILROAD PRIOR TO BEGINNING ANY GRADING ON THE PROJECT SITE.
11. FOR RAILROAD COORDINATION PLEASE REFER TO THE SPECIFICATIONS OR SPECIAL PROVISIONS OF THE PROJECT.
12. PRECAST CONCRETE:
    COMPRESSIVE STRENGTH - MIN 6000 PSI AT 28 DAYS
    REINFORCING STEEL: Fy = 60,000 PSI

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: AS SHOWN
DRAWN BY: C. TU
DRAWING NAME:
DESIGNED BY: D. NGUYEN
CHECKED BY: A. ABDEL-KARIM
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

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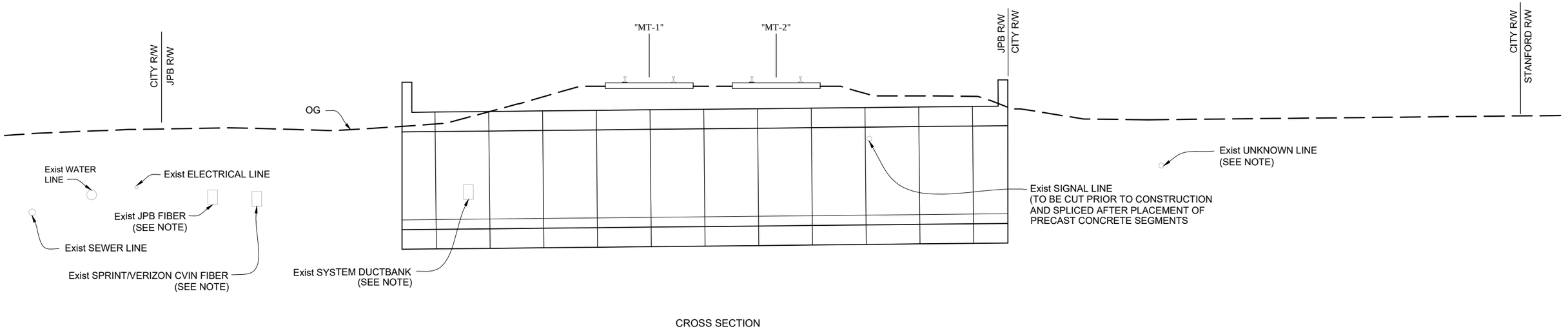
MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
TUNNEL GENERAL PLAN

SHEET 16 OF 23 SHEETS
PROJ. NAME

XREFS:



CROSS SECTION

NOTE:

ALL CONFLICTING UTILITIES TO BE RELOCATED PRIOR TO PLACEMENT OF PRECAST CONCRETE SEGMENTS, SEE UTILITY PLAN.

CONSTRUCTION SEQUENCE

1. MOBILIZE EXCAVATION EQUIPMENT AND CRANE (OR SIMILAR HEAVY-LIFTING DEVICE).
2. STAGE PEDESTRIAN TUNNEL SEGMENTS.
3. DURING WEEKEND CLOSURE OF TRAIN SERVICE:
   a. PROTECT-IN-PLACE THE OCS POLES AND WIRES.
   b. EXCAVATE TO BOTTOM OF EXCAVATION AND ENSURE DRY CONDITIONS.
   c. PLACE AGGREGATE BASE, WATERPROOFING AND PROTECTION BOARDS.
   d. INSTALL PRECAST CONCRETE SEGMENTS.
   e. COMPLETE WATERPROOFING INSTALLATION.
   f. PLACE BACKFILL AROUND AND ABOVE PEDESTRIAN TUNNEL.
   g. PLACE BALLAST AND RESTORE EXISTING TRACKS.

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: AS SHOWN
DRAWN BY: J. LIN
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

