

Avoidance, Minimization, and/or Mitigation Summary

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and /or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR. Standardized measures are coded as SM, avoidance and minimization measures are coded as AMM, and mitigation measures are coded as MM.

Community Impacts
AMM-COM-1: The contractor will provide bilingual notification of construction activities including any utility disruptions to the local residents and businesses.
<p>AMM-COM-2: The contractor will maintain ongoing coordination with the Orthodox Jewish Community during pre-construction and construction of the Project. In the event that the poles supporting the eruv over Newell Road require moving during any period of construction when the bridge structure is in place and accessible to pedestrians, the contractor will take the following steps to ensure a temporary eruv is in place prior to any Friday evening.</p> <ul style="list-style-type: none"> • The existing poles must be dug out completely so that they may be reused. • Temporary replacement shall be installed consisting of 20-foot conduits to be fastened to nearby structures. • Fishing line, or other unobtrusive wire, shall be fastened to the conduits to maintain the eruv alignment.
AMM-COM-3: Access to all properties for property owners and users will be maintained by the contractor during construction.
Utilities/Emergency Services
SM-UT-1: The contractor will provide bilingual notification of construction activities including any utility disruptions to the local residents and businesses.
Traffic and Transportation/Pedestrian and Bicycle Facilities
<p>SM-TR-1: A TMP will be prepared by the Project proponent or its contractor, approved by the City of Palo Alto, and will be implemented by the contractor during construction activities. The TMP will contain requirements for public noticing, traffic control implementation, signage, property and business access, parking, and safety during construction. It also will contain information about the construction schedule and detours.</p> <ul style="list-style-type: none"> • Advance notice and coordination with businesses and property owners will be included in the TMP to minimize any potential temporary impacts on commute times. • Advance notice and coordination with emergency service providers will be included in the TMP to minimize any potential temporary impacts on response times.
AMM-TR-1: Access along Edgewood Drive for the southeast resident's driveway will be maintained by the contractor at all times during construction.

<p>AMM-TR-2: On Woodland Avenue, the contractor will maintain one-lane of traffic to assure passage along Woodland Avenue during the majority of construction. When one-lane of traffic is not available a detour route will be identified. The construction zone will be established such that the maximum amount of existing parking is available in the area during non-construction hours.¹ Access for all residents on Woodland Avenue in the study area will be maintained throughout the construction period.</p>
<p>AMM-TR-3: The City of Palo Alto shall coordinate with the City of East Palo Alto to identify nearby locations including private parcels where additional parking accommodations can be provided during construction.</p>
<p>AMM-TR-4: During stages 2, 3, and 4 of construction, the contractor will make accommodations for nighttime parking during non-construction hours. This would include opening the work zone up for residents to park at night and utilizing head-in (perpendicular) parking rather than parallel parking in these areas.</p>
<p>Visual/Aesthetics</p>
<p>MM-AES-1: Install Visual Barriers between Construction Work Areas and Sensitive Receptors. The contractor shall install visual barriers to obstruct undesirable views of construction activities and staging areas from sensitive receptors, namely residents and viewers on neighborhood sidewalks and streets, which are located adjacent to the construction site. The visual barrier may be chain link fencing with privacy slats, fencing with windscreen material, wood, or other similar barrier. The visual barrier shall be a minimum of six (6) feet high to help to maintain the privacy of residents and block long-term ground-level views toward construction activities. While this visual barrier would introduce a visual intrusion, it would greatly reduce the visual effects associated with visible construction activities and screening construction activities and protecting privacy is deemed desirable by residents. The contractor shall also provide daily visual inspections to ensure the immediate surroundings of construction staging areas are free from construction-related clutter and to maintain the areas in a clean and orderly manner throughout the construction period.</p>
<p>MM-AES-2: Replace or Relocate Site Features and Landscaping Affected by the Project. Where appropriate and to the degree possible, the contractor will relocate, replace, or restore in kind landscaping and related appurtenances, such as fencing, driveway gates, and similar features that would be removed from private properties as a result of construction to reduce visual impacts and to maintain the quality of views from neighborhood roadways and sidewalks. If the site cannot accommodate this relocation or replacement, then the Project proponent will compensate parcel owners for site features (e.g., fencing, mailboxes, driveway gates) and landscaping that would be removed or damaged as a result of the Project. Replacement of site features and landscaping would be of value at least equal to that of existing features.</p>
<p>MM-AES-3: Implement Project Design Aesthetics. The City of Palo Alto will implement an aesthetic design treatment with a consistent motif for new structures such as retaining walls, bridge sides, fencing, and wing walls. Choosing earth-toned colors for the surfaces would be less distracting to viewers than light or brightly colored surfaces. The shade of the wall will also be carefully considered to complement the project setting. However, studies have shown that structures two (2) to three (3) degrees darker than the color of the general surrounding area have the ability to complement the surrounding vegetation and create less of a visual impact than matching or lighter hues (U.S. Bureau of Land Management 2008). Safety barriers and fencing will be chosen, and could be plastic, powder, or vinyl coated with colors selected using the U.S. Bureau of Land Management selection techniques to</p>

¹ The allowed hours of construction are M-F 8-6PM, Sat 9AM-6PM in Palo Alto (Municipal Code 09.10.060) and M-F 7AM-6PM, Sat 9AM-5PM in East Palo Alto (Municipal Code 15.04.125), and both jurisdictions prohibit construction activities on Sunday/Holidays,

make fences to appear more see-through than non-treated, light grey fencing that acts as a visual barrier to a degree.

