Draft Initial Study/Mitigated Negative Declaration

Arroyo Road at Dry Creek Bridge Replacement

Prepared by

Public Works Agency
Alameda County

In Consultation with
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Public Works Agency
Alameda County

DRAFT

MITIGATED NEGATIVE DECLARATION

I. DESCRIPTION OF PROJECT:

Date: June, 2023

Project Title: Arroyo Road at Dry Creek Bridge Replacement

Project Location: The project site is located along Arroyo Road in unincorporated Alameda County. The existing bridge over Dry Creek to be replaced is approximately one half-mile south of the Arroyo Road/Wetmore Road intersection.

Project Description: The County proposes to replace the existing bridge with a cast-in-place, reinforced, concrete, single span, slab bridge that will accommodate two 12-feet-wide travel lanes plus eight-foot shoulders and traffic rated vehicular barriers to meet Caltrans Highway Design Manual standards and Alameda County Engineering Design Guide "Local Residential Roadway Widths" for a local rural road. The bridge will also accommodate a 12-foot-wide Class I bike path separated from traffic by an interior vehicular traffic rated barrier. The replacement structure will be 34-feet-long by 58-feet-wide and will be supported by integral diaphragm type abutments on pile foundations. The cast-in-drilled-hole piles will extend approximately 60 feet into the ground. The abutments will have approximately 20-foot-long wing walls at each bridge corner, extending back away from the creek to contain the raised approach roadways. Each abutment face and adjacent wing wall side slopes will be protected by approximately 4,100 square feet of rock slope protection (RSP).

The roadway profile will be raised approximately two feet to meet hydraulic and geometric requirements. The structure hydraulics meet criteria set by Caltrans Highway

Design Manual (HDM) §821, requiring the lowest point of the bridge soffit to be at an elevation greater than the maximum of the water surface elevation associated with 50-year storm plus sufficient freeboard (e.g., a two-foot drift clearance is used for typical waterways), or the water surface elevation associated with a 100-year storm. Scour is evaluated using a 100-year storm as required by the HEC-18 publication. The geometrics meet criteria for horizontal curve radius, horizontal sight line distance, vertical profile, grades, and cross slope set forth under Caltrans HDM §200 or under AASHTO's A Policy on Geometric Design of Highways and Streets §3.3 and 3.4, where applicable. To accommodate the raised profile, wider bridge structure, and longer span, the roadway centerline at the bridge will be shifted to the southwest to maintain traffic throughout construction while balancing impacts from slopes encroaching upon agricultural land (winery) to the northwest, a park to the southwest, grazing land to the northeast, and a recreational facility to the southeast. The access driveway will be reconstructed to connect to the raised roadway.

II. DETERMINATION

In accordance with the County of Alameda procedures for compliance with the California Environmental Quality Act (CEQA), the Alameda County Public Works Agency has completed an Initial Study to determine whether the proposed project may have a significant adverse effect on the environment. On the basis of that study, the County makes the following determination:

- Although the project, as proposed, could have had a significant effect on the environment, there will not be a significant effect in this case because mitigation measures are included in the project which will reduce all identified potential impacts to less than significant levels, and, therefore, this **MITIGATED NEGATIVE DECLARATION** (MND) has been prepared.

III. CONDITIONS (Mitigation Measures):

A. Air Quality

MM AIR-1.1: BAAQMD recommends that all projects implement the following basic construction measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- 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.

- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five 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.
- 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.
- 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 Air District's phone number shall also be visible to ensure compliance with applicable regulations.

B. Biological Resources:

MM BIO-1.1: At least 15 days prior to any ground disturbing activities, the applicant will submit to the Service for review and approval the qualifications of the proposed biological monitor(s). A qualified biological monitor means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the [California tiger salamander, California red-legged frog, and/or San Joaquin kit fox].

MM BIO-1.2: A United States Fish and Wildlife Service (USFWS)-approved biologist shall survey the work site immediately prior to construction activities. If California red-legged frogs (CRLF), California tiger salamanders (CTS), or larvae or eggs of either species are found, the approved biologist shall contact the USFWS to determine if moving any of these life-stages is appropriate. In making this determination the USFWS shall consider if an appropriate relocation site exists as provided in the relocation plan. If the USFWS approves moving animals, the approved biologist shall be allowed sufficient time to move CRLF and/or CTS from the work site before work activities begin. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of CRLF and/or CTS.

MM BIO-1.3: Bare hands shall be used to capture CRLF and/or CTS. USFWS-approved biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within two hours before and during periods when they are capturing and relocating individuals. To avoid transferring disease or pathogens of handling of the amphibians, USFWS-approved biologists will follow the Declining Amphibian Populations Task Force's "Code of Practice."

MM BIO-1.4: Prior to construction, a construction employee education program will be conducted in reference to the CTS and CRLF. At minimum, the program will consist of a brief presentation by persons knowledgeable in endangered species biology and legislative protection (USFWS-approved biologist) to explain concerns to contractors, their employees, and agency personnel involved in the project. The program will include: a description of the species and their habitat needs; any reports of occurrences in the project area; an explanation of the status of each listed species and their protection under the Act; and a list of measures being taken to reduce effects to the species during construction and implementation. Fact sheets conveying this information and an educational brochure containing color photographs of all listed species in the work area(s) will be prepared for distribution to the above-mentioned people and anyone else who may enter the project area. A list of employees who attend the training sessions will be maintained by the applicant to be made available for review by the USFWS upon request. Contractor training will be incorporated into construction contracts and will be a component of weekly project meetings.

MM BIO-1.5: Environmental tailboard trainings will take place on an as-needed basis in the field. The environmental tailboard trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects to these species during construction activities. Agencies, Managers, Superintendents, and the crew foremen and forewomen will be responsible for ensuring that crewmembers comply with the guidelines.

MM BIO-1.6: A USFWS-approved biological monitor will remain on-site during all construction activities in or adjacent to habitat for the CTS and CRLF that could result in take of any listed species. The USFWS-approved biological monitor(s) will be given the authority to stop any work that may result in the take of the CTS and/or CRLF. If the USFWS-approved biological monitor(s) exercises this authority, the USFWS will be notified by telephone and electronic mail within one working day. The USFWS-approved biological monitor will be the contact for any employee or contractor who might inadvertently kill or injure a CTS or CRLF or anyone who finds a dead, injured or entrapped individual. The USFWS-approved biological monitor will possess a working wireless/mobile phone whose number will be provided to the USFWS.

MM BIO-1.7: Contracts with contractors, construction management firms, and subcontractors will obligate all contractors to comply with these requirements, AMMs.

MM BIO-1.8: The following will not be allowed at or near work sites for covered activities: trash dumping, firearms, open fires (such as barbecues) not required by the activity, hunting, and pets (except for safety in remote locations).

MM BIO-1.9: Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. Off-road vehicle travel will be minimized. Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land-cover types, or during off-road travel.

MM BIO-1.10: Vehicles or equipment will not be refueled within 100 ft of a wetland, stream, or other waterway unless a bermed and lined refueling area is constructed.

MM BIO-1.11: Vehicles shall be washed only at approved areas. No washing of vehicles shall occur at job sites.

MM BIO-1.12: To discourage the introduction and establishment of invasive plant species, seed mixtures/straw used within natural vegetation will be either rice straw or weed-free straw.

MM BIO-1.13: Pipes, culverts and similar materials greater than four inches in diameter, will be stored so as to prevent covered wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved.

MM BIO-1.14: Erosion control measures will be implemented to reduce sedimentation in wetland habitat occupied by covered animal and plant species when activities are the source of potential erosion problems. Plastic mono-filament netting (erosion control matting) or similar material containing netting shall not be used at the project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

MM BIO-1.15: Stockpiling of material will occur such that direct effects to covered species are avoided. Stockpiling of material in riparian areas will occur outside of the top of bank, and preferably outside of the outer riparian dripline and will not exceed 30 days.

MM BIO-1.16: Grading will be restricted to the minimum area necessary.

MM BIO-1.17: Prior to ground disturbing activities in sensitive habitats, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.

MM BIO-1.18: Significant earth moving-activities will not be conducted in riparian areas within 24 hours of predicted storms or after major storms (defined as one-inch of rain or more).

MM BIO-1.19: To prevent the accidental entrapment of special-status species during construction, all excavated holes or trenches deeper than six inches will be covered at the end of each workday with plywood or similar materials. Trenches will be backfilled as soon as possible. Foundation trenches or larger excavations that cannot easily be covered will be ramped at the end of the workday at intervals prescribed by a USFWS-approved biologist to allow trapped animals an escape method. Prior to the filling of such holes, these areas will be thoroughly inspected for listed species by USFWS-approved biologists. In the event of a trapped animal is observed, construction will cease until the individual has been relocated to an appropriate location.

MM BIO-1.20: The applicant will prepare a [California tiger salamander and California red-legged frog] translocation plan for the Project to be reviewed and approved by the USFWS prior to Project implementation. The plan will include trapping and translocation methods, translocation site, and post translocation monitoring. Only USFWS-approved biologists will conduct surveys and move listed species. If at any point construction activities cease for more than five consecutive days, additional preconstruction surveys will be conducted prior to the resumption of these actions.

MM BIO-1.21: All trash and debris within the work area will be placed in containers with secure lids before the end of each workday in order to reduce the likelihood of predators being attracted to the site by discarded food wrappers and other rubbish that may be left on-site. Containers will be emptied as necessary to prevent trash overflow onto the site and all rubbish will be disposed of at an appropriate off-site location.

MM BIO-1.22: All vegetation which obscures the observation of wildlife movement within the affected areas containing or immediately adjacent aquatic habitats will be completely removed by hand just prior to the initiation of grading to remove cover that might be used by listed species. The USFWS-approved biologist will survey these areas immediately prior to vegetation removal to find, capture and relocate any observed listed species, as approved by the USFWS.

MM BIO-1.23: All construction activities must cease one half hour before sunset and should not begin prior to one half hour after sunrise. There will be no nighttime construction.

MM BIO-1.24: Grading and construction will be limited to the dry season (April 15 to October 15).

MM BIO-1.25: Best Management Practices (BMPs) will be used to minimize erosion and impacts to water quality and effects to aquatic habitat. If necessary, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared.

MM BIO-1.26: The applicant will ensure a readily available copy of the biological opinion prepared for the project is maintained by the construction foreman/manager on the project site whenever earthmoving and/or construction is taking place. The name and telephone number of the construction foreman/manager will be provided to the USFWS prior to groundbreaking.

MM BIO-1.27: The construction area shall be delineated with high visibility temporary fencing at least four feet in height, flagging, or other barrier to prevent encroachment of construction personnel and equipment outside of the construction area. Such fencing shall be inspected and maintained daily until completion of the Project. The fencing will be removed only when all construction equipment is removed from the site.

MM BIO-1.28: Silt fencing or wildlife exclusion fencing will be used to prevent listed species from entering the project area. Exclusion fencing will be at least three feet high and the lower six inches of the fence will be buried in the ground to prevent animals from crawling under. The remaining 2.5 feet will be left above ground to serve as a barrier for animals moving on the ground surface. The fence will be pulled taut at each support to prevent folds or snags and supports shall be placed on the inside of the fence. Fencing shall be installed and maintained in good condition during all construction activities. Such fencing shall be inspected and maintained daily until completion of the project. The fencing will be removed only when all construction equipment is removed from the site.

MM BIO-1.29: A USFWS-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed.

MM BIO-1.30: Project sites shall be revegetated with an appropriate assemblage of native riparian wetland and upland vegetation suitable for the area. A species list and restoration and monitoring plan shall be included with the project proposal for review and approval by the appropriate regulatory agencies. Such a plan must include, but not be limited to, location of the restoration, species to be used, restoration techniques, time of year the work will be done, identifiable success criteria for completion, and remedial actions if the success criteria are not achieved.

MM BIO-1.31: If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

MM BIO-1.32: A USFWS-approved biologist shall permanently remove, from within the project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible. The applicant shall have the responsibility to ensure that their activities are in compliance with the California Fish and Game Code.

MM BIO-1.33: The project will be required to pay compensatory mitigation as outlined in Tables 3-7 and 3-8 of the EACCS. The ratio of mitigation to impact varies with the location of the proposed mitigation, and would be 2.5:1 at minimum, but may be as high as 4:1 (on an acreage basis). Mitigation will take the form of purchase of mitigation credits from a conservation bank or project-specific mitigation consisting of the preservation, enhancement, and long-term management of suitable habitat occupied by these species.