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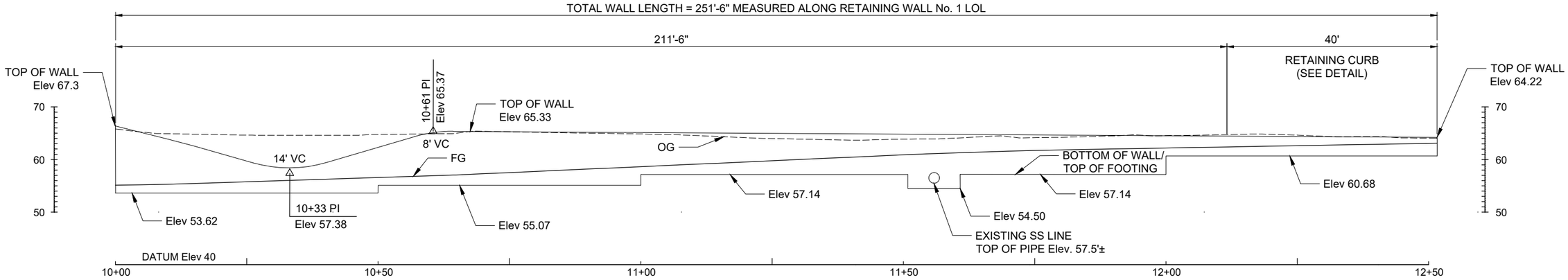
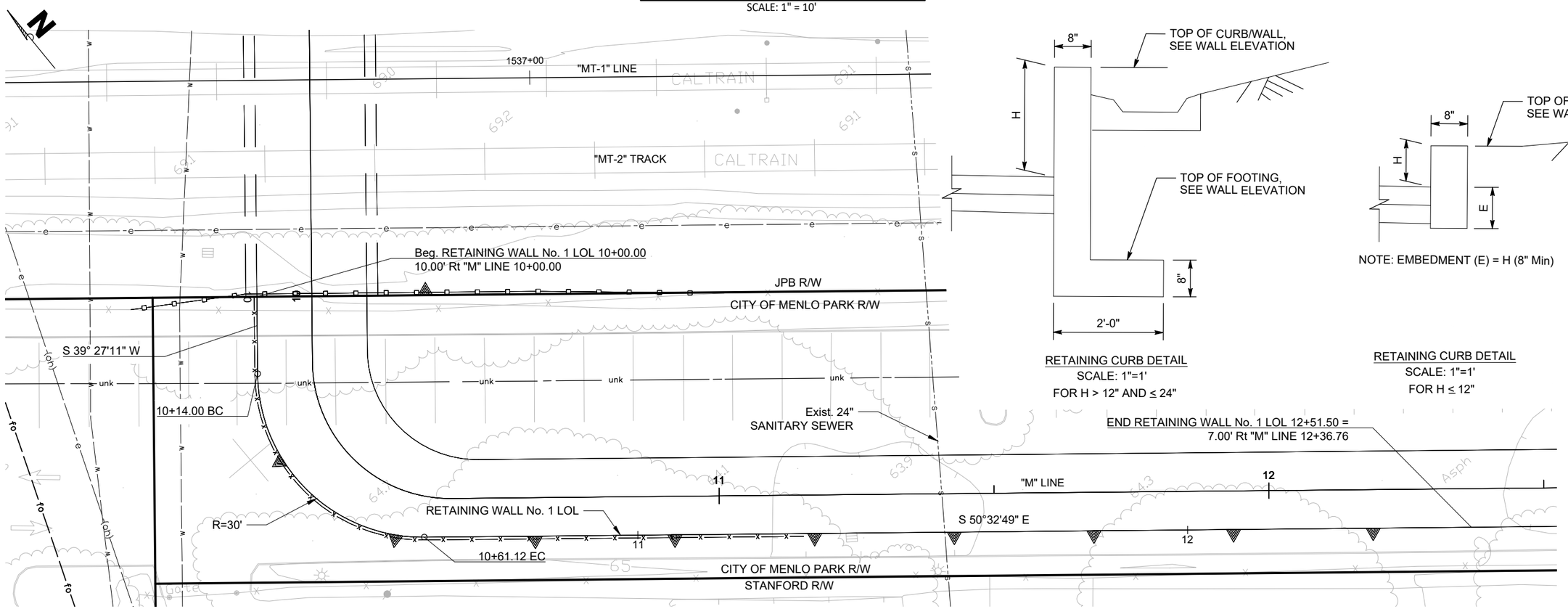
MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
CONSTRUCTION SEQUENCE

SHEET 17 OF 23 SHEETS
PROJ. NAME

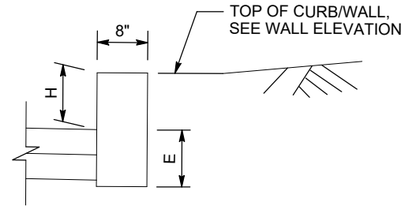


DEVELOPED MIRRORED ELEVATION

SCALE: 1" = 10'



RETAINING CURB DETAIL
SCALE: 1"=1'
FOR H > 12" AND ≤ 24"



NOTE: EMBEDMENT (E) = H (8" Min)

RETAINING CURB DETAIL
SCALE: 1"=1'
FOR H ≤ 12"

PLAN

SCALE: 1" = 10'