The design of the bridge will be reviewed and approved by the City of Palo Alto Architectural Review Board. The Architectural Review Board is a recommending body that reviews projects and provides recommendations to the Director of Planning or Council. The Project would require Architectural Review in accordance with Palo Alto Municipal Code Section 18.76.020. The Architectural Review Board reviews the project for consistency with a series of findings outlined in the municipal code relating to aspects such as compatibility with the immediate environment of the site; compatibility with the design character of the surrounding area; harmonious transitions in scale and character in areas between different designated land uses; internal sense of order; amount and arrangement of open space; integration of natural features; and appropriate materials, textures, colors and details of construction and plant material. Although some architectural refinements may be expected as the Architectural Review Board process proceeds, such refinements are not expected to change the impact conclusions in this environmental analysis.

MM-AES-4: Implement Project Streetscaping and Plantings along Top of Creek Bank.

Streetscaping and planting native vegetation at the tops of the creek's banks will improve the visual quality of the roadway corridor by improving corridor aesthetics. The City of Palo Alto will select street tree species from the Cities' approved list of street trees or will be selected to match existing street trees in close proximity to the Project corridor and in compliance with the Urban Forest Master Plan², Palo Alto Tree Technical Manual³ and East Palo Alto's Development Code. Replacement street trees shall have attributes that are at least equivalent to the trees that are removed or that provide a higher degree of aesthetic benefit such as better fall color, interesting bark, or less tree litter. Tree and shrub plantings along the tops of the creek's banks will be installed where space allows and will utilize native plant species that are indigenous to the riparian corridor. Low-lying evergreen and deciduous shrubs and groundcovers, such as *Ceanothus* spp., and an herbaceous understory will also be planted. Plant variety will increase the effectiveness of the streetscape by providing multiple layers, seasonality, and reduced susceptibility to disease. Special attention should be paid to plant choices to prevent driving hazards by obscuring site distances. Vegetation shall be planted within the first six (6) months following Project completion. An irrigation and maintenance program will be implemented during the plant establishment period and carried on, as needed, to ensure plant survival. However, design of the landscaping plan will try to maximize the use of planting zones that are water efficient. The design may also incorporate aesthetic features, such as a cobbling swales or shallow detention areas, which can reduce or eliminate the need for irrigation in certain areas.

MM-AES-5: Apply minimum lighting standards. The contractor and the City of Palo Alto will limit all artificial outdoor lighting to safety and security requirements, designed using Illuminating Engineering Society's design guidelines, and in compliance with International Dark-Sky Association approved fixtures. All lighting is designed to have minimum impact on the surrounding environment and will use downcast, cut-off type fixtures that are shielded and direct the light only towards objects requiring illumination. Therefore, lights will be installed at the lowest allowable height and cast low-angle illumination while minimizing incidental light spill onto adjacent properties, the creek corridor, or backscatter into the nighttime sky. Shielding will also be employed for traffic signals. Light fixtures will have non-glare finishes that will not cause reflective daytime glare. Lighting will be designed for energy efficiency and have daylight sensors or be timed with an on/off program.

LED lighting will avoid the use of blue-rich white light lamps and use a correlated color temperature that is no higher than 3,000 Kelvin, consistent with the International Dark-Sky Associations Fixture Seal of Approval program (International Dark-Sky Association 2010a, 2010b, 2015). In addition, LED

² Available: <https://www.cityofpaloalto.org/civicax/filebank/documents/36187>

³ Available: <http://www.cityofpaloalto.org/civicax/filebank/documents/6436>

<p>lights will use shielding to ensure nuisance glare and that light spill does not affect sensitive residential viewers.</p> <p>Technologies to reduce light pollution evolve over time and design measures that are currently available may help but may not be the most effective means of controlling light pollution once the project is designed. Therefore, all design measures used to reduce light pollution will employ the technologies available at the time of project design to allow for the highest potential reduction in light pollution.</p> <p>Lastly, due to the short bridge length, jurisdiction limitations, and in an effort to provide a sidewalk free of obstructions, lighting is not currently proposed on the bridge. On the East Palo Alto side, electrical services are provided by Pacific Gas and Electric and would need to be slightly relocated to accommodate a wider bridge. On the Palo Alto side, an existing light will be replaced along Newell Road, due to the change in grade, in approximately the same location. The relocated light would be less than 80-feet away from the bridge. It is not anticipated that additional lighting would be needed on the bridge. If an additional light is needed in the vicinity, a City standard light could be added on the roadway on the Palo Alto side. This light, if needed, as well as the other lights being replaced would be required to conform to City standards.</p>
Cultural Resources
<p>SM-CUL-1: If cultural materials are discovered during construction, the contractor will cease all earth-moving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find and recommend/implement appropriate data collection/recovery activities.</p>
<p>SM-CUL-2: If human remains are discovered, State Health and Safety Code Section 7050.5 states that the contractor will stop further disturbances and activities in any area or nearby area suspected to overlie remains, and the contractor will contact the County Coroner. Pursuant to PRC Section 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC, which will then notify the MLD. At this time, the person who discovered the remains will contact the District 4 Cultural Resources Studies Office so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC Section 5097.98 are to be followed as applicable.</p>
Water Quality and Storm Water Runoff
<p>SM-WQ-1: Implement NPDES Permit and Construction General Permit Water Quality Measures. The Project will comply with the provisions of the California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Storm water NPDES Permit (Order No. R2-2015-0049-DWQNPDES No. CAS612008) and the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) Order No. 2009-0009-DWQ, NPDES No. CAS000002 as amended by 2010-0014-DWQ and 2012-0006-DWQ and any subsequent permits in effect at the time of construction. In addition, the Project proponent and/or their construction contractor shall ensure the construction specifications include water quality protection and erosion and sediment control BMPs to minimize construction-related contaminants and mobilization of sediment to San Francisquito Creek. The Project proponent will perform routine inspections of the construction area to verify the BMPs are properly implemented and maintained.</p>