MM BIO-1.34: During pre-construction surveys and construction monitoring for CRLF and the CTS, a qualified biologist will also look for San Joaquin kit foxes and their dens within the project's impact areas. Construction worker trainings shall also include a presentation on the San Joaquin kit fox.

MM BIO-1.35: If potential San Joaquin kit fox dens are present, their disturbance and destruction will be avoided. If potential dens are located within the proposed work area and cannot be avoided during construction, a qualified biologist will determine if the dens are occupied or were recently occupied using methodology coordinated with the USFWS and the California Department of Fish and Wildlife (CDFW). If unoccupied, the qualified biologist will collapse these dens by hand in accordance with USFWS procedures.

MM BIO-1.36: Exclusion zones will be implemented following USFWS procedures (USFWS 1999) or the latest USFWS procedures available at the time. The radius of these zones will follow current standards or the following standards listed in the Programmatic Biological Opinion (PBO) for the East Alameda County Conservation Strategy (EACCS):

- Potential Den – A total of four to five flagged stakes will be placed 50 feet from the den entrance to identify the den location;
- Known Den – Orange construction barrier fencing will be installed between the construction work area and the known den site at a minimum distance of 100 feet from the den. The fencing will be maintained until all construction-related disturbances have been terminated. At that time, all fencing will be removed to avoid attracting subsequent attention to the den;

- Natal or Pupping Den – The USFWS will be contacted immediately if a natal or pupping den is discovered at or within 200 feet from the boundary of the construction area.

MM BIO-1.37: Pipes will be capped and trenches will contain exit ramps to avoid direct mortality while construction areas are active.

MM BIO-1.38: If a coast horned lizard is detected during the course of the project, any project activities that could result in harm to the lizard will cease until the individual has moved out of the project area on its own or has been relocated by an approved biologist.

MM BIO-1.39: If a southwestern pond turtle is detected during the course of the project, any project activities that could result in harm to the turtle will cease until the individual has moved out of the project area on its own or has been relocated by an approved biologist.

MM BIO-1.40: Preconstruction surveys for nesting burrowing owls and denning American badgers will be conducted by a qualified biologist per EACCS requirements. To the extent access allows, all suitable habitat within 0.5 miles of the project footprint will be surveyed for nesting burrowing owls and for American badgers. The survey shall be conducted during the owl's nesting season, defined by the EACCS as March 15 to September 1. This survey will consist of at least two site visits within 30 days prior to construction (with the second survey no more than seven days prior to construction). The biologist will examine all potential burrows within 0.5 miles, as access permits, for signs of nesting burrowing owls (i.e., owls, pellets, feathers, and/or whitewash) and for American badger dens. In the event an American badger den is identified near a proposed work area, MM BIO-1.34 to MM BIO 1.37, identified above, would be implemented consistent with EACCS MAMM-1.

MM BIO-1.41: If an active burrowing owl nest is identified near a proposed work area, work will be conducted outside of the nesting season (March 15 to September 1). If an active nest is identified near a proposed work area and work cannot be conducted outside of the nesting season, a no-activity zone will be established by a qualified biologist. The no activity zone will be large enough to avoid nest abandonment and will at minimum be 250-foot radius from the nest. If burrowing owls are present at the site during the non-breeding period, a qualified biologist will establish a no-activity zone of at least 150 feet. If an effective no-activity zone cannot be established in either case, an experienced burrowing owl biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, and the sensitivity and habituation of the owls, and the dissimilarity of the

proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.

MM BIO-1.42: In the event burrowing owls are found to be nesting on or within 0.5 miles of the project footprint during preconstruction surveys, or if owls need to be evicted from burrows (which can only occur when they are not actively nesting), compensatory mitigation will be necessary to mitigate for impacts on occupied burrowing owl habitat. If the California red-legged frog/California tiger salamander habitat mitigation provides suitable habitat for burrowing owls as well, then no additional mitigation for impacts to burrowing owls would be necessary. Otherwise, additional habitat mitigation would be necessary, in the form of purchase of mitigation credits from a conservation bank or project specific mitigation in an area that supports such habitat. The EACCS prescribes mitigation ratios of 3:1 to 3.5:1 (mitigation:impact), depending on the location of the mitigation site.

MM BIO-1.43: If feasible, project activities will be scheduled to avoid the avian nesting season. If such activities are scheduled to take place outside the nesting season, all impacts on nesting birds, including raptors, protected under the MBTA and California Fish and Game Code, would be avoided. The nesting season for most birds in Alameda County typically extends from February 1 through August 31, although in most years, a majority of birds have finished nesting by August 1.

MM BIO-1.44: If Project activities will not be initiated until after the start of the nesting season, potential nesting substrate (e.g., bushes, trees, grasses, and other vegetation) that is scheduled to be removed by the Project may be removed prior to the start of the nesting season (e.g., prior to February 1) to reduce the potential for initiation of nests. If it is not feasible to schedule vegetation removal during the nonbreeding season, or where vegetation cannot be removed (e.g., in areas immediately adjacent to the site), then pre-construction surveys for nesting birds will be conducted as described below. It is not recommended to remove sensitive and/or regulated wetland vegetation prior to construction, because of the potential water quality impacts such activities could enact.

MM BIO-1.45: If it is not possible to schedule project activities between September 1 and February 1, then pre-construction surveys for nesting birds will be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. These surveys will be conducted no more than one week prior to the initiation of project activities. During this survey, a qualified biologist will inspect all potential nesting habitats (e.g., trees, shrubs, grasslands, and structures) within 300 feet of impact areas for raptor nests and burrowing owls and within 100 feet of impact areas for nests of non-raptors.

MM BIO-1.46: If an active nest (i.e., a nest with eggs or young, or any completed raptor nest attended by adults) is found sufficiently close to work areas to be disturbed by these activities, the biologist, in consultation with CDFW, will determine the extent of a disturbance-free buffer zone to be established around the nest to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project implementation. Typical buffers are 250 feet for burrowing owls, 300 feet for other raptors, and 50-100 feet for non-raptors. Because the majority of the site is already subject to disturbance by vehicles and pedestrians, activities that will be prohibited from occurring within the buffer zone around a nest will be determined on a case-by-case basis. In general, activities prohibited within such a buffer while a nest is active will be limited to new construction-related activities (i.e., activities that were not ongoing when the nest was constructed) involving significantly greater noise, human presence, or vibrations than were present prior to nest initiation.

MM BIO-1.47: If necessary to avoid impacts to active nests (i.e., nests containing eggs or young), nest starts may be removed on a regular basis (e.g., every second or third day), starting in late January or early February to prevent active nests from becoming established.

MM BIO-2.1: Work within streams would be restricted to the dry season from April 15 to October 15 [or as directed by regulatory permitting agency] to protect water quality.

MM BIO-2.2: All appropriate Avoidance and Minimization Measures (AMMs) listed in the EACCS that would apply to and protect these aquatic habitats will be implemented and listed on final project plan sets with the limits of Dry Creek clearly depicted.

MM BIO-2.3: Areas to be avoided during construction shall be indicated on all final plan sets and protected at the site using orange sensitive area fencing to ensure inadvertent impacts do not occur.

MM BIO-2.4: Final grading and construction plans shall minimize construction-related impacts to Dry Creek to the maximum extent feasible to achieve project goals and improvements.

MM BIO-2.5: All temporarily impacted habitat will be restored to pre-project conditions through the re-establishment of original contours within Dry Creek to the maximum extent feasible.

MM BIO-2.6: No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material will be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the U.S./State or aquatic habitat.

MM BIO-2.7: No equipment will be operated in the live stream channel.

MM BIO-2.8: Equipment staging and parking areas shall occur within established access areas in upland habitat above the top of bank.

MM BIO-2.9: Machinery or vehicle refueling, washing, and maintenance shall occur at least 100 feet from the top of bank. Equipment shall be regularly maintained to prevent fluid leaks. Any leaks shall be captured in containers until the equipment is moved to a repair location. A spill prevention and response plan shall be prepared prior to construction and shall be implemented immediately for cleanup of fluid or hazardous materials spills.

MM BIO-2.10: Standard erosion control and slope stabilization measures shall be required for work performed in any area where erosion could lead to sedimentation of a waterbody.

MM BIO-2.11: The Project shall comply with the Municipal Regional Stormwater NPDES Permit and General Construction permit to prevent increases in peak flow, erosion, or reduction in water quality for downslope waters.

MM BIO-2.12: The project will provide compensatory mitigation for permanent loss of riverine habitat. According to the EACCS, such mitigation is typically provided based on the standards (e.g., EACCS mitigation ratios) set for focal species that occur in the riverine habitat to be impacted. Because riverine habitat in the Project footprint provides dispersal and foraging habitat for California red-legged frog but is outside of designated critical habitat for the species, the mitigation ratio for the impacts would be 2.5:1, as determined by the EACCS requirements for focal species (ICF International 2010). Such mitigation may take the form of the purchase of credits in a mitigation bank and/or project-specific mitigation. Additionally, the project would comply with all mitigation requirements based on the conditions of permits from the USACE, RWQCB, and CDFW required for these impacts.

MM BIO-5.1: The project shall be required to provide replacement trees at a minimum ratio of 1:1. The final number, species, and location of the replacement plantings shall be shown in the final landscaping plan subject to approval by the ACPWA. If replacement trees cannot be accommodated on-site, the project shall provide replacement tree plantings off-site.

C. Cultural Resources:

MM CUL-2.1: Prior to the issuance of a grading permit, the project applicant shall hire a qualified Professional Archaeologist to develop a Worker's Environmental Awareness Program (WEAP) to train the construction crew on the legal requirements for the treatment of cultural resources as well as procedures to follow in the event of a cultural resources discovery. This training program shall be given to the crew before ground disturbing work commences and shall include handouts to be given to new workers.

MM CUL-2.2: If evidence of an archaeological site or other suspected cultural resource as defined by CEQA Guideline Section 15064.5, including darkened soil representing past human activity ("midden"), that could conceal material remains (e.g., worked stone, worked bone, fired clay vessels, faunal bone, hearths, storage pits, or burials) is discovered during construction related earth-moving activities, all ground-disturbing activity within 100 feet of the resources shall be halted and the County shall be notified. The County and Alameda County Coroner shall consult with a qualified archaeologist and Native American representative from a culturally affiliated Tribe to assess the significance of the find. Impacts to any significant resources shall be mitigated to a less-than-significant level through data recovery or other methods determined adequate by the qualified archaeologist and Native American representative and that are consistent with the Secretary of the Interior's Standards for Archaeological documentation. Any identified cultural resources shall be recorded on the appropriate DPR 523 (A-J) form and filed with the NWIC.

MM CUL-2.3: If archaeological resources are identified, a final report summarizing the discovery of cultural materials shall be submitted to the County prior to project closeout. This report shall contain a description of the mitigation program that was implemented and its results, including a description of the monitoring and testing program, a list of the resources found and conclusion, and a description of the disposition/curation of the resources consistent with Secretary of the Interior's Standards for Archaeological documentation.

MM CUL-3.1: If human remains are discovered during project construction, all ground-disturbing activity within 100 feet of the resources shall be halted and the County and the Alameda County Coroner shall be notified immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. A qualified archaeologist and Native American representative shall conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist and Native

American representative may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The County of Alameda shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of State law, as set forth in CEQA Guidelines section 15064.5(e) and Public Resources Code section 5097.98. The project sponsor shall implement approved mitigation, to be verified by the County of Alameda, before the resumption of ground-disturbing activities within 100 feet of where the remains were discovered.

D. Geology and Soils:

MM GEO-6.1: Should a unique paleontological resource or site or unique geological feature be identified at the project site during any phase of construction, all ground disturbing activities within 25 feet shall cease and the County shall be notified immediately. A qualified paleontologist shall evaluate the find and prescribe mitigation measures to reduce impacts to a less than significant level. Work may proceed on other parts of the project site while mitigation for paleontological resources or geologic features is implemented. Upon completion of the paleontological assessment, a report shall be submitted to the County and, if paleontological materials are recovered, a paleontological repository, such as the University of California Museum of Paleontology.

E. Hazards and Hazardous Materials:

MM HAZ-2.1: Prior to demolition or any construction related activities, surface soils located within the project area shall be tested and analyzed for hazardous levels of pesticides, herbicides, lead, and arsenic by a qualified hazardous materials consultant. A report describing the sampling locations, analytical methods, results, and recommendations, shall be submitted to the Alameda County Public Works Agency prior to commencing demolition or construction related activities. Any contaminated soil identified shall be abated and disposed of by certified contractors in accordance with state and federal regulations.