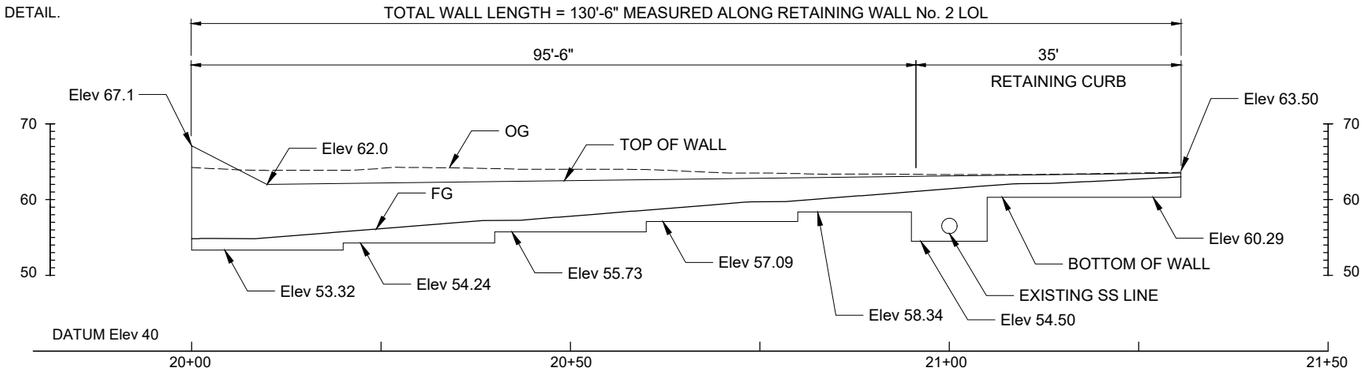
30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020	APPROVED:	CITY OF MENLO PARK ENGINEERING DIVISION	MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
SCALE: 1"=10'	NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR, CITY OF MENLO PARK	701 LAUREL STREET, MENLO PARK, CA 94025-3483	RETAINING WALL No. 1 GENERAL PLAN
DRAWN BY: DH	DATE / 76085 R.C.E. #	PHONE (650) 330-6740 FAX (650) 327-5497	SHEET 18 OF 23 SHEETS
DRAWING NAME:	NO. BY DATE REVISIONS	CITY OF MENLO PARK	PROJ. NAME
DESIGNED BY:			
CHECKED BY:			
SURVEYED BY:			

XREFS:

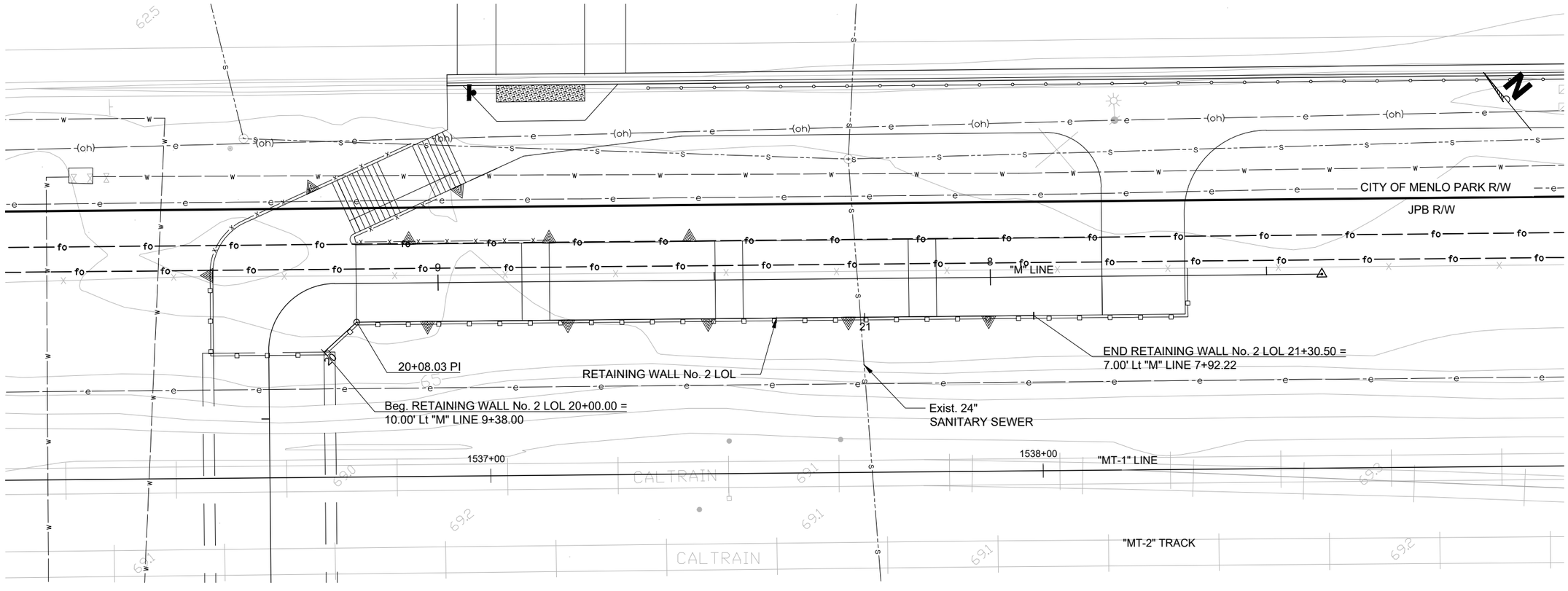
NOTE:

SEE RETAINING WALL No. 1 GENERAL PLAN FOR RETAINING CURB DETAIL.



DEVELOPED MIRRORED ELEVATION

SCALE: 1" = 10'



PLAN

SCALE: 1" = 10'

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1"=10'
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

NO.	BY	DATE	REVISIONS

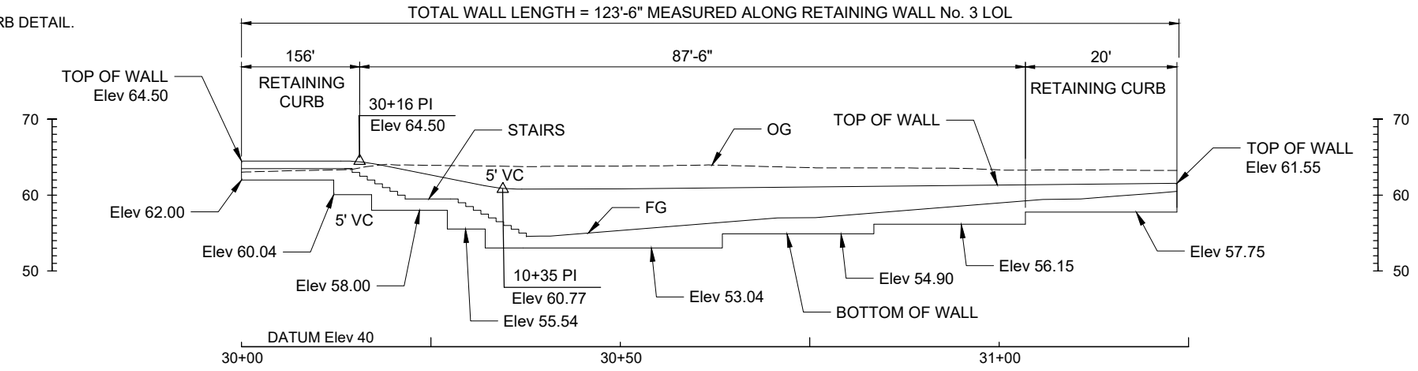
CITY OF MENLO PARK
ENGINEERING DIVISION
701 LAUREL STREET, MENLO PARK, CA 94025-3483
PHONE (650) 330-6740 FAX (650) 327-5497

MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
RETAINING WALL No. 2 GENERAL PLAN