<p>SM-WQ-2: Prepare and Implement SWPPP. The project will comply with the Construction General Plan by preparing and implementing a SWPPP to address all construction-related activities, equipment, and materials that have the potential to impact water quality for the appropriate risk level. The SWPPP will identify the sources of pollutants that may affect the quality of storm water and include BMPs to control the pollutants, such as sediment control, catch basin inlet protection, construction materials management, and non-storm water BMPs. All work must conform to the construction site BMP requirements specified in the latest edition of the Caltrans Construction Site Best Management Practices Reference Manual (California Department of Transportation 2011) to control and minimize the impacts of construction and construction-related activities, materials, and pollutants on the watershed. These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling waste management, materials handling, and other non-storm water BMPs. In addition, a temporary creek flow diversion will be installed prior to any construction to prevent sediments from washing downstream. Temporary BMPs will be selected and identified in the SWPPP to protect water bodies, within or near the project limits, from potential storm water runoff resulting from construction activities. Temporary sediment and erosion control measures may include the following.</p> <ul style="list-style-type: none"> • Fiber rolls and/or silt fences. • Gravel bag berm. • Rolled erosion-control product (e.g., netting). • Designated construction entrance/exit. • Re-establishment of vegetation or other stabilization measures (hydroseeding, mulch) on DSAs and newly constructed slopes. • Wind erosion control.
<p>AMM-WQ-1: Flood Capacity. The City of Palo Alto will not reduce the flood capacity of existing drainage or water conveyance features within the Project study area during construction or operation in a way that causes ponding or flooding during storm events.</p>
<p>AMM-WQ-2: Limit Stream Bank Construction to Dry Season. The contractor will limit stream bank construction from June 1 to October 15 in order to avoid the migratory season for adult steelhead and to limit any excess sedimentation and runoff from entering San Francisquito Creek.</p> <p>The Project proponent will compensate for temporary construction-related loss of valley foothill riparian habitat by replanting trees in the temporarily disturbed area after completion of the construction activities and before October 15 to minimize erosion and sedimentation into San Francisquito Creek.</p> <p>The Project proponent will compensate for the permanent loss of riparian vegetation by planting riparian trees at a minimum ratio of 3:1 (three trees planted for every one tree removed) in the project vicinity as determined appropriate by a qualified biologist and Project proponent. This ratio and the location will be confirmed through coordination with the Project proponent and other agencies as part of the permitting process for the Project.</p>
<p>Geology/Soils/Seismic/Topography</p>
<p>SM-GEO-1: The City of Palo Alto will adhere to current Caltrans SDC for bridge design and construction.</p>
<p>Paleontology</p>
<p>MM-PA-1: Educate workers, stop work in case of discovery of paleontological resources, and Prepare and Implement a Recovery Plan. Given the potential for paleontological resources to be present in construction areas at ground surface and at excavation depths below 5 feet in sensitive geologic units in the Project area, the following measures will be undertaken to avoid any potentially significant effect from the improvements on paleontological resources. Before the start of any excavation, the California Department of Transportation (Caltrans) and the City of Palo Alto will retain a qualified paleontologist, as defined by the Society of Vertebrate Paleontology. If paleontological</p>