MM HAZ-2.2: Per Caltrans' requirements, the contractor(s) shall prepare a project-specific Health and Safety Plan (HSP) to prevent or minimize worker exposure to soil. The HSP shall include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures required for handling of contaminated soil.

MM HAZ-2.3: All contaminated soil identified on the project site shall be abated and disposed of by certified contractors in accordance with state and federal regulations. This includes lead-containing soils and sampled soils that may be restricted based on herbicide, pesticide, and/or arsenic content.

MM HAZ-2.4: All demolition activities and construction activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8 of CCR, Section 1529, to protect workers from exposure to asbestos.

MM HAZ-2.5: A registered asbestos abatement contractor shall be retained to remove and dispose of asbestos-containing materials (ACMs) identified in the asbestos survey performed for the site in accordance with the standards stated above.

MM HAZ-2.6: All demolition and construction related activities shall be undertaken in accordance with Cal/OSHA standards and Title 8 of CCR, Section 1532.1, to protect workers from exposure to lead-containing paint. Written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work.

MM HAZ-2.7: Yellow traffic striping and paints classified as California hazardous wastes will be removed and disposed of prior to renovation, demolition, or other activities that would disturb the paint. The contractor shall be required to use personnel who have lead-related construction certification as supervisors or workers, as appropriate, from the California Department of Public Health for lead-containing paint removal work. Yellow striping and loose and peeling/flaking paints with hazardous lead levels require removal prior to demolition for waste segregation purposes: to separate potentially hazardous waste (Category III concentrated lead such as loose paint, paint sludge, vacuum debris, and vacuum filters) from non-hazardous demolition debris. Category I waste is low lead waste (typically non-hazardous) such as construction materials, filtered wash water, and plastic sheeting.

Contractors will be responsible for informing the landfill of the contractor's intent to dispose of RCRA waste, California hazardous waste, and/or materials containing intact lead-based paint. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

MM HAZ-2.8: Written notification to the Bay Area Air Quality Management District (BAAQMD) shall be provided ten working days prior to commencement of any demolition activity.

MM HAZ-2.9: The Alameda County Agriculture Department shall be contacted prior to commencement of construction activities to identify properties that have recently applied pesticides. Areas where pesticides have been applied with restrictions of re-entry shall be identified and all restrictions shall be complied with.

F. Hydrology and Water Quality:

MM HYD-1.1: The project applicant will implement the following Best Management Practices (BMPs) as described under in the Caltrans Construction Manual and as contained within Caltrans Construction Site BMPs. Implementation of the measures described below will reduce potential effects from degradation of water quality.

- No equipment will be operated in the live stream channel;
- Standard erosion control and slope stabilization measures will be required for work performed in any area where erosion could lead to sedimentation of a waterbody;
- Silt fencing will be installed between any activities conducted within, or just above the edge of, the top-of-bank and the edge of the creek to prevent dirt or other materials from entering the channel;
- No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material will be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the U.S./State or aquatic habitat;
- Machinery will be refueled at least 60 feet from any aquatic habitat, and a spill prevention and response plan will be implemented;
- Water from dewatering of the work areas will not be pumped or allowed to flow into the creek until the water is clear. The method will be the responsibility of the contractor but will be a standard practice such as using sediment basins outside of the channel or portable settling bins, and must successfully filter the water until clear; and
- Post-construction BMPs will be implemented as necessary to prevent a long-term increase in runoff and road-based contamination, as well as to prevent hydrological modification of Dry Creek following project construction, as required by the General Construction Permit. These may include the use of bioswales and/or velocity reducing structures to treat and slow runoff from increased hardscape as needed, and measures to ensure runoff and road debris from the bridge is not allowed to enter directly into the creek. Volume that cannot be addressed using nonstructural practices shall be captured in structural practices and approved by the San Francisco Bay RWQCB. All post-construction BMPs shall be implemented and functioning prior to completion of the project.

MM HYD-1.2: A Stormwater Pollution Prevention Program (SWPPP) shall be prepared in conformance with RWQCB requirements. The SWPPP shall include post-construction water quality BMP's, as appropriate. BMPs shall be designed in accordance with the engineering criteria in the Caltrans Storm Water Quality Handbook-Project Planning and

Design Guide or other accepted guidance. BMP designs shall be reviewed and approved by the Alameda County Public Works Agency prior to issuance of grading permits.

IV. FINDING

The County of Alameda hereby finds that the proposed project could have a significant effect on the environment; however, there would not be a significant effect in this case because mitigation measures summarized above and described in the Initial Study are included in the project which will reduce all identified potential impacts to less than significant levels.

V. LEAD AGENCY REPRESENTATIVE

DocuSigned by:

D4349C62408A4D8...

Amber K. Lo, P.E., Principal Civil Engineer

VI. CONTACT INFORMATION

Written comments may be sent to Amber K. Lo via email amberl@acpwa.org and to Steven Hunte via email at steveh@acpwa.org, or to the Alameda County Public Works Agency, 399 Elmhurst Street, Hayward, CA 94544.

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Appendices

SECTION 1.0 INTRODUCTION AND PURPOSE

1.1 PURPOSE OF THE DRAFT INITIAL STUDY

The Alameda County Public Works Agency (ACPWA, County), as the Lead Agency, has prepared this Draft Initial Study for the Arroyo Road Bridge Replacement Project in compliance with the California Environmental Quality Act (CEQA), the CEQA Guidelines (California Code of Regulations §15000 et. seq.) and the regulations and policies of the County of Alameda, California.

The project proposes to replace the structurally deficient Arroyo Road over Dry Creek Bridge (33C0448) with a new bridge that meets current applicable County, American Association of State Highway and Transportation Officials (AASHTO), and California Department of Transportation (Caltrans) design criteria and standards. This Draft Initial Study evaluates the environmental impacts that might reasonably be anticipated to result from implementation of the proposed project.

1.2 PUBLIC REVIEW PERIOD

Publication of this Draft Initial Study marks the beginning of a 30-day public review and comment period. During this period, the Draft Initial Study will be available to local, state, and federal agencies and to interested organizations and individuals for review. Written comments concerning the environmental review contained in this Draft Initial Study during the 30-day public review period should be sent to:

Amber K. Lo, Principal Civil Engineer
Alameda County Public Works Agency
399 Elmhurst Street
Hayward, CA 94544
amberl@acpwa.org

Steven Hunte, Associate Civil Engineer
Alameda County Public Works Agency
399 Elmhurst Street
Hayward, CA 94544
steveh@acpwa.org

1.3 CONSIDERATION OF THE DRAFT INITIAL STUDY AND PROJECT

Following the conclusion of the public review period, the ACPWA will consider the adoption of the Draft Initial Study/Mitigated Negative Declaration (MND) for the project at a regularly scheduled Alameda County Board of Supervisors meeting. The County shall consider the Draft Initial Study/MND together with any comments received during the public review process. Upon adoption of the MND, the County may proceed with project permitting and approval actions.

1.4 NOTICE OF DETERMINATION

If the project is approved, the ACPWA will file a Notice of Determination (NOD), which will be available for public inspection and posted within 24 hours of receipt at the County Clerk's Office for 30 days. The filing of the NOD starts a 30-day statute of limitations on court challenges to the approval under CEQA (CEQA Guidelines Section 15075(g)).

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT TITLE

Arroyo Road at Dry Creek Bridge Replacement

2.2 LEAD AGENCY CONTACTS

Amber K. Lo, Principal Civil Engineer
Alameda County Public Works Agency
399 Elmhurst Street
Hayward, CA 94544
amberl@acpwa.org

Steven Hunte, Associate Civil Engineer
Alameda County Public Works Agency
399 Elmhurst Street
Hayward, CA 94544
steveh@acpwa.org

2.3 PROJECT APPLICANT

Alameda County Public Works Agency
399 Elmhurst Street
Hayward, CA 94544

2.4 PROJECT LOCATION

The project site is located along Arroyo Road in unincorporated Alameda County. The existing bridge over Dry Creek to be replaced is approximately one half-mile south of the Arroyo Road/Wetmore Road intersection. Approximate coordinates of the existing bridge are 37°38'16.23" N, 121°45'49.59" W.

2.5 PROJECT-RELATED APPROVALS, AGREEMENTS, AND PERMITS

Temporary Construction Easements
Right of Way Acquisition
Incidental Take Permit (for California tiger salamander and California red-legged frog) – California Department of Fish and Wildlife
Section 7 Consultation – U.S. Fish and Wildlife Service
Section 401 Water Quality Certification – San Francisco Bay Regional Water Quality Control Board
Section 404 Permit – U.S. Army Corps of Engineers
Streambed Alteration Agreement – California Department of Fish and Wildlife

2.6 RESPONSIBLE AGENCIES

California Department of Transportation (Caltrans), District 4
Livermore Area Recreation and Park District (LARPD)
California Department of Fish and Wildlife (CDFW)
United States Army Corps of Engineers (USACE)
Regional Water Quality Control Board (RWQCB)
United States Fish & Wildlife Service (USFWS)

SECTION 3.0 PROJECT DESCRIPTION

3.1 PROJECT OVERVIEW AND LOCATION

The ACPWA is proposing to replace the structurally deficient Arroyo Road over Dry Creek Bridge (33C0448) with a new bridge that meets current applicable County, AASHTO, and Caltrans design criteria and standards. The existing concrete encased steel girder bridge is a 25-feet long single span structure consisting of two, 10-feet wide traffic lanes and narrow one-foot-wide shoulders, one lane traveling in each direction. A separate timber pedestrian walkway is present along the east side of the bridge. The existing geometry of the road provides limited sight distance at the bridge due to profile and alignment constraints. Safety features for the structure, such as railing and guardrail, do not meet current standards. In addition to the new bridge, the proposed project will ensure the roadway through the project limits meets current County, AASHTO, and Caltrans standards and will provide a Class I bike path[1] over the bridge.

The project is located in a rural area of Alameda County that includes agricultural, residential, and commercial land uses. Arroyo Road in the vicinity of the project follows an approximate northwest-southeast alignment and is classified as a Local Rural Road. The road serves as the single point of access across the creek for all points south, including large commercial agricultural/ranching parcels, a golf course, Department of Veteran Affairs health care services complex, a camp, recreational parks, and reservoir facilities. A private gated access driveway connects to Arroyo Road immediately northeast of the bridge. Additional private frontage roads north of the bridge parallel Arroyo Road on each side. A regional map, vicinity map, and aerial photograph of the project site are shown in Figure 3.1-1 through Figure 3.1-3.