SHEET 19 OF 23 SHEETS
PROJ. NAME

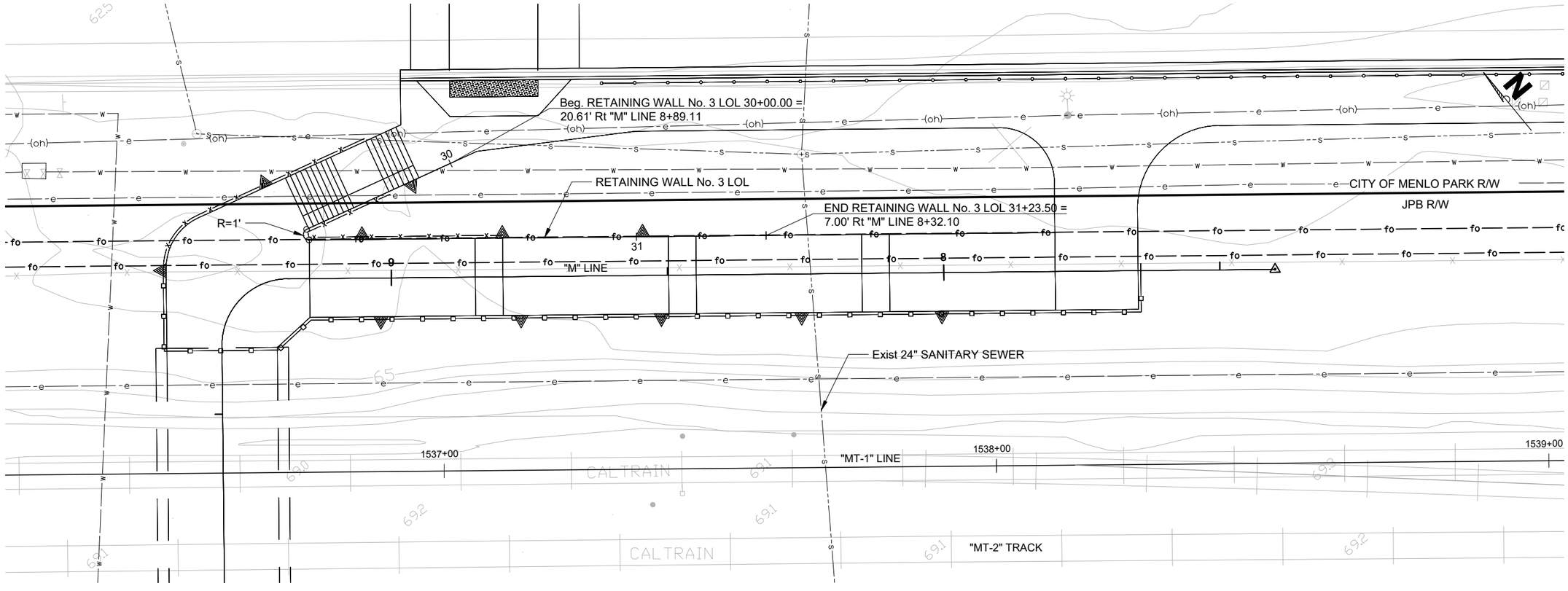
NOTE:

SEE RETAINING WALL No. 1 GENERAL PLAN FOR RETAINING CURB DETAIL.



DEVELOPED ELEVATION

SCALE: 1" = 10'



PLAN

SCALE: 1" = 10'

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1"=10'
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

NO.	BY	DATE	REVISIONS

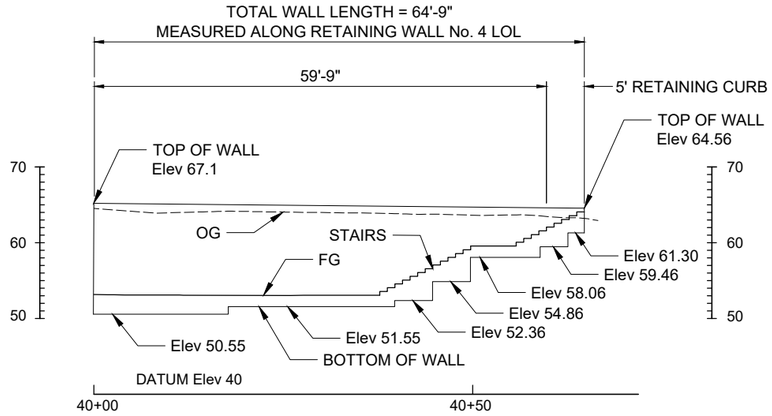
CITY OF MENLO PARK
ENGINEERING DIVISION
701 LAUREL STREET, MENLO PARK, CA 94025-3483
PHONE (650) 330-6740 FAX (650) 327-5497

MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
RETAINING WALL No. 3 GENERAL PLAN