<p>resources are discovered during earthmoving activities, the construction crew will immediately cease work near the find and notify Caltrans and the City of Palo Alto. Construction work in the affected areas will remain stopped or be diverted to allow recovery of fossil remains in a timely manner. Caltrans and the City of Palo Alto will retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with Society of Vertebrate Paleontology guidelines (Society of Vertebrate Paleontology 2010). The recovery plan may include a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by Caltrans and the City of Palo Alto to be necessary and feasible will be implemented before construction activities can resume at the site where the paleontological resources were discovered. Caltrans and the City of Palo Alto will be responsible for ensuring that the paleontologist's recommendations regarding treatment and reporting are implemented.</p>
<p>Hazardous Waste/Materials</p>
<p>MM-HAZ-1: All paint will be treated as lead-containing for the purposes of complying with Division of Occupational Safety and Health worker safety requirements, which apply to all worksites where construction workers may be exposed to lead. The California Department of Transportation (Caltrans) and the City of Palo Alto will have all lead-based paint abated and removed by a licensed lead-based paint contractor. The licensed lead-based paint contractor shall dispose of all lead-based paint or coatings at landfills that meet acceptance criteria for the waste being disposed.</p>
<p>MM-HAZ-2: Caltrans and the contractor shall stockpile soil generated by construction activities on site in a secure and safe manner. All contaminated soils determined to be hazardous or nonhazardous waste shall be adequately profiled (i.e., sampled and analyzed) prior to acceptable reuse or disposal at an appropriate offsite facility. Specific sampling, handling, and transport procedures for reuse or disposal shall be in accordance with applicable local, state, and federal agencies' laws, in particular the Regional Water Quality Control Board, the Department of Toxic Substances Control, the City of Palo Alto, the City of East Palo Alto, Santa Clara County, and San Mateo County. Material from existing roadway or bridge elements that is removed or modified by the Contractor will be handled and disposed of in accordance with all local, state, and federal requirements.</p>
<p>Air Quality</p>
<p>SM-AQ-1: Implement California Department of Transportation Standard Specifications</p> <ul style="list-style-type: none"> • The Project applicant will comply with California Department of Transportation Standard Specifications in Section 14-9 Air Quality (2010). • Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. • Section 14-9.03 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.
<p>SM-AQ-2: Implement BAAQMD Basic Control Measures to Control Construction-Related Dust</p> <ul style="list-style-type: none"> • In accordance with the BAAQMD's current Air Quality Guidelines (Bay Area Air Quality Management District 2011), the Project applicant will implement the following BAAQMD-recommended control measures to reduce particulate matter emissions from construction activities. • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day by the contractor. • All haul trucks transporting soil, sand, or other loose material off site will be covered by the contractor. • All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day by the contractor. The use of dry power sweeping is prohibited.

<ul style="list-style-type: none"> • The contractor will limit all vehicle speeds on unpaved roads to 15 miles per hour. • The contractor will complete all roadways, driveways, and sidewalks to be paved as soon as possible. • The contractor will post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The Air District's phone number will also be visible to ensure compliance with applicable regulations.
<p>MM-AQ-1: Utilize clean diesel-powered equipment during construction to control construction-related NOx emissions. The construction contractor will ensure that all off-road diesel-powered equipment used during construction is equipped with EPA Tier 4 Final engines.</p>
<p>Noise</p>
<p>SM-NOI-1: The construction contractor must comply with Caltrans Standard Specifications Section 14-8.02, Noise Control, which states the following:</p> <ul style="list-style-type: none"> • Control and monitor noise resulting from work activities. • Do not exceed 86 dBA at 50 feet from the job site activities from 9:00 p.m. to 6:00 a.m.
<p>SM-NOI-2: All equipment used by the contractor will have sound-control devices that are no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.</p>
<p>SM-NOI-3: The Project proponent and/or their construction contractor will do the following.</p> <ul style="list-style-type: none"> • Review and ensure that construction activities are conducted in accordance with local noise standards from the cities of Palo Alto and East Palo Alto. • Ensure that construction activities will not occur at night. • Implement additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity to allowed timeframes, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources, as appropriate.
<p>MM-NOI-1: Provide advance notification of construction schedule and 24-hour hotline to residents</p> <p>The construction contractor will provide advance written notification of the proposed construction activities to all residences and other noise-sensitive uses within 750 feet of the construction site. Notification will include a brief overview of the proposed project and its purpose, as well as the proposed construction activities and schedule. It will also include the name and contact information of the project manager at the City of Palo Alto or another City of Palo Alto representative or designee responsible for ensuring that reasonable measures are implemented to address the problem.</p>
<p>MM-NOI-2: Designate a noise disturbance coordinator to address resident concerns</p> <p>The construction contractor will designate a representative to act as construction noise disturbance coordinator, responsible for resolving construction noise concerns. The disturbance coordinator's name and contact information will be included in the preconstruction notices sent to area residents, per MM-NOI-1. The coordinator will be available during regular business hours to monitor and respond to concerns; if construction hours are extended, the disturbance coordinator will also be available during the extended hours. In the event a noise complaint is received, she or he will be responsible for determining the cause of the complaint and ensuring that all reasonable measures are implemented to address the problem.</p>
<p>MM-NOI-3: Install temporary noise barriers. As described in MM-NOI-1 and MM-NOI-2, the construction contractor will notify noise-sensitive land uses near the site of upcoming activity before construction begins, will require construction-site noise reduction measures, and will provide a 24-hour complaint hotline. If a resident or other noise-sensitive person submits a complaint about construction noise and the contractor is unable to reduce noise to a level that does not cause annoyance or disruption to adjacent land uses through other means, the contractor will install</p>