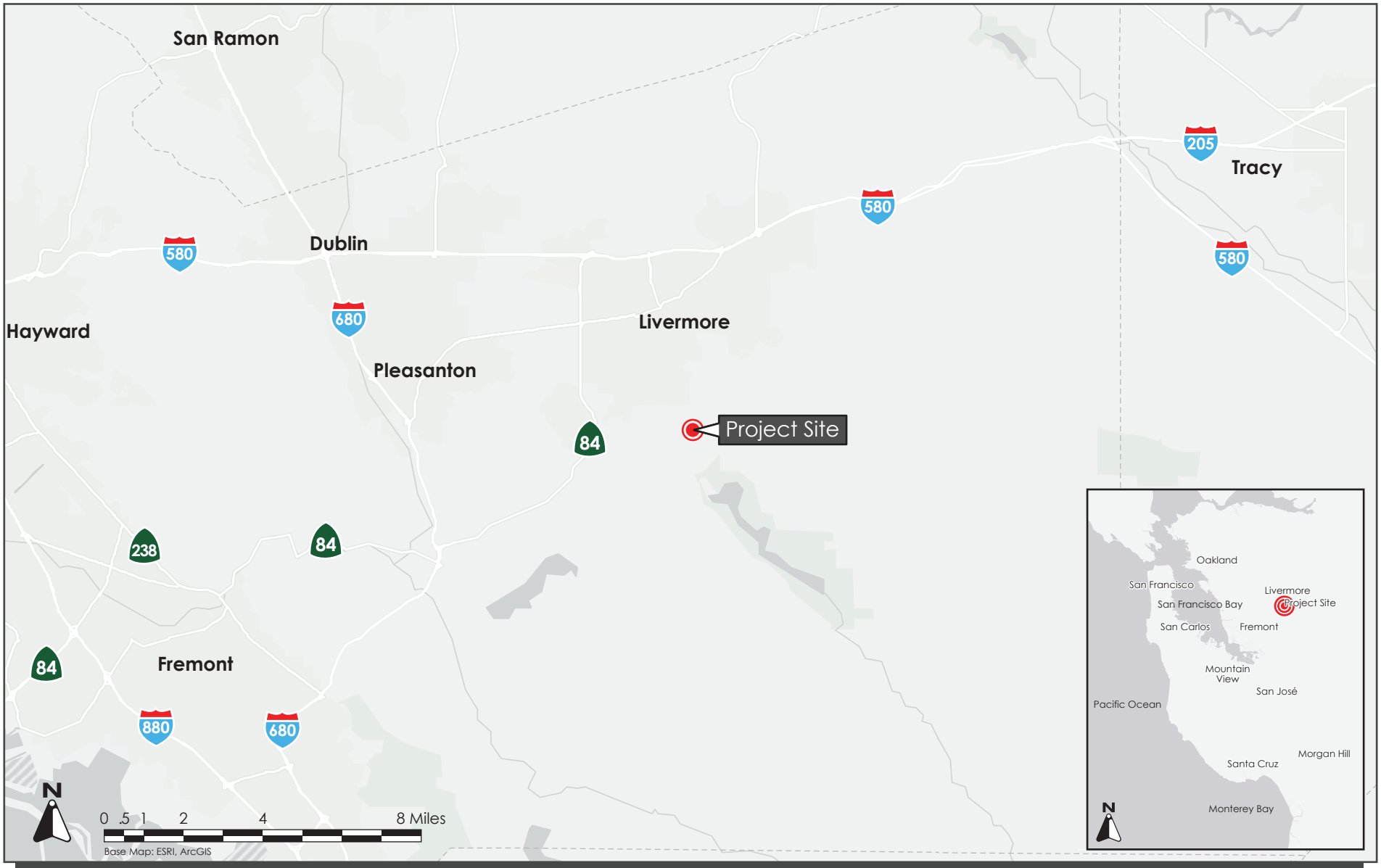
Within the project area, Dry Creek is a natural watercourse with uncontrolled flows. Dry Creek is an ephemeral stream that originates in the Diablo Range approximately 3.5 miles southeast of the project site, flows northeast to southwest underneath Arroyo Road and joins with Arroyo Valle, approximately 0.2 miles southwest of the project site. The majority of the year the creek does not contain water. During peak rainfall events, the bridge constricts the flow at the crossing, the creek overtops the south channel bank, and the water flows across the south approach roadway.

3.2 PROPOSED PROJECT

3.2.1 Bridge and Roadway Improvements

The County proposes to replace the existing bridge with a cast-in-place, reinforced, concrete, single span, slab bridge that will accommodate two 12-feet-wide travel lanes plus eight-foot shoulders and traffic rated vehicular barriers to meet Caltrans Highway Design Manual standards and Alameda County Engineering Design Guide “Local Residential Roadway Widths” for a local rural road. The bridge will also accommodate a 12-foot-wide Class I bike path separated from traffic by an interior vehicular traffic rated barrier. The replacement structure will be 34-feet-long by 58-feet-wide and will be supported by integral reinforced concrete diaphragm type abutments on pile foundations. The project layout is shown in Figure 3.2-1.

[1] Class I bike paths are defined by the Alameda County 2019 Bicycle and Pedestrian Master Plan as two-way paved facilities physically separated from motor vehicle traffic and used by bicyclists, pedestrians, and other non-motorized users.

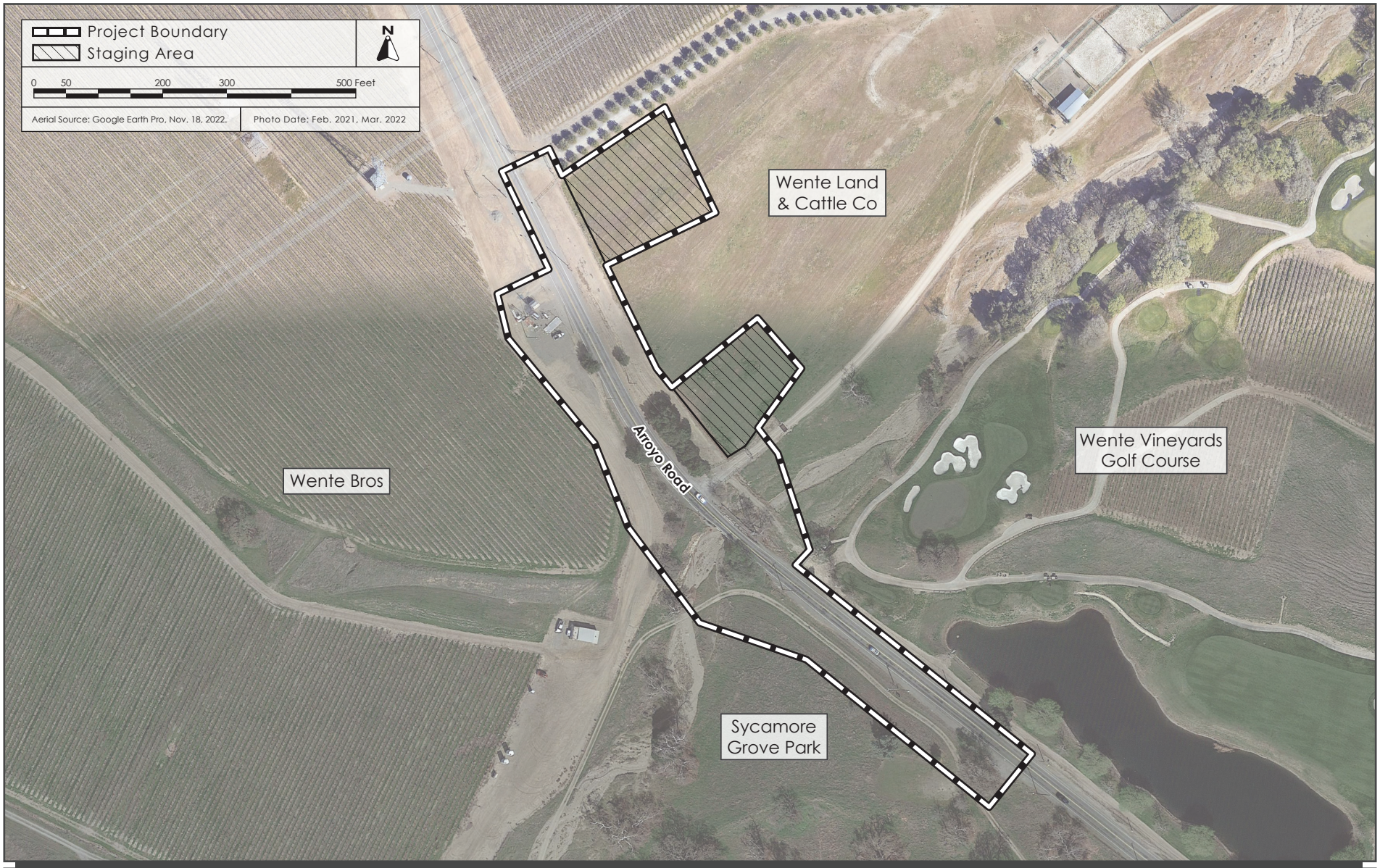


REGIONAL MAP

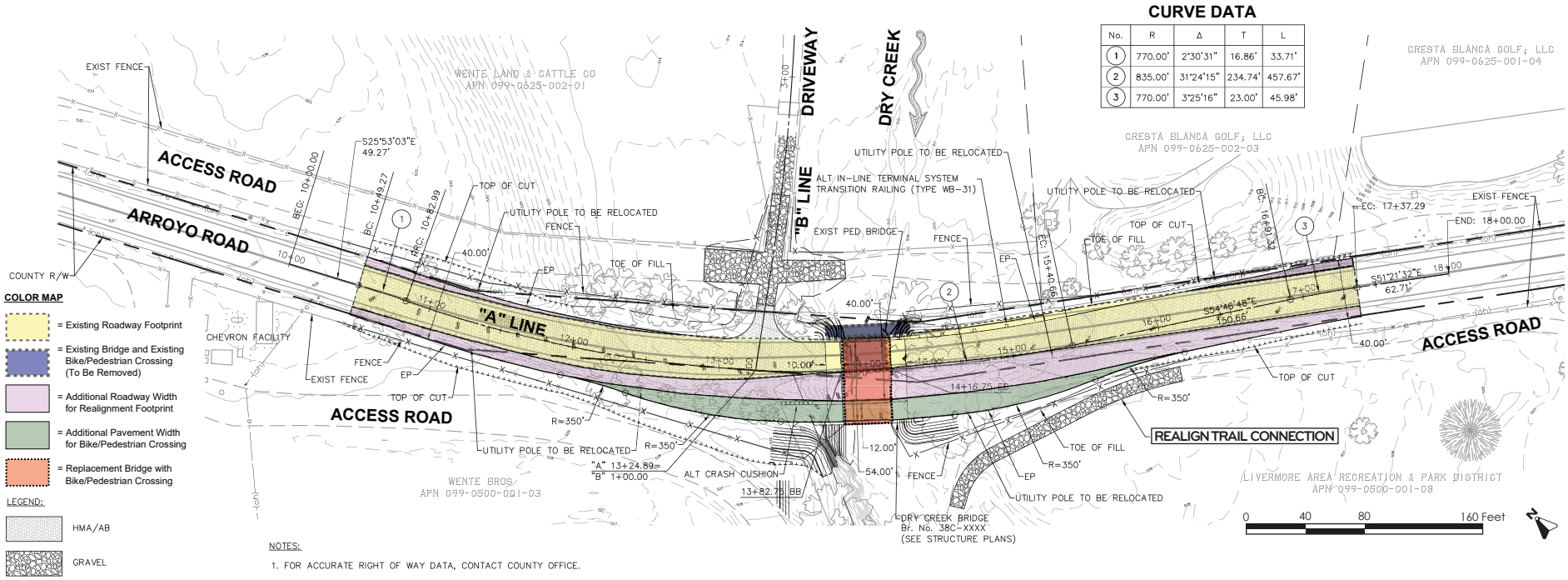
FIGURE 3.1-1

VICINITY MAP

FIGURE 3.1-2



AERIAL PHOTOGRAPH AND SURROUNDING LAND USES | FIGURE 3.1-3



Source: Wood Rodgers, Inc., October 2021.

PROJECT LAYOUT

FIGURE 3.2-1

The cast-in-drilled-hole piles will extend approximately 60-feet into the ground. The abutments will have approximately 20-foot-long wing walls at each bridge corner, extending back away from the creek to contain the raised approach roadways. Each abutment face and adjacent wing wall side slopes will be protected by approximately 4,100 square feet of rock slope protection (RSP). The bridge general plan is shown in Figure 3.2-2.

The roadway profile will be raised approximately two feet to meet hydraulic and geometric requirements. The structure hydraulics meet criteria set by Caltrans Highway Design Manual (HDM) §821, requiring the lowest point of the bridge soffit to be at an elevation greater than the maximum of the water surface elevation associated with 50-year storm plus sufficient freeboard (e.g., a two-foot drift clearance is used for typical waterways), or the water surface elevation associated with a 100-year storm. Scour is evaluated using a 100-year storm as required by the HEC-18 publication. The geometrics meet criteria for horizontal curve radius, horizontal sight line distance, vertical profile, grades, and cross slope set forth under Caltrans HDM §200 or under AASHTO's A Policy on Geometric Design of Highways and Streets §3.3 and 3.4, where applicable. To accommodate the raised profile, wider bridge structure, and longer span, the roadway centerline at the bridge will be shifted to the southwest to maintain traffic throughout construction while balancing impacts from slopes encroaching upon agricultural land (winery) to the northwest, a park to the southwest, grazing land to the northeast, and a recreational facility to the southeast. The access driveway will be reconstructed to connect to the raised roadway.