SHEET 20 OF 23 SHEETS
PROJ. NAME

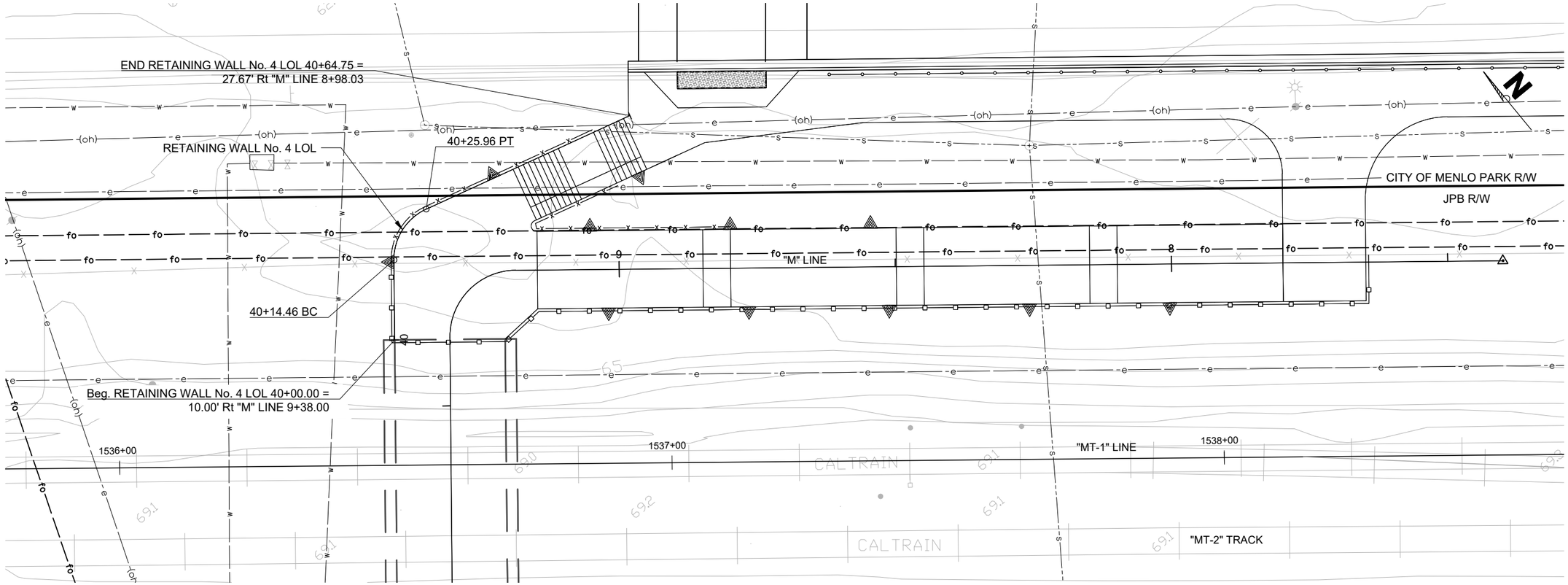
NOTE:

SEE RETAINING WALL No. 1 GENERAL PLAN FOR RETAINING CURB DETAIL.



DEVELOPED ELEVATION

SCALE: 1" = 10'



PLAN

SCALE: 1" = 10'

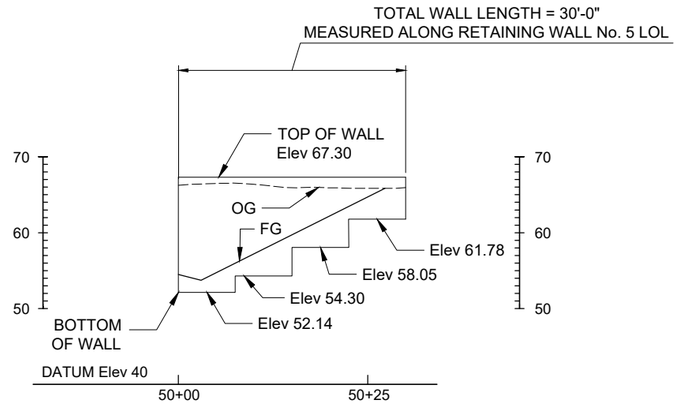
30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020	APPROVED:	CITY OF MENLO PARK ENGINEERING DIVISION	MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
SCALE: 1"=10'	NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR	701 LAUREL STREET, MENLO PARK, CA 94025-3483	RETAINING WALL No. 4 GENERAL PLAN
DRAWN BY: JL	CITY OF MENLO PARK	PHONE (650) 330-6740 FAX (650) 327-5497	SHEET 21 OF 23 SHEETS
DRAWING NAME:	DATE 76085 R.C.E. #	NO. BY DATE REVISIONS	PROJ. NAME
DESIGNED BY:			
CHECKED BY:			
SURVEYED BY:			

XREFS:

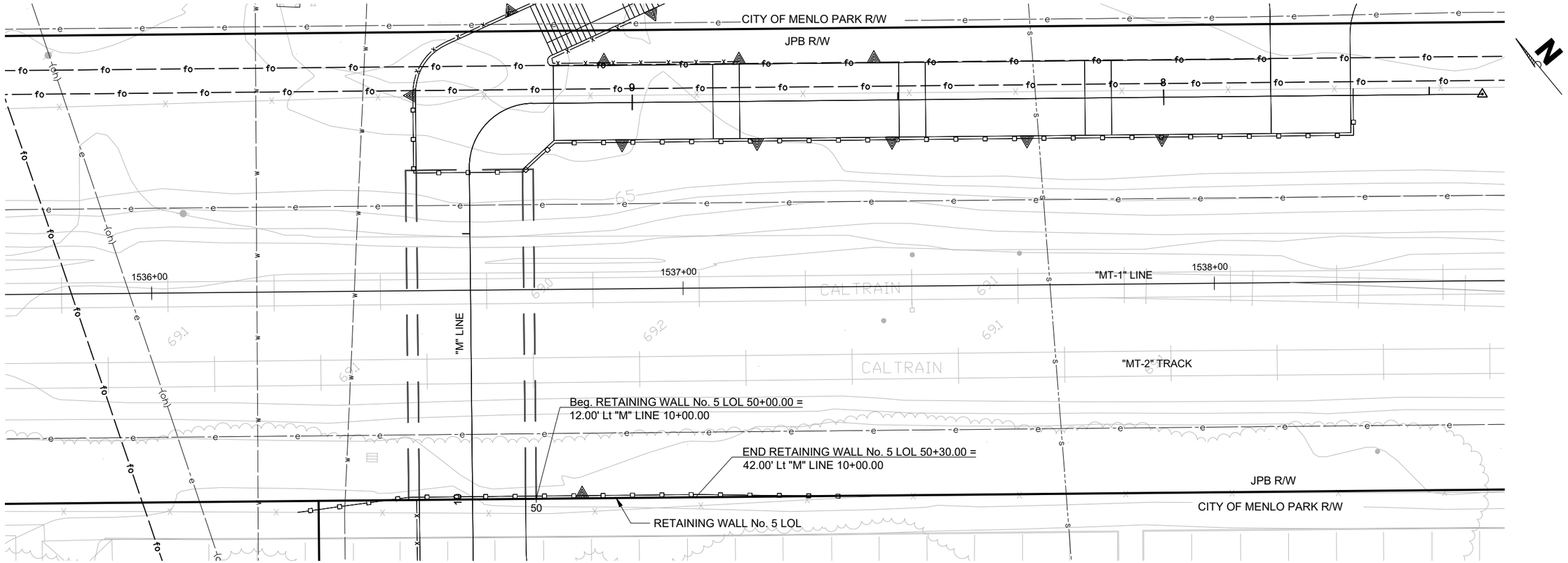
NOTE:

SEE RETAINING WALL No. 1 GENERAL PLAN FOR RETAINING CURB DETAIL.



DEVELOPED ELEVATION

SCALE: 1" = 10'



PLAN

SCALE: 1" = 10'

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1"=10'
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