<p>temporary noise barriers to reduce noise levels below the applicable construction noise standard. Barriers will be installed as promptly as possible, and work responsible for the disturbance will be suspended or modified until barriers have been installed. The following minimum criteria will be required of the contractor.</p> <ul style="list-style-type: none"> • The barrier will be 10 feet tall. It will surround the work area to block the line of sight for all diesel-powered equipment on the ground, as viewed from any private residence or any building. • The barrier will be constructed of heavyweight plywood (5/8 inch thick) or other material providing a Sound Transmission Classification of at least 25 dBA. Note that 5/8 inch is sufficiently thick to provide optimal noise buffering; increasing the thickness of the barrier above 5/8 inch would not provide a noticeable improvement in noise reduction. • The barrier will be constructed with no gaps or holes that would allow noise to transmit through the barrier. <p>To minimize reflection of noise toward workers at the construction site, the surface of the barrier facing the workers will be covered with a sound-absorbing material meeting a Noise Reduction Coefficient of at least 0.70.</p>
<p>MM-NOI-4: Conduct construction vibration monitoring and implement control approach(es). During periods of construction, the construction contractor will retain a qualified acoustical consultant or engineering firm to conduct vibration monitoring at homes or occupied vibration-sensitive buildings located within 315 feet⁴ of pile driving locations and 25 feet of construction sites using other non-impact equipment. If at any point the measured PPV is in excess of 0.3 in/sec, construction activity will cease and alternative methods of construction and excavation will be considered to prevent possible exposure of vibration-sensitive buildings and structures to levels of 0.3 in/sec PPV or higher. Prior to construction activity, and assuming the property owner gives permission, a preconstruction survey will be conducted that documents any existing cracks or structural damage at vibration-sensitive receptors located within the distances identified above by means of color photography or video. Additionally, a designated complaint coordinator will be responsible for handling and responding to any complaints received during such periods of construction. The construction contractor will also implement a reporting program that will be required to document complaints received, actions taken, and the effectiveness of these actions in resolving disputes</p>
<p>Natural Communities</p>
<p>Valley Foothill Riparian</p>
<p>AMM-BIO-1: Install Construction Barrier Fencing around Environmentally Sensitive Areas. The Project proponent or its contractor will install orange construction barrier fencing to identify environmentally sensitive areas in and adjacent to the construction area. A qualified biologist will identify sensitive biological resources adjacent to the construction area before the final design plans are prepared so that the areas to be fenced can be included in the plans. The area that would generally be required for construction, including staging and access, is shown in Figure 2.3-1. Portions of this area that are to be avoided during construction will be fenced off to avoid disturbance. Sensitive biological resources that occur adjacent to the construction area include sensitive natural communities and protected trees to be retained. Temporary fences around the environmentally sensitive areas will be installed as one of the first orders of work following California Department of Transportation (Caltrans) specifications. Before construction, the construction contractor will work with the Project engineer and a resource specialist to identify the locations for the barrier fencing and will place stakes around the sensitive resource sites to indicate these locations. The protected areas will be designated as environmentally sensitive areas and clearly identified on the construction plans. The fencing will be</p>

⁴ Beyond 315 feet, vibration from pile driving would attenuate to less than 0.4 inches per second and thus less than the distinctly perceptible threshold.

<p>installed before construction activities are initiated, maintained throughout the construction period, and removed after completion of construction.</p>
<p>AMM-BIO-2: Prepare Environmental Awareness Program and Conduct Environmental Awareness Training for Construction Employees. The Project proponent will retain a qualified biologist to develop an environmental awareness program and conduct environmental awareness training for construction employees. The program will explain the importance of on-site biological resources, including sensitive natural communities, protected trees to be retained, and special-status wildlife habitats, and how to avoid take of listed species. The program will include invasive plant identification and the importance of controlling and preventing the spread of invasive plant infestations.</p> <p>The environmental awareness program will be provided to all construction personnel to inform them on the life history of special-status species in or adjacent to the Project, the need to avoid impacts on sensitive biological resources, any terms and conditions required by state and federal agencies, and the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the Project, the contractor's superintendent will ensure that the personnel receive the mandatory training before starting work. An environmental awareness handout that describes and illustrates sensitive resources to be avoided during Project construction and identifies all relevant permit conditions will be provided to each person.</p>
<p>AMM-BIO-3: Retain a Biological Monitor to Conduct Visits during Construction. The Project proponent will retain a qualified biologist to conduct construction monitoring in and adjacent to all identified environmentally sensitive areas. The frequency of monitoring will range from daily to weekly depending on the biological resource. The monitor, as part of the overall monitoring duties, will inspect the fencing once a week at a minimum in the construction area along the river and drainages that support woody vegetation; surrounding native trees and woodlands; and special-status plants. The biological monitor will assist the construction crew as needed to comply with all Project implementation restrictions and guidelines. The biological monitor also will be responsible for ensuring that the contractor maintains the staked and flagged perimeters of the construction area and staging areas adjacent to sensitive biological resources.</p>
<p>AMM-BIO-4: Avoid and Minimize Potential Disturbance of Valley Foothill Riparian Community. The Project proponent and its construction contractor will avoid and minimize potential disturbance of the valley foothill riparian community by implementing the following measures.</p> <ul style="list-style-type: none">• The potential for long-term loss of woody vegetation will be minimized by trimming vegetation rather than removing entire shrubs. Shrubs that need to be trimmed will be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting will be limited to the minimum area necessary within the construction zone.• A certified arborist will be retained to perform any necessary pruning or root cutting of retained trees.• The areas that undergo vegetative pruning will be inspected immediately before construction, immediately after construction, and 1 year after construction to determine the amount of pre-Project vegetative cover, cover that has been removed, and cover that regrows. After 1 year, if vegetation in these areas has not regrown sufficiently to return the cover to the pre-Project level, the Project proponent will replant the areas with native species to reestablish the cover to the pre-Project condition.
<p>MM-BIO-1: Compensate for Permanent Loss of Valley Foothill Riparian. The Project proponent will compensate for permanent construction-related loss of valley foothill riparian habitat by replanting trees in the disturbed area after completion of the construction activities. Loss of native riparian trees will be compensated by replanting at a ratio of 3:1 (three native trees planted for every one native tree removed that was at least 4 inches diameter at breast height [approximately 4.5 feet above existing grade]). Loss of non-native riparian trees will be compensated at a ratio of 1:1 (one native tree planted for every one non-native tree removed that was at least 4 inches diameter at breast height). The compensatory ratios and planting locations will be confirmed through coordination with</p>