3.2.2 Right of way Requirements

Based on preliminary records search, Arroyo Road is within a 40-feet wide recorded Alameda County right of way. Due to widening of the bridge and slight horizontal realignment of the road through the project site, permanent right of way acquisition will be required from the following two parcels:

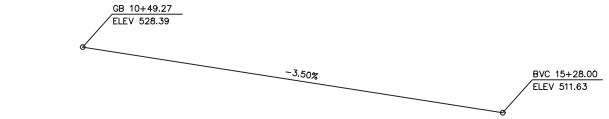
- Wente Bros. (APN 099-0500-001-03), located northwest of the bridge
- Livermore Area Recreation & Park District (APN 099-0500-001-08), located southwest of the bridge

Temporary construction easements (TCEs) will be needed from the following parcels to construct the proposed improvements and access driveway and to remove the existing bridge:

- Wente Bros. (APN 099-0500-001-03), located northwest of the bridge
- Livermore Area Recreation & Park District (APN 099-0500-001-08), located southwest of the bridge
- Wente Land & Cattle Co (APN 099-0625-002-01), located northeast of the bridge
- Cresta Blanca Golf, LLC (APN 099-0625-002-03), located southeast of the bridge[2]

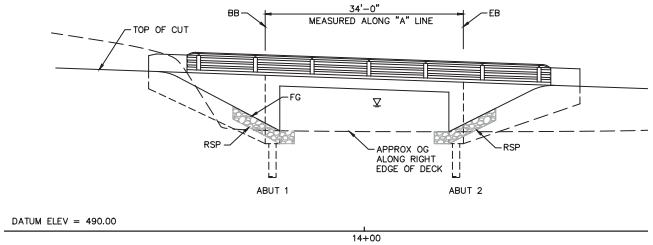
Acquisitions and easements will not require relocation of residences or businesses. The areas of project disturbance on the surrounding properties are shown in Figure 3.2-3.

[2] The Course at Wente Vineyards is owned by Cresta Blanca Golf, LLC and is referred to as the Wente Vineyards Golf Course elsewhere in this Draft Initial Study.

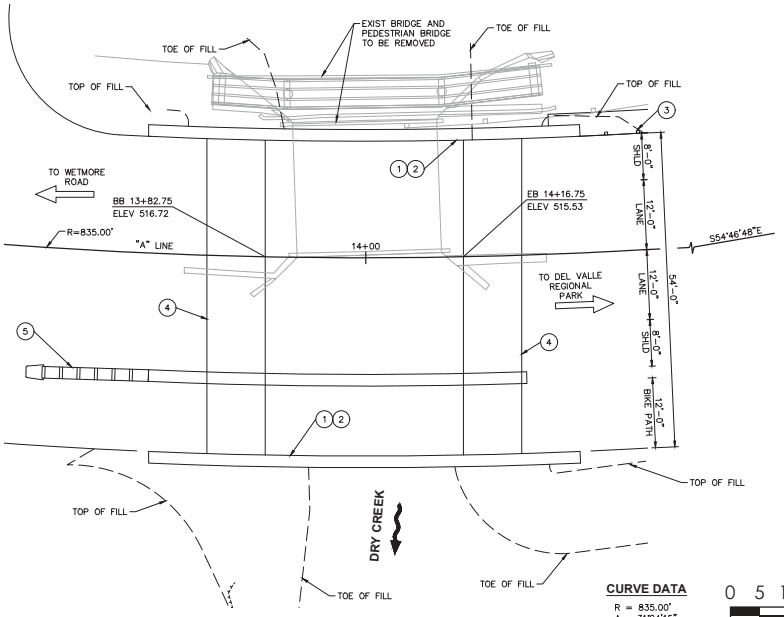


PROFILE GRADE

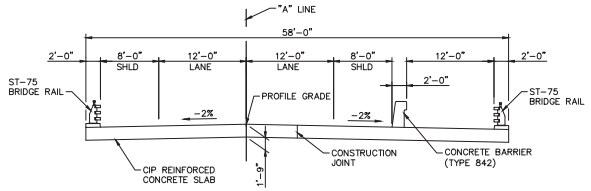
NTS



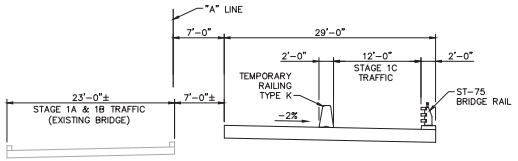
ELEVATION



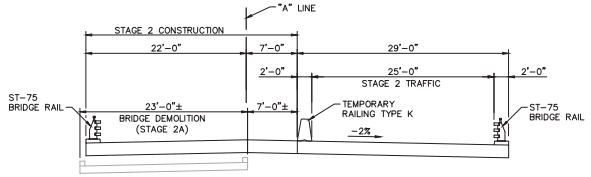
PLAN



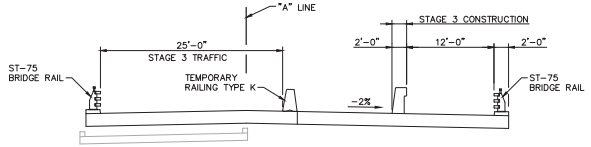
TYPICAL SECTION



STAGE 1 CONSTRUCTION



STAGE 2 CONSTRUCTION



STAGE 3 CONSTRUCTION

LEGEND

- FOR HYDROLOGIC/HYDRAULIC DATA SUMMARY
- INDICATES DIRECTION OF FLOW
- INDICATES DIRECTION OF TRAFFIC

NOTES

1. PAINT BRIDGE NO. "XXXXXXX"
2. PAINT "ARROYO ROAD BRIDGE"
3. MIDWEST GUARDRAIL SYSTEM
4. STRUCTURE APPROACH TYPE EQ (10)
5. CRASH CUSHION

CURVE DATA

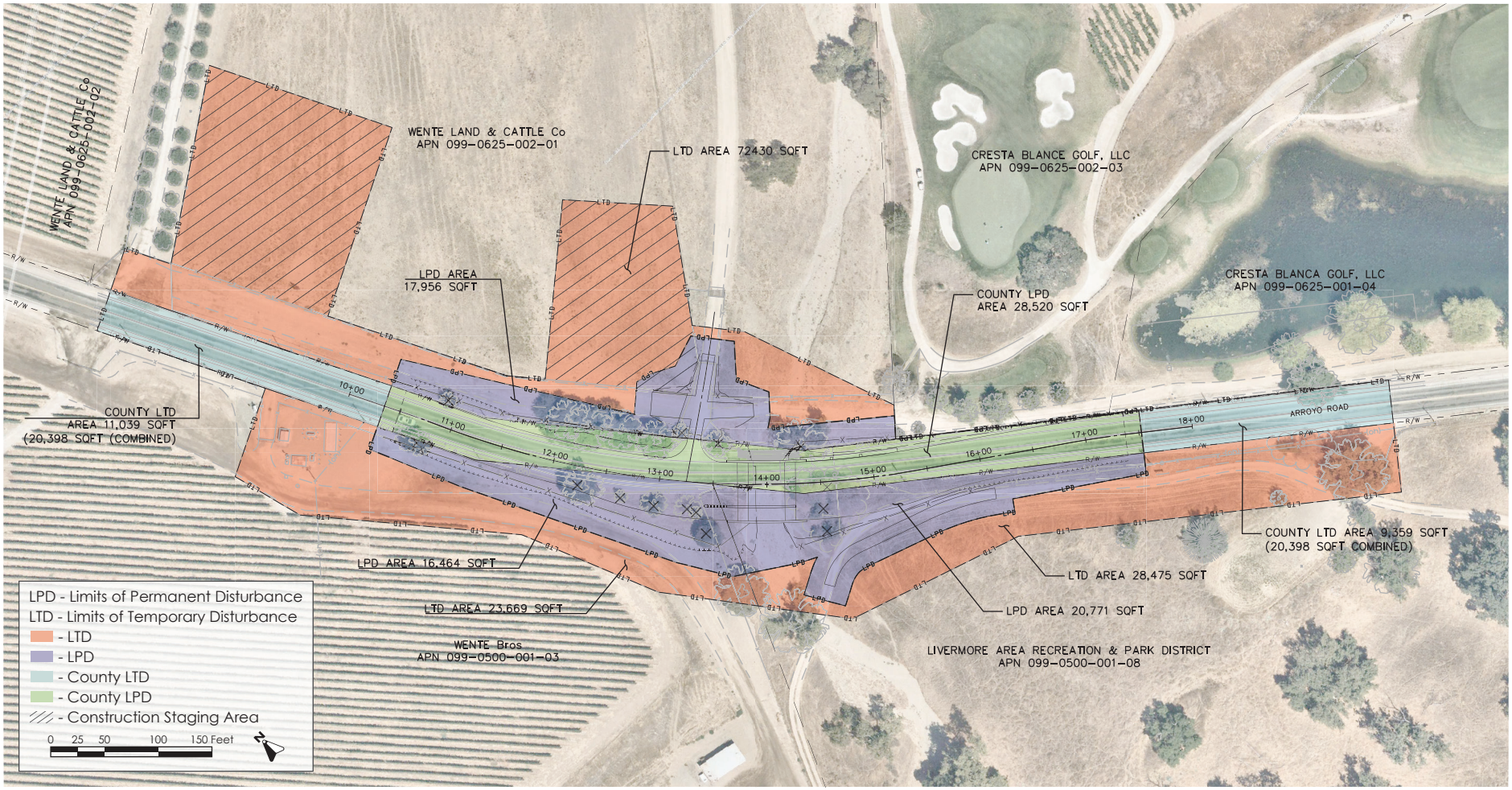
R = 835.00'
Δ = 31°24'15"
T = 234.74'
L = 457.67'

0 5 10 20 30 40 50 Feet

Source: Wood Rodgers, Inc., July 27, 2020.

BRIDGE GENERAL PLAN

FIGURE 3.2-2



Source: Wood Rodgers, Inc., January 2020.

PROJECT DISTURBANCE AREAS

FIGURE 3.2-3

3.2.3 Utility Relocations

Existing utilities in the project vicinity include overhead electric and telecommunication lines along both sides of the roadway, an abandoned underground water line within the roadway, and private potable and irrigation water lines along the northeast side of the roadway within the private frontage road. No modifications are expected to the private water lines. To accommodate the widened roadway, the project would implement the following utility relocations:

- Relocate existing overhead utility lines and support poles along both sides of the roadway
- Remove abandoned water line within the limits of excavation for the new bridge and cap within the approach roadway

3.2.4 Construction Details

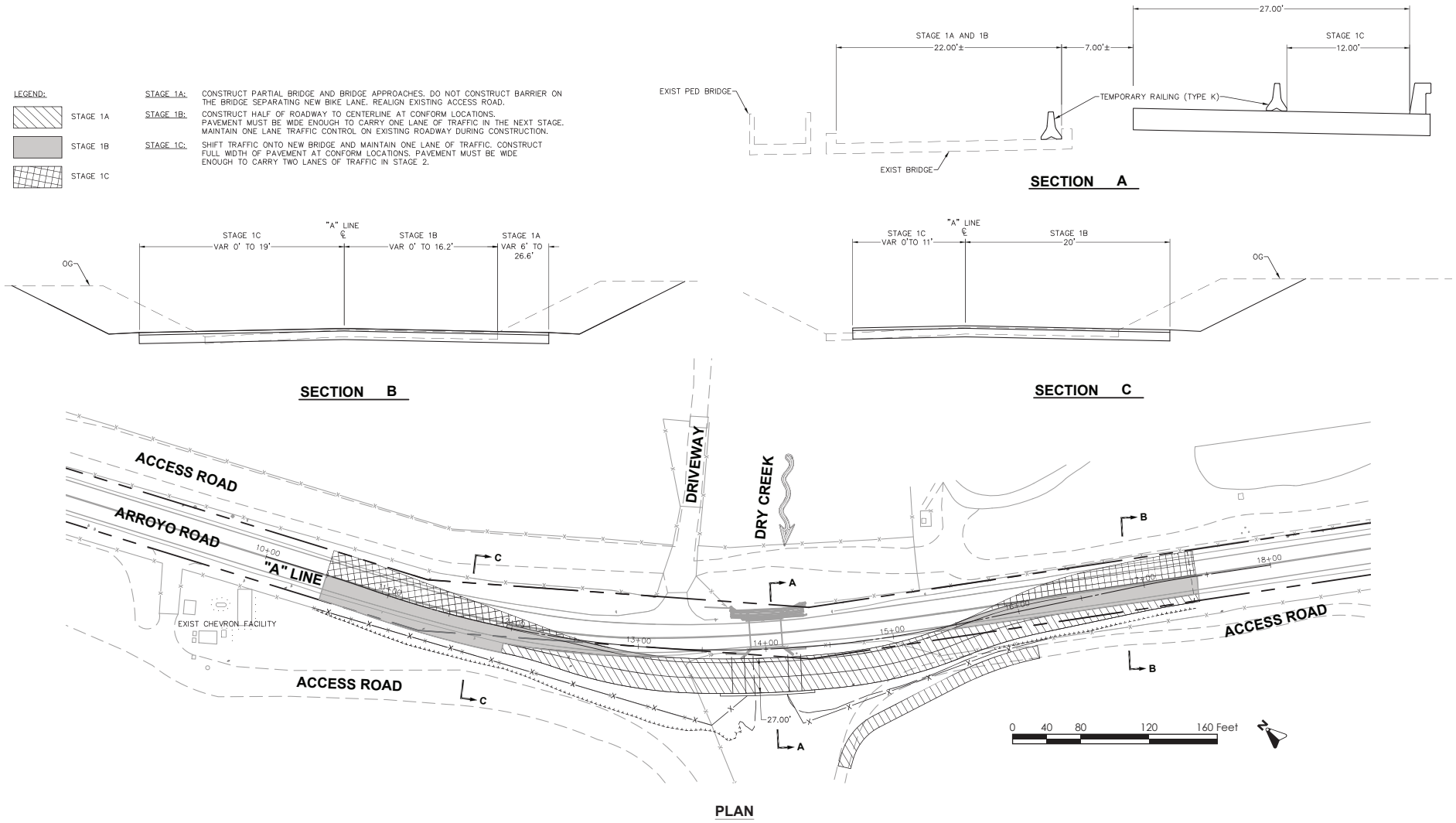
Arroyo Road dead-ends several miles southeast of the bridge and is the only access in or out of the area for residents, businesses, and recreational users. No offsite detour is available. The bridge will be constructed in two stages in order to maintain traffic throughout construction. Construction is anticipated to last for approximately 18 months and will take place Monday through Friday during daylight hours. No night work is anticipated. Project construction will include clearing and grubbing of vegetation and trees as needed. The project is anticipated to require the removal of 14 existing trees.