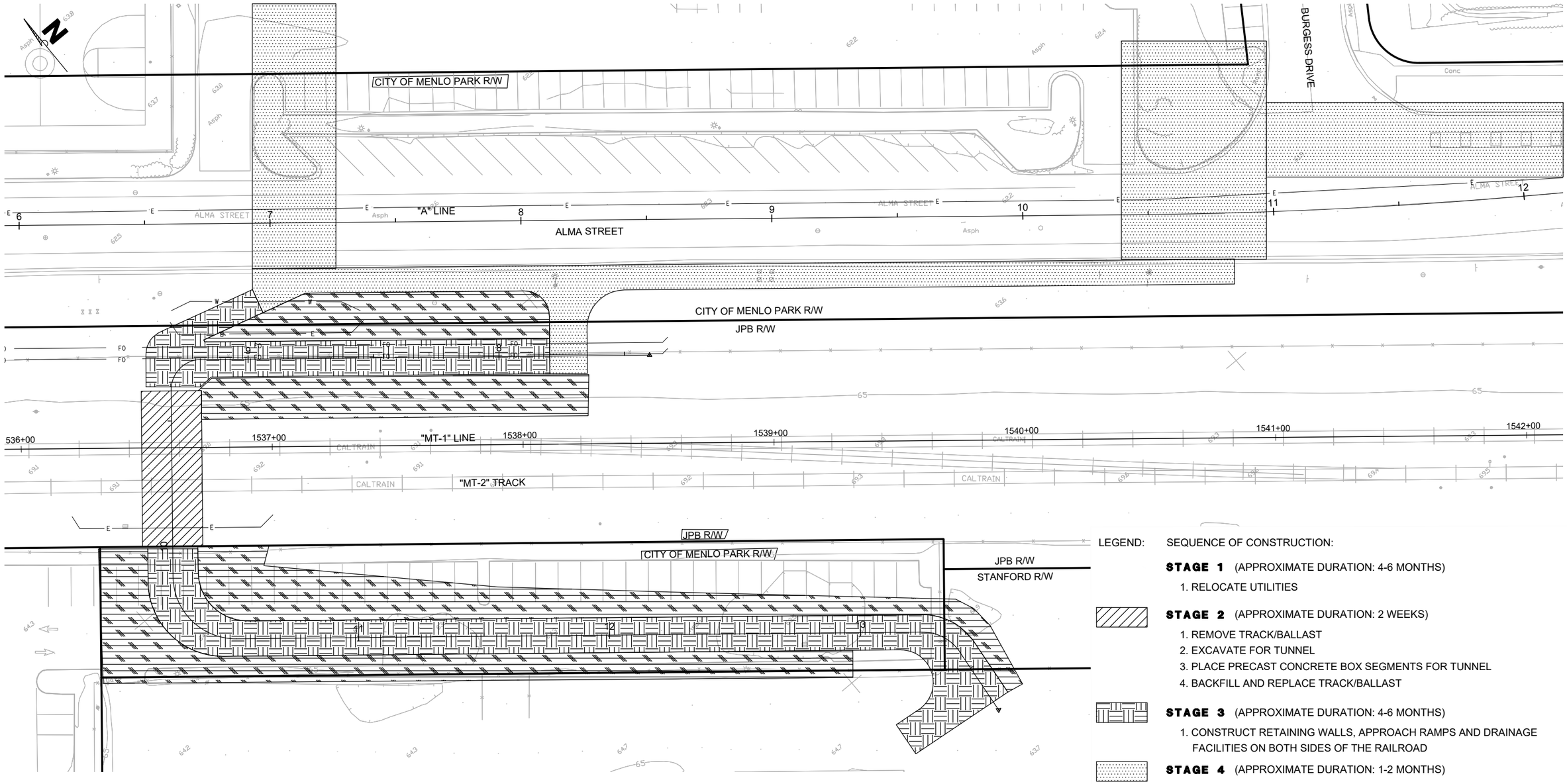
NO.	BY	DATE	REVISIONS

CITY OF MENLO PARK
ENGINEERING DIVISION
701 LAUREL STREET, MENLO PARK, CA 94025-3483
PHONE (650) 330-6740 FAX (650) 327-5497

MIDDLE AVENUE PEDESTRIAN & BICYCLE
RAIL CROSSING PROJECT
RETAINING WALL No. 5 GENERAL PLAN

SHEET 22 OF 23 SHEETS
PROJ. NAME

XREFS: 1/9/2020



LEGEND:

SEQUENCE OF CONSTRUCTION:

STAGE 1 (APPROXIMATE DURATION: 4-6 MONTHS)

1. RELOCATE UTILITIES

STAGE 2 (APPROXIMATE DURATION: 2 WEEKS)

1. REMOVE TRACK/BALLAST
2. EXCAVATE FOR TUNNEL
3. PLACE PRECAST CONCRETE BOX SEGMENTS FOR TUNNEL
4. BACKFILL AND REPLACE TRACK/BALLAST

STAGE 3 (APPROXIMATE DURATION: 4-6 MONTHS)

1. CONSTRUCT RETAINING WALLS, APPROACH RAMPS AND DRAINAGE FACILITIES ON BOTH SIDES OF THE RAILROAD

STAGE 4 (APPROXIMATE DURATION: 1-2 MONTHS)

1. CONSTRUCT SIDEWALKS AND LANDINGS ADJACENT TO ALMA ST
2. CONSTRUCT FEATURES ON ALMA ST (CROSSWALKS, SIGNING, ETC)

STAGE 5 (APPROXIMATE DURATION: 1-2 MONTHS)

1. CONSTRUCT INCIDENTAL INFRASTRUCTURE ELEMENTS (LUMINAIRES, LANDSCAPING, ETC)

NOTE:

SEQUENCE OF CONSTRUCTION SHOWN IS RECOMMENDED. CONTRACTOR MAY MODIFY THE SEQUENCE, IF DESIRED, AND IF APPROVED BY THE CITY.

30% FINAL - JANUARY 9, 2020

DATE: 1/9/2020
SCALE: 1" = 20'
DRAWN BY: JL
DRAWING NAME:
DESIGNED BY:
CHECKED BY:
SURVEYED BY:

APPROVED:

NICOLE H. NAGAYA, INTERIM PUBLIC WORKS DIRECTOR
CITY OF MENLO PARK

DATE

76085
R.C.E. #

NO.	BY	DATE	REVISIONS

CITY OF MENLO PARK
ENGINEERING DIVISION
701 LAUREL STREET, MENLO PARK, CA 94025-3483
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MIDDLE AVENUE PEDESTRIAN & BICYCLE RAIL CROSSING PROJECT
STAGE CONSTRUCTION

SHEET 23 OF 23 SHEETS
PROJ. NAME

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