the Project proponent and other agencies as part of the environmental permitting process for the proposed Project.

The Project proponent will prepare a riparian mitigation planting plan, including a species list and number of each species, planting locations, and maintenance and monitoring requirements. Plantings will consist of cuttings taken from native plants, or plants grown at a plant nursery from local native material obtained within the San Francisquito Creek watershed. Planted species will be similar in structure and stature (at maturity) to those removed from the Project area. Plantings will be monitored annually for 5 years or as required in the Project permits. If 75% of the plants survive and the riparian canopy covers 75% at the end of the monitoring period, the revegetation will be considered successful. If this survival and canopy cover criteria are not met at the end of the monitoring period, planting and monitoring will be repeated after mortality causes have been identified and corrected.

Intermittent Stream

AMM-BIO-1 through AMM-BIO-4.

AMM-BIO-5. Protect Water Quality and Prevent Erosion and Sedimentation in San Francisquito Creek. The Project proponent and/or their construction contractor shall ensure the construction specifications include water quality protection and erosion and sediment control BMPs), based on standard Caltrans requirements, to minimize construction-related contaminants and mobilization of sediment to the San Francisquito Creek.

The BMPs will be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. BMPs are subject to review and approval by the Project proponent. The Project proponent will perform routine inspections of the construction area to verify the BMPs are properly implemented and maintained. The Project proponent will notify contractors immediately if there is a noncompliance issue and will require compliance.

The BMPs will include, but are not limited to, the following.

- All earthwork or foundation activities involving San Francisquito Creek and the bridge will occur in the dry season (between June 1 and October 15).
- A netting and tarp system will be implemented at the bridge site to prevent and minimize debris from entering the river during demolition and construction activities.
- Equipment used around San Francisquito Creek will be in good working order and free of dripping or leaking engine fluids. All vehicle maintenance will be performed at least 300 feet from all drainages and wetlands. Any necessary equipment washing will be carried out where the water cannot flow into drainages or wetlands.
- A hazardous material spill prevention control and countermeasure plan will be developed before construction begins that will minimize the potential for and the effects of hazardous or toxic substances spills during construction. The plan will include storage and containment procedures to prevent and respond to spills and will identify the parties responsible for monitoring the spill response. During construction, any spills will be cleaned up immediately according to the spill prevention and countermeasure plan. The Project proponent will review and approve the contractors' toxic materials spill prevention control and countermeasure plan before allowing construction to begin. The following types of materials will be prohibited from being rinsed or washed into the streets, shoulder areas, or gutters: concrete, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, heavily chlorinated water.
- Baseline turbidity, pH, specific conductance, and temperatures in the San Francisquito Creek channel will be measured when flow is present. As required by the Regional Water Quality Control Board (RWQCB), water quality standards specified in the Basin Plan standards will not be exceeded over the natural in-situ conditions. If dewatering activities are required, water samples would be taken periodically during construction.
- Any surplus concrete rubble, asphalt, or other rubble from construction will be taken to a local landfill.

- An erosion and sediment control plan will be prepared and implemented for the proposed Project. It will include the following provisions and protocols. The stormwater pollution prevention plan for the Project will detail the applications and type of measures and the allowable exposure of unprotected soils.
 - Discharge from dewatering operations, if needed, and runoff from disturbed areas will be made to conform to the water quality requirements of the waste discharge permit issued by the RWQCB.
 - Temporary erosion control measures, such as sandbagged silt fences, will be applied throughout construction of the proposed Project and will be removed after the working area is stabilized or as directed by the engineer. Soil exposure will be minimized through use of temporary BMPs, groundcover, and stabilization measures. Exposed dust-producing surfaces will be sprinkled daily, if necessary, until wet; this measure will be controlled to avoid producing runoff. Paved streets will be swept daily following construction activities.
 - The contractor will conduct periodic maintenance of erosion and sediment control measures.
 - An appropriate seed mix of native species will be planted on disturbed areas upon completion of construction.
 - The contractor will cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.
 - The contractor will enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. Material stockpiles will be located in non-traffic areas only. Side slopes will not be steeper than 2:1. All stockpile areas will be surrounded by a filter fabric fence and interceptor dike.
 - Runoff from disturbed areas will be contained and filtered by berms, vegetated filters, silt fencing, straw wattle, plastic sheeting, catch basins, or other means necessary to prevent the escape of sediment from the disturbed area.
 - Other temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary re-vegetation or other ground cover) will be used to control erosion from disturbed areas as necessary.
 - The contractor will avoid depositing or placing earth or organic material where it may be directly carried into the channel.