Stage 1 will consist of constructing a portion of the new bridge to the west of the existing bridge. Grading, paving, and barrier installation will transition the approaches from the portion of the new bridge to the existing roadway. Normal two-lane, two-way traffic operations will largely be maintained on the existing roadway and bridge. Short durations of single lane, two-way traffic operations will be required for the roadway conform connection to the exiting roadway. Stage 2 will consist of moving two-lane, two-way traffic onto the Stage 1 roadway and bridge section, demolishing the existing bridge and pedestrian crossing, and constructing a portion of the new bridge in the current location of the existing bridge. Grading, paving, and barrier installation will transition the approaches from the portion of the new bridge to the existing roadway. The stage will conclude with a closure pour and installation of the interior barrier. The stages of construction are shown in Figures 3.2-4 through Figure 3.2-6.

Prior to construction, appropriate signage will be installed, identifying construction areas and lane shifts. Detailed signage plans will be reviewed and approved by the County. Residents, businesses, and other stakeholders will be informed of the project developments and impacts to traffic operations during construction. Signs will remain in place throughout the duration of construction. The project will utilize designated staging areas located on the Wente Land & Cattle Co property (APN 099-0625-002-01) on the northeast side of the road. Staging areas will be returned to pre-project condition at the conclusion of construction activities.

Given that Dry Creek does not usually contain water for the majority of the year, no stream diversions are anticipated. Dry Creek would only contain flows during the rainy season which would generally be avoided during construction. However, if there is water flow in Dry Creek during the construction period, the flow will be diverted into pipe(s) through the active construction zone. The diversion will be established in conformance with County specifications as well as California

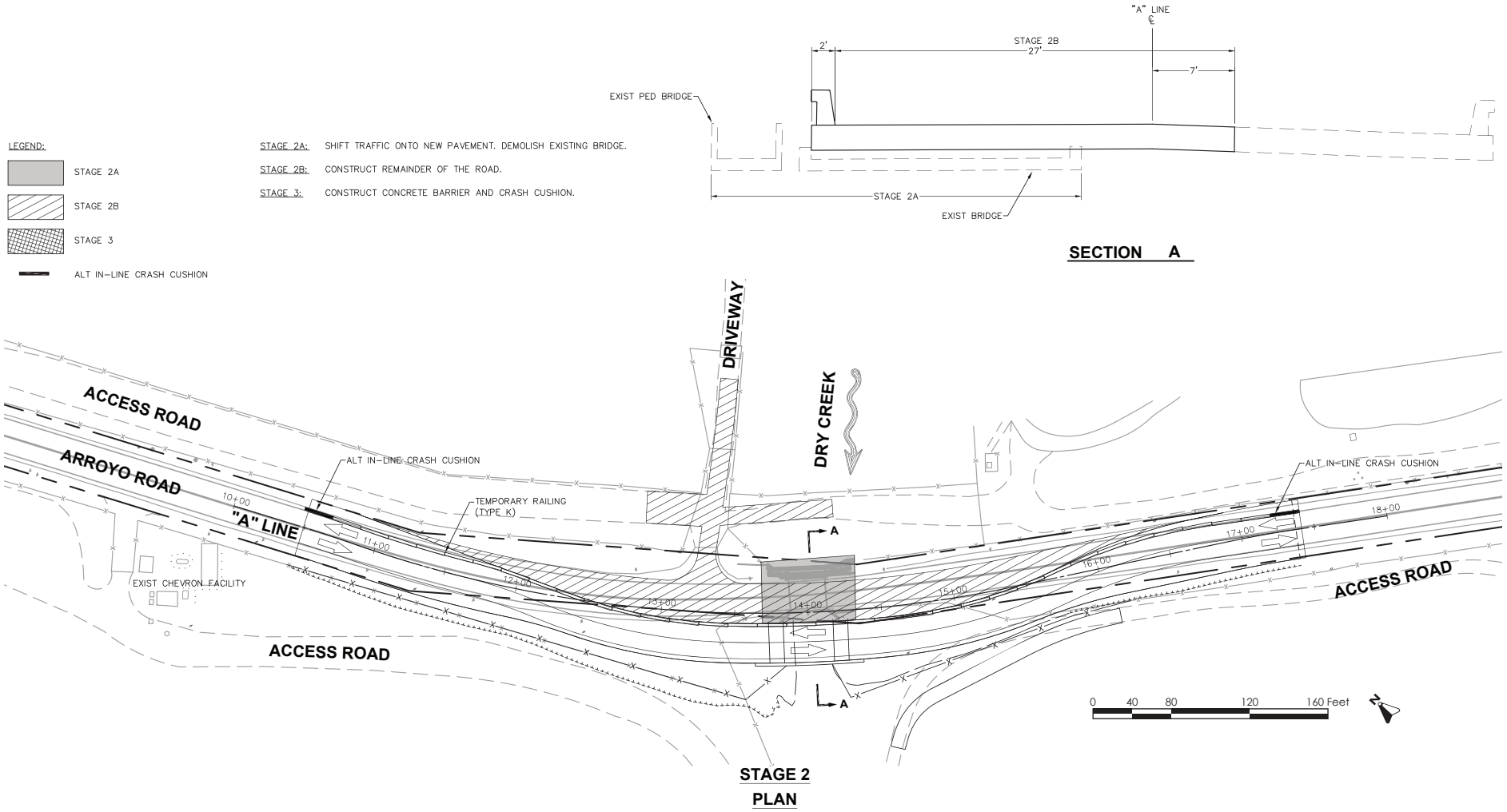
Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), U.S. Army Corp of Engineers (USACE), and U.S. Fish and Wildlife Service (USFWS) regulatory requirements. Any stream diversion required by regulatory agency permits will be constructed within the existing channel to protect and maintain water flow in Dry Creek during demolition and construction activities.



Source: Wood Rodgers, Inc., October 2021.

CONSTRUCTION STAGE 1

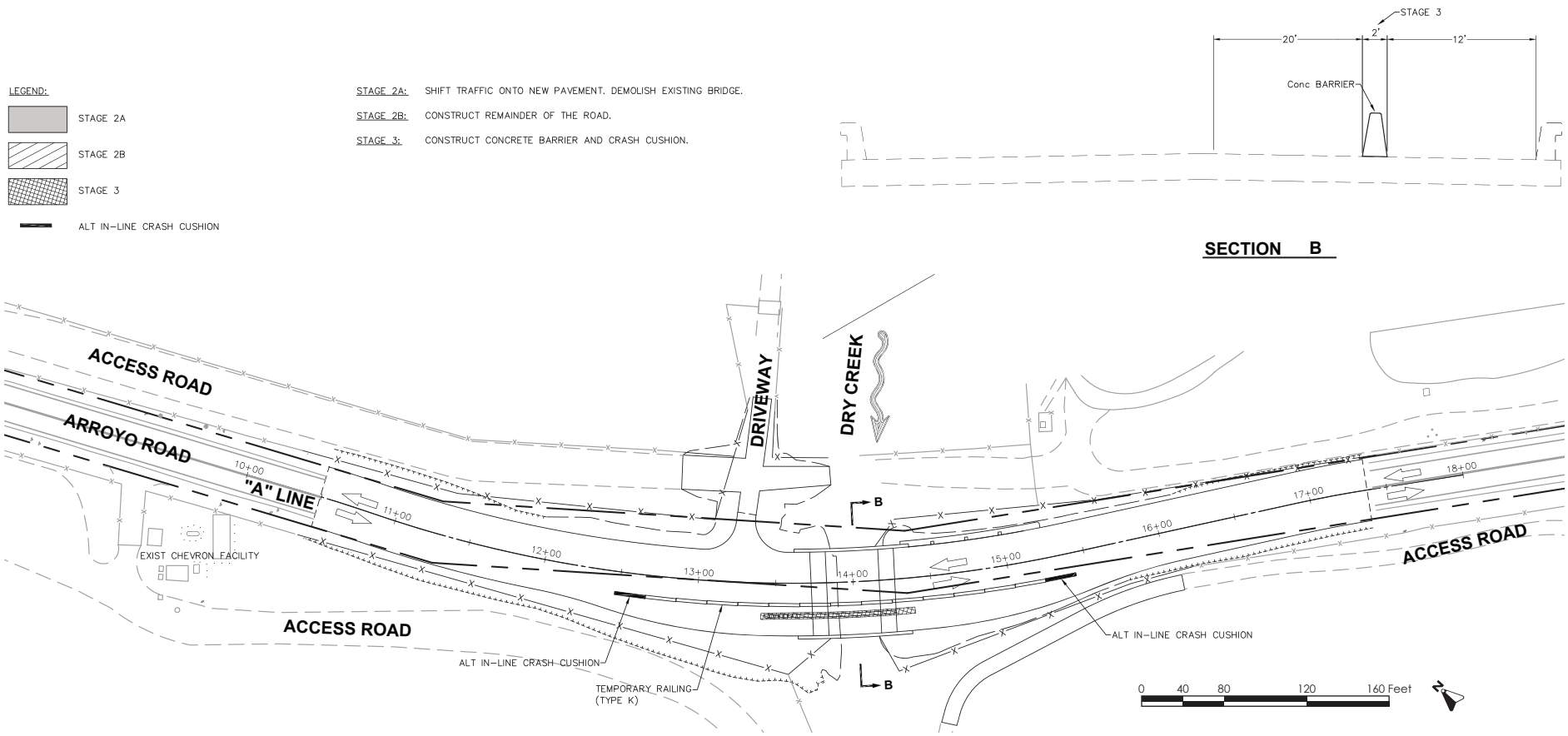
FIGURE 3.2-4



Source: Wood Rodgers, Inc., October 2021.

CONSTRUCTION STAGE 2

FIGURE 3.2-5



STAGE 3
PLAN

Source: Wood Rodgers, Inc., October 2021.

CONSTRUCTION STAGE 3 | FIGURE 3.2-5

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	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

Determination

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 would be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there would 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 would 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

DocuSigned by:
D4349C62408A4D8...