Protected Trees

MM-BIO-2: Tree Replacement Plan. The applicant shall be required, in accordance with the Tree Protection and Management Regulations (Palo Alto Municipal Code 8.10) and Tree Technical Manual (Palo Alto Municipal Code 8.10.120), to replace the tree canopy for the six protected trees, in accordance with the tree canopy formula identified in the Tree Technical Manual (Tree Technical Manual, 3.20). If the tree canopy cannot be replaced on-site, the canopy shall be replaced off-site as close to the Project site as feasible. If trees are being replaced off-site, the applicant must submit a Tree Planting Plan to the Urban Forestry Division and obtain the Urban Forestry Division’s approval of the plan prior to issuance of a building permit. The Tree Planting Plan must include the following:

- The canopy calculation for trees removed and the number of trees planned to replace them, consistent with the formula identified in the Tree Technical Manual
- The specific location where the new trees would be planted with specific baseline information about that proposed site (e.g., surrounding vegetation or development)
- The species of trees to be planted
- Specific planting details (e.g., size of sapling, size of containers, irrigation plan)
- Success criteria
- Monitoring and maintenance schedule

Replacement tree planting will be monitored by a qualified arborist. To verify the success of replacement trees, monitoring shall occur for two years after initial planting. After the two-year period, the arborist will determine if the trees are capable of surviving without further maintenance.
Habitat Connectivity
AMM-BIO-1 through AMM-BIO-5
Wetlands and Other Waters of the U.S.
AMM-BIO-1 through AMM-BIO-5.
Animal Species
Western Pond Turtle
AMM-BIO-6: Conduct Preconstruction Surveys for Western Pond Turtles; Relocate if Needed. A qualified biologist will examine the BSA for western pond turtles and their nests no more than 24 hours before Project activities begin and during any initial removal of vegetation, woody debris, or trees, or other initial ground-disturbing activities. If a western pond turtle is observed at any time before or during Project activities, all activities will cease. If western pond turtles are determined to be absent from the Project footprint, no further action will be required with regard to these species. If any western pond turtles are found within the Project footprint, whenever possible construction work in their vicinity will be avoided until they have moved outside of the Project area of their own volition. If the relocation of western pond turtle is necessary, a relocation plan will be developed and submitted to CDFW for approval. The plan will include subsequent details of monitoring by a CDFW-approved biologist, agency-approved disinfection and handling protocols, animal care while being relocated, suitable deposition locations, and reporting requirements. The CDFW-approved biologist will follow all applicable CDFW disinfection and handling protocols per the relocation plan.
Pallid Bat and Hoary Bat
AMM-BIO-7: Conduct Preconstruction Surveys for Pallid and Hoary Bats. A qualified biologist will examine trees within the BSA for roosting hoary bats no more than 24 hours before any initial removal of vegetation, woody debris, or trees, or other initial ground-disturbing activities. If a bat is observed roosting at any time before or during Project activities, all activities will cease. The Project proponent will coordinate with CDFW to develop and implement avoidance measures before commencing Project activities.
Snowy Egret and Saltmarsh Common Yellowthroat
AMM-BIO-8: Implement Nesting Bird Impact Avoidance Measures. The Project proponent and/or their construction contractor will be responsible for avoiding effects on migratory and non-migratory birds including special-status species (e.g., snowy egret, saltmarsh common yellowthroat). Accordingly, the following measures will be implemented. <ul style="list-style-type: none"> • Vegetation (including trees) trimming or removal will be conducted during the nonbreeding season (September 1 to January 31), to the extent feasible. • Construction activities will be conducted during the nonbreeding season (September 1 to January 31), to the extent feasible. • Construction activities will begin during the nonbreeding season (September 1 to January 31) and prior to the nesting season (February 1 to August 31), if feasible. Beginning construction prior to the breeding season will establish a level of noise disturbance that will dissuade noise-sensitive raptors and other birds from attempting to nest within or near the study area. • Bridge work (including existing bridge expansion and new bridge installation) will be conducted during the nonbreeding season (September 1 to January 31), to the extent feasible. It is recommended that inactive nests be removed from any bridge work location and from any vegetation or structure within the Project area or within 50 feet of where bridge work will take place. In addition, nest exclusion measures (e.g., fine mesh netting, panels, or metal projectors) are recommended to be installed outside of the nesting season, to the extent feasible. If installed, exclusionary devices will be monitored and maintained throughout the breeding season to ensure