Signature

6/26/2023

Date

Name: Amber K. Lo, P.E., Principal Civil Engineer, Alameda County Public Works Agency

SECTION 4.0 ENVIRONMENTAL SETTING, CHECKLIST, AND IMPACT DISCUSSION

This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

4.1	Aesthetics	4.12	Mineral Resources
4.2	Agriculture and Forestry Resources	4.13	Noise
4.3	Air Quality	4.14	Population and Housing
4.4	Biological Resources	4.15	Public Services
4.5	Cultural Resources	4.16	Recreation
4.6	Energy	4.17	Transportation
4.7	Geology and Soils	4.18	Tribal Cultural Resources
4.8	Greenhouse Gas Emissions	4.19	Utilities and Service Systems
4.9	Hazards and Hazardous Materials	4.20	Wildfire
4.10	Hydrology and Water Quality	4.21	Mandatory Findings of Significance
4.11	Land Use and Planning		

The discussion for each environmental subject includes the following subsections:

- **Environmental Setting** – This subsection 1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and 2) describes the existing, physical environmental conditions at the project site and in the surrounding area, as relevant.
- **Impact Discussion** – This subsection 1) includes the recommended checklist questions from Appendix G of the CEQA Guidelines to assess impacts and 2) discusses the project's impact on the environmental subject as related to the checklist questions. For significant impacts, feasible mitigation measures are identified. "Mitigation measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). Each impact is numbered to correspond to the checklist question being answered. For example, Impact BIO-1 answers the first checklist question in the Biological Resources section. Mitigation measures are also numbered to correspond to the impact they address. For example, MM BIO-1.3 refers to the third mitigation measure for the first impact in the Biological Resources section.

4.1 AESTHETICS

4.1.1 Environmental Setting

4.1.1.1 *Existing Conditions*

The existing bridge, shown in Photos 1 & 2 below, is a small nondescript structure located in a rural area of Alameda County. There is a wooden pedestrian bridge located adjacent to the east side of the roadway. Views from the project site include Dry Creek, surrounding trees, the adjacent golf course, agricultural fields, unmaintained grass fields, and distant hillsides. The nearest designated state scenic highway is Interstate 680 (I-680),[3] located approximately 6.4 miles west of the project site at its nearest point.

4.1.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
1) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
3) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? [4] If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Impact AES-1: The project would not have a substantial adverse effect on a scenic vista. **(Less than Significant Impact)**

The project would replace an existing bridge with a new bridge of similar size and function at the same location. The project would remove approximately 14 trees adjacent to the existing roadway. Removal of these trees would result in a minor change in views along Arroyo Road. Views of open space, agricultural land, and other dense stands of trees would remain unaffected. **(Less than Significant Impact)**

[3] Caltrans. "State Scenic Highway Map." Accessed November 11, 2022. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa

[4] Public views are those that are experienced from publicly accessible vantage points.

Photo 1: View of existing bridge, looking southeast.

Photo 2: View of existing bridge, looking south.

PHOTOS 1 & 2

Impact AES-2:	The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. **(No Impact)**

The project is located approximately six miles from the nearest state scenic highway (I-680). The project, therefore, would not impact trees, rock outcroppings, and historic buildings in a state scenic highway. **(No Impact)**

Impact AES-3:	The project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. The project is not in an urbanized area. **(Less than Significant Impact)**

The project would not alter the existing visual character of the site. The existing bridge would be replaced with a realigned two-lane bridge at the same location. The footprint of the bridge would be altered after project implementation; however, the realignment would not substantially affect any views along Arroyo Road. The realignment of the bridge would result in the removal of approximately 14 trees adjacent to the existing roadway. Views of open space, agricultural land, and dense stands of trees would remain with the project. Removal of these trees would result in a minor change in views along Arroyo Road. The proposed roadway improvements and utility relocations would similarly result in minor changes to existing conditions that would not alter the visual character of the project site or surrounding vicinity. **(Less than Significant Impact)**

Impact AES-4:	The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. **(No Impact)**

The project would not create any new source(s) of light or glare. It is limited to the replacement of an existing bridge, roadway improvements, and utility relocations. **(No Impact)**

4.2 AGRICULTURE AND FORESTRY RESOURCES

4.2.1 Environmental Setting

4.2.1.1 *Regulatory Framework*

State

Farmland Mapping and Monitoring Program

The California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) assesses the location, quality, and quantity of agricultural land and conversion of these lands over time. Agricultural land is rated according to soil quality and irrigation status. The best quality land is identified as Prime Farmland. In CEQA analyses, the FMMP classifications and published county maps are used, in part, to identify whether agricultural resources that could be affected are present on-site or in the project area.[5]

California Land Conservation Act

The California Land Conservation Act (Williamson Act) enables local governments to enter into contracts with private landowners to restrict parcels of land to agricultural or related open space uses. In return, landowners receive lower property tax assessments. In CEQA analyses, identification of properties that are under a Williamson Act contract is used to also identify sites that may contain agricultural resources or are zoned for agricultural uses.[6]

4.2.1.2 *Existing Conditions*

The project site is located in a rural area within unincorporated Alameda County. There are agricultural lands in the project vicinity. The existing roadway and the parkland southwest of the project site is designated as Other Land, the adjacent golf course is designated as Urban and Built-Up Land, the agricultural property northeast of the project site is designated as Grazing Land, and the agricultural property northwest of the bridge is designated as Farmland of Statewide Importance.[7] The Wente Bros. parcel northwest of the proposed bridge and the Wente Land & Cattle Co parcel adjacent to the northeast of the project site are both enrolled under Williamson Act contracts.[8]

[5] California Department of Conservation. "Farmland Mapping and Monitoring Program." Accessed November 14, 2022. http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx.
[6] California Department of Conservation. "Williamson Act." http://www.conservation.ca.gov/dlrp/lca.
[7] California Department of Conservation. "California Important Farmland Finder." Accessed November 14, 2022. https://maps.conservation.ca.gov/DLRP/CIFF/
[8] California Department of Conservation. "California Williamson Act Enrollment Finder". Accessed May 12, 2023. DLRP Important Farmland Finder (ca.gov)

4.2.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) 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?	☐	☐	☒	☐
2) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
3) 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))?	☐	☐	☐	☒
4) Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
5) 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?	☐	☐	☒	☐

Impact AG-1:	The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. **(Less than Significant Impact)**

The project is limited to improvements to an existing roadway corridor and bridge that would not change land use patterns in the project area. Due to the realignment of the roadway and bridge, the project would require permanent right of way acquisition of approximately 0.60-acre[9] from the Wente Bros. property northwest of the bridge. The areas proposed for right of way acquisition and temporary construction easements from the Wente Bros. property are not planted with agricultural crops. The project may result in access limitations and/or modified operations during construction but would not substantially alter the agricultural use of the Wente Bros. property. Additionally, temporary construction easements are proposed on the Wente Land & Cattle Co. The areas proposed for temporary construction easements from the Wente Land & Cattle Co. are designated as Other

[9] U.S. Department of Agriculture. Farmland Conversion Impact Rating (Form AD-1006). April 13, 2023.

Land and Grazing Land.[10] The project may result in portions of the grazing land being inaccessible during project construction and would modify access to the property in order to conform to the proposed roadway alignment. Based on the limited and temporary nature of the effects to adjacent agricultural property, the project would not result in significant impacts to Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. **(Less than Significant Impact)**

Impact AG-2:	The project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. **(Less than Significant Impact)**

The surrounding properties are all zoned A-CA (Agriculture, Cultivated Agriculture Overlay).[11] The Wente Bros. parcel northwest of the proposed bridge and the Wente Land & Cattle Co parcel adjacent to the northeast of the project site are both enrolled under Williamson Act contracts. Both the Cresta Blanca Golf parcel and the Sycamore Grove park have no Williamson Act designation. As previously discussed, the project would not affect areas on adjacent properties that are planted with agricultural crops. The project also would not affect any portion of the Cresta Blanca Golf parcel. The project proposes realignment and replacement of an existing roadway and bridge that would not significantly impact adjacent agricultural property or conflict with the existing agricultural uses in the area. **(Less than Significant Impact)**

Impact AG-3:	The project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. **(No Impact)**

The project site and surrounding vicinity do not contain any lands zoned as forest land, timberland, or timberland production. **(No Impact)**

Impact AG-4:	The project would not result in a loss of forest land or conversion of forest land to non-forest use. **(No Impact)**

The project site and surrounding vicinity do not contain any forest land. **(No Impact)**

Impact AG-5:	The project 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 or conversion of forest land to non-forest use. **(Less than Significant Impact)**

As previously discussed, the project would require limited permanent right of way acquisition and temporary construction easements of surrounding farmland in order to realign Arroyo Road and replace the existing bridge. No other impacts to designated farmland are anticipated. Therefore, the replacement of the bridge would not result in other changes to the environment that could, in turn, result in an impact on agricultural resources. **(Less than Significant Impact)**

[10] California Department of Conservation. "California Important Farmland Finder." Accessed November 14, 2022. https://maps.conservation.ca.gov/DLRP/CIFF/

[11] Alameda County Community Development Agency. Zoning Viewer Public Access Map. Accessed November 14, 2022. https://acpwa.maps.arcgis.com/apps/View/index.html?appid=4a648cb409d744b8a4f645e6e35fe773

4.3 AIR QUALITY

4.3.1 Environmental Setting

4.3.1.1 *Background Information*

Criteria Pollutants

Air quality in the Bay Area is assessed related to six common air pollutants (referred to as criteria pollutants), including ground-level ozone (O_3), nitrogen oxides (NO_x), particulate matter (PM), carbon monoxide (CO), sulfur oxides (SO_x), and lead.[12] Criteria pollutants are regulated because they result in health effects. An overview of the sources of criteria pollutants and their associated health effects are summarized in Table 4.3-1. The most commonly regulated criteria pollutants in the Bay Area are discussed further below.

Table 4.3-1: Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	Atmospheric reaction of organic gases with nitrogen oxides in sunlight	• Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Cardiopulmonary function impairment
Nitrogen Dioxide (NO_2)	Motor vehicle exhaust, high temperature stationary combustion, atmospheric reactions	• Aggravation of respiratory illness • Reduced visibility
Fine Particulate Matter ($PM_{2.5}$) and Coarse Particulate Matter (PM_{10})	Stationary combustion of solid fuels, construction activities, industrial processes, atmospheric chemical reactions	• Reduced lung function, especially in children • Aggravation of respiratory and cardiorespiratory diseases • Increased cough and chest discomfort • Reduced visibility
Toxic Air Contaminants (TACs)	Cars and trucks, especially diesel-fueled; industrial sources, such as chrome platers; dry cleaners and service stations; building materials and products	• Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders

High O_3 levels are caused by the cumulative emissions of reactive organic gases (ROG) and NO_x. These precursor pollutants react under certain meteorological conditions to form high O_3 levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce O_3 levels. The highest O_3 levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources.

[12] The area has attained both state and federal ambient air quality standards for CO. The project does not include substantial new emissions of sulfur dioxide or lead. These criteria pollutants are not discussed further.

PM is a problematic air pollutant of the Bay Area. PM is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide emissions and localized emissions.

Toxic Air Contaminants

TACs are a broad class of compounds known to have health effects. They include but are not limited to criteria pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, diesel fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway).

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs. Diesel exhaust is a complex mixture of gases, vapors, and fine particles. Medium- and heavy-duty diesel trucks represent the bulk of DPM emissions from California highways. The majority of DPM is small enough to be inhaled into the lungs. Most inhaled particles are subsequently exhaled, but some deposit on the lung surface or are deposited in the deepest regions of the lungs (most susceptible to injury).[13] Chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the California Air Resources Board (CARB).

Sensitive Receptors

Some groups of people are more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools.

4.3.1.2 *Regulatory Framework*

Federal and State

Clean Air Act

At the federal level, the United States Environmental Protection Agency (EPA) is responsible for overseeing implementation of the Clean Air Act and its subsequent amendments. The federal Clean Air Act requires the EPA to set national ambient air quality standards for the six common criteria pollutants (discussed previously), including PM, O_3, CO, SO_x, NO_x, and lead.

CARB is the state agency that regulates mobile sources throughout the state and oversees implementation of the state air quality laws and regulations, including the California Clean Air Act. The EPA and the CARB have adopted ambient air quality standards establishing permissible levels of these pollutants to protect public health and the climate. Violations of ambient air quality

[13] California Air Resources Board. "Overview: Diesel Exhaust and Health." Accessed November 14, 2022. https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health.

standards are based on air pollutant monitoring data and are determined for each air pollutant. Attainment status for a pollutant means that a given air district meets the standard set by the EPA and/or CARB.

Risk Reduction Plan

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, the plan involves application of emission control strategies to existing diesel vehicles and equipment to reduce diesel particulate matter (DPM) (in additional to other pollutants). Implementation of this plan, in conjunction with stringent federal and CARB-adopted emission limits for diesel fueled vehicles and equipment (including off-road equipment), will significantly reduce emissions of DPM and NO_X.