<p>that they are fully functional (i.e., successful in preventing the birds from accessing cavities or potential nesting sites).</p> <ul style="list-style-type: none"> • If construction activities (including vegetation trimming or removal and bridge work) occur within the breeding season (February 1 to August 31), a qualified wildlife biologist with demonstrated nesting bird survey experience will conduct preconstruction surveys for nesting birds. A minimum of three separate surveys will be conducted for migratory birds, including raptors. Surveys will include a search of all suitable nesting habitat (e.g., grassland, bushes, trees, bridges, culverts, overpasses, and structures) in the Project area. In addition, a 300-foot area around the Project area will be surveyed for nesting raptors. When feasible, surveys should occur during the height of the breeding season (March 1 to June 1) with one survey being conducted in each of 2 consecutive months within this peak period and the final survey being conducted within 1 week of the start of construction. If no active nests are detected during these surveys, no additional measures are required. • If a lapse in construction activities of 3 days or longer at a previously surveyed study area occurs, another preconstruction survey will be conducted. • If an active nest is found in the Project area, a no-disturbance buffer (marked with high-visibility fencing, flagging, or pin flags) will be established by a qualified wildlife biologist around the site to avoid disturbance or destruction of the nest until the end of the breeding season (August 31) or until after the biologist determines that the young have fledged and moved out of the Project area (this date varies by species). The extent of these buffers will be determined by the biologist in coordination with USFWS and/or CDFW as appropriate. Buffer size will depend on the level of noise or construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Buffer size is based on a species' sensitivity to disturbance and planned work activities in the vicinity and has the potential to vary with different species. Typical buffer sizes are 300 feet for raptors and 50 feet for other birds.
<p>Threatened and Endangered Species</p>
<p>California Red-Legged Frog</p>
<p>AMM-BIO-1 through AMM-BIO-5, MM-BIO-1</p>
<p>AMM-BIO-9: Avoid Work during Active Breeding and Dispersal Period for Special-Status Frogs. The contractor will conduct site preparation and construction activities that involve earthwork, other ground disturbance, and/or vehicle traffic through frog-sensitive areas (intermittent stream and riparian habitat) outside the period when special-status frogs are actively breeding and dispersing (October 15 through June 1).</p>
<p>AMM-BIO-10: Conduct Preconstruction Surveys at Work Sites in and near Frog-Sensitive Areas. No more than 3 days prior to the onset of site preparation and construction activity at each site, a qualified wildlife biologist will conduct a preconstruction survey for special-status frogs within the Project footprint. The survey will cover all areas where special-status frogs may be present or concealed, including cracks, burrows, vegetation adjacent to wet areas, and other temporary refugia, as well as any riparian or intermittent stream habitat affected. If special-status frogs are determined to be absent from the Project footprint, no further action will be required with regard to these species. If any special-status amphibians are found within the Project footprint, whenever possible, construction work in their vicinity will be avoided until they have moved outside of the Project area of their own volition.</p>

<p>AMM-BIO-11: Provide Construction Worker Awareness Training for Special-Status Frogs. The City of Palo Alto will provide, or require contractors to provide, worker awareness training for construction personnel to enable them to recognize special-status frogs and other aquatic and riparian wildlife. Trained construction personnel will also understand where sensitive resource areas are within the construction zone so they can minimize their impact on upland (dispersal and aestivation) habitat. Training will be presented by a qualified wildlife biologist experienced in training non-specialists. The training program will include at least the following: a description of the special-status species likely to use the site, and their habitat needs; photographs of these species; an explanation of the legal status of these species and their protection under the ESA and other regulations; a list of measures being taken to reduce effects to these species during Project construction; and distribution of a fact sheet summarizing training content. The City of Palo Alto will also distribute, or require contractors to distribute, the training summary fact sheet to anyone else who may enter the Project. Upon completion of training, employees will sign a form stating that they attended the training and understand all the conservation and protection measures.</p>
<p>AMM-BIO-12: Install Exclusion Fencing and Conduct Construction Monitoring for Special-Status Frogs. Once it has been determined that no special-status frogs are present on the Project site, the contractor will install barrier fencing along the perimeter of the work area where necessary to ensure that frogs do not enter the site during construction. Fencing will be installed promptly (within 3 days) after clearance surveys are performed, to prevent frogs from entering the work area. A qualified biologist will be present during the installation of exclusion fencing, will determine which areas need to be monitored on a daily basis during construction activities to avoid harm to California red-legged frog, and will be responsible for follow-up monitoring as needed. The monitor will inspect and maintain the integrity of the exclusion fencing.</p>
<p>AMM-BIO-13: Limit Stream Bank Construction to Dry Season. The contractor will limit stream bank construction from June 1 to October 15 in order to avoid the migratory season for adult steelhead. This timing will also limit any excess sedimentation and runoff from entering the San Francisquito Creek.</p>
<p>Central California Coast Steelhead</p>
<p>AMM-BIO-1 through AMM-BIO-5, AMM-BIO-9 through AMM-BIO-13, MM-BIO-1</p>
<p>Essential Fish Habitat</p>
<p>AMM-BIO-1 through AMM-BIO-5, AMM-BIO-13</p>
<p>Invasive Species</p>
<p>AMM-BIO-14: Avoid the Introduction of Invasive Plants. The Project proponent, or their contractor, will be responsible for avoiding the introduction of new invasive plants and the spread of invasive plants previously documented in the BSA. Accordingly, the following measures will be implemented during construction.</p> <ul style="list-style-type: none"> • Surface disturbance within the construction work area will be minimized to the greatest extent possible. • All disturbed areas will be seeded with certified weed-free native mixes and mulched with certified weed-free mulch (rice straw may be used in upland areas). • Native, noninvasive species will be used in erosion control plantings to stabilize site conditions and prevent invasive species from colonizing.