Regional

2017 Clean Air Plan

The Bay Area Air Quality Management District (BAAQMD) is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. Regional air quality management districts, such as BAAQMD, must prepare air quality plans specifying how state and federal air quality standards will be met. BAAQMD's most recently adopted plan is the Bay Area 2017 Clean Air Plan (2017 CAP). The 2017 CAP focuses on two related BAAQMD goals: protecting public health and protecting the climate. To protect public health, the 2017 CAP describes how BAAQMD will continue its progress toward attaining state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the 2017 CAP includes control measures designed to reduce emissions of methane and other super-greenhouse gases (GHGs) that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.[14]

CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. Jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing air quality impacts developed by BAAQMD within their CEQA Air Quality Guidelines. The guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

4.3.1.3 *Existing Conditions*

The Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the federal Clean Air Act and state Clean Air Act. The area is also considered nonattainment for PM_{10}

[14] BAAQMD. *Final 2017 Clean Air Plan.* April 19, 2017. http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans.

under the state act, but not the federal act. The area has attained both state and federal ambient air quality standards for CO. As part of an effort to attain and maintain ambient air quality standards for O_3 and PM_{10}, BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O_3 precursor pollutants (ROG and NO_X), PM_{10}, and $PM_{2.5}$, and apply to both construction period and operational period impacts.

Existing sources of emissions in the project area include vehicular traffic on Arroyo Road and surrounding agricultural activities, which are known to generate particulate emissions. Sensitive receptors in the project area are limited to a residence off of Arroyo Road, located approximately 625 feet east of the nearest proposed staging area and approximately 800 feet from the project work area.

4.3.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
2) 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?	☐	☐	☒	☐
3) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Note: Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the determinations.

Impact AIR-1:	The project would not conflict with or obstruct implementation of the applicable air quality plan. **(Less than Significant Impact with Mitigation Incorporated)**

Over the long-term (i.e., operational phase), the project will have no effect on air quality as it is limited to the replacement of an existing bridge with a new bridge of similar size and function as well as other roadway improvements. The number of vehicle trips in the area will not change with implementation of the project.

During the short-term (i.e., construction phase), equipment at the project site may include vehicles such as long flat-bed trucks for delivering materials to the site, drilling equipment, cranes, concrete pumps, concrete mixer trucks, compaction equipment, loaders, and haulers. This equipment would temporarily emit quantities of particulate matter (PM_{10}) and exhaust. The project construction phase is anticipated to last for approximately 18 months.

Mitigation Measure: To reduce project construction emissions, the project will implement the following measures:

MM AIR-1.1: BAAQMD recommends that all projects implement the following basic construction measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- 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.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five 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.
- 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.
- 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 Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Given the relatively small scale of the project and the fact that project construction would be for a limited duration, implementation of MM AIR-1.1 would ensure that the project would that the project would not generate a significant level of criteria air pollutants. For these reasons, the project would not conflict with or obstruct the 2017 CAP. **(Less than Significant Impact with Mitigation Incorporated)**

Impact AIR-2:	The project would not 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. **(Less than Significant Impact)**

Per the BAAQMD CEQA Air Quality Guidelines, air pollution by its nature is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. As discussed above, the proposed project would not, by itself, result in any air

pollutant emissions exceeding BAAQMD's significance thresholds. The number of vehicle trips in the area will not change with implementation of the project. As a result, the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment. **(Less than Significant Impact)**

Impact AIR-3:	The project would not expose sensitive receptors to substantial pollutant concentrations. **(Less than Significant Impact)**

The project site is located in a rural area and sensitive receptors in the project area are limited to a residence off of Arroyo Road, located approximately 625 feet east of the nearest proposed staging area and approximately 800 feet from the project work area. At this distance, the residence would not be substantially affected by project construction activities, which would be temporary. As discussed under AIR-1, the project would implement BAAQMD's basic construction measures. The project would not result in an increase in pollutant concentrations over the long-term (i.e., operation phase) because it would not result in increased vehicle trips. **(Less than Significant Impact)**

Impact AIR-4:	The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. **(Less than Significant Impact)**

Odors created by construction activities would not affect a substantial number of people as the project is located in a rural area where there are no adjacent populations. As previously described, the nearest sensitive receptor is a residence located approximately 625 feet east of the nearest proposed staging area and approximately 800 feet from the project work area. There would be no long-term odors created by the project as it would be limited to replacement of an existing bridge and roadway improvements. **(Less than Significant Impact)**

4.4 BIOLOGICAL RESOURCES

The following discussion is based on a Natural Environment Study and a Biological Assessment, both prepared for the project by H.T. Harvey & Associates in December 2022. Copies of these reports are included in Appendix A and Appendix B of this Draft Initial Study, respectively.

4.4.1 Environmental Setting

4.4.1.1 *Regulatory Framework*

Federal and State

Endangered Species Act

Individual plant and animal species listed as rare, threatened, or endangered under state and federal Endangered Species Acts are considered special-status species. Federal and state endangered species legislation has provided the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both the USFWS and CDFW if activities associated with a proposed project would result in the take of a species listed as threatened or endangered. To "take" a listed species, as defined by the State of California, is "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" these species. Take is more broadly defined by the federal Endangered Species Act to include harm of a listed species.

In addition to species listed under state and federal Endangered Species Acts, Sections 15380(b) and (c) of the CEQA Guidelines provide that all potential rare or sensitive species, or habitats capable of supporting rare species, must be considered as part of the environmental review process. These may include plant species listed by the California Native Plant Society and CDFW-listed Species of Special Concern.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits killing, capture, possession, or trade of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Hunting and poaching are also prohibited. This includes direct and indirect acts, except for harassment and habitat modification, which are not included unless they result in direct loss of birds, nests, or eggs. The CDFW also protects migratory and nesting birds under California Fish and Game Code Sections 3503, 3503.5, and 3800. The CDFW defines taking as causing abandonment and/or loss of reproductive efforts through disturbance.

Sensitive Habitat Regulations

Wetland and riparian habitats are considered sensitive habitats under CEQA. They are also afforded protection under applicable federal, state, and local regulations, and are generally subject to regulation by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and/or the USFWS under provisions of the federal Clean Water Act (e.g., Sections 303, 304, 404) and State of California Porter-Cologne Water Quality Control Act.

Fish and Game Code Section 1602

Streambeds and banks, as well as associated riparian habitat, are regulated by the CDFW per Section 1602 of the Fish and Game Code. Work within the bed or banks of a stream or the adjacent riparian habitat requires a Streambed Alteration Agreement from the CDFW.

Regional and Local

Alameda County Tree Ordinance

The Alameda County Tree Ordinance (Ordinance No: 0-2004-23) was adopted by the Alameda County Board of Supervisors to preserve trees located within the County right of way and to control the planting, maintenance and removal of those trees. The Tree Ordinance states that the removal of any trees within County right of way must be approved by the Director of the Alameda County Public Works Agency or the director's designee. Additionally, any construction activities adjacent to County right of way must take all necessary measures prior to and during work to protect any trees located in the right of way. The ordinance allows the Director to approve tree removal in conjunction with an approved roadway improvement project.

East Alameda County Conservation Strategy

The purpose of the East Alameda County Conservation Strategy (EACCS) is to preserve endangered species by developing a shared vision for long term habitat protection. The EACCS assesses areas all across East Alameda County for their conservation value and establishes guiding biological principles for conducting conservation in the county.

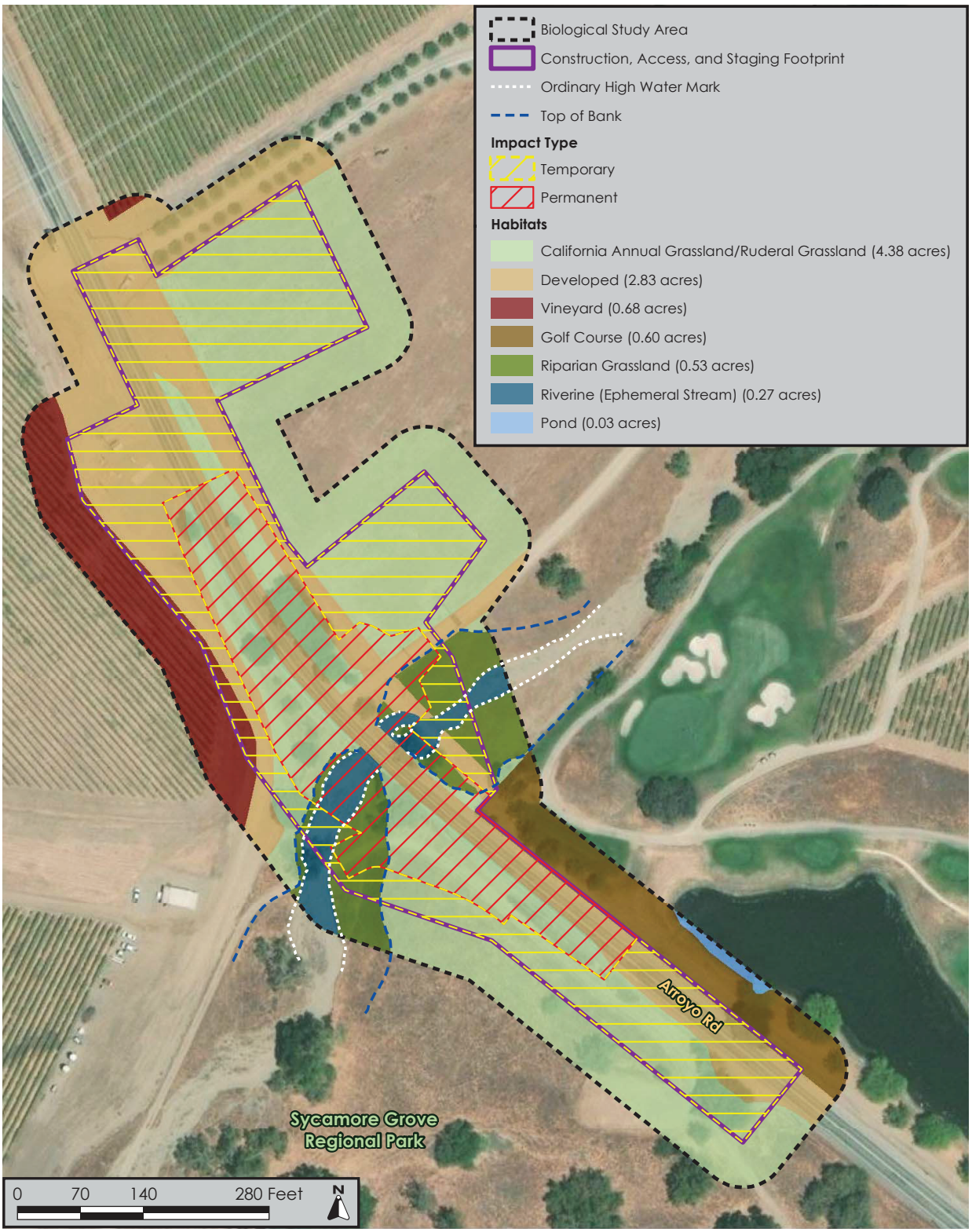
4.4.1.2 *Existing Conditions*

Existing Habitats

A 9.32-acre biological study area (BSA) was established in the project vicinity in the Natural Environment Study and Biological Assessment. H.T. Harvey biologists completed reconnaissance-level surveys of the BSA over two days in February 2020. Seven habitat types exist in the BSA. These are shown in Figure 4.4-1 and described below.

California Annual Grassland/Ruderal Grassland

The majority (4.38 acres) of the BSA consists of California annual grassland/ruderal grassland habitat with scattered trees. Much of this habitat is dominated by a suite of non-native grasses, including several invasive species. Very few native grassland and forb species occur in this habitat; however, a few small patches of native tall annual willowherb (*Epilobium brachycarpum*) and common fiddleneck (*Amsinckia intermedia*) were observed. The grassland habitat in the southwest portion of the BSA (within Sycamore Grove Park) is infrequently disturbed and therefore is taller and denser than the grassland habitats found in the northeast area of the BSA, which are disturbed by grazing and therefore shorter and less dense with more ruderal vegetation.



Source: H.T. Harvey & Associates, October 2022.

EXISTING HABITAT TYPES | FIGURE 4.4-1

Scattered trees occur throughout the grasslands in the BSA, including mature native coast live oaks (*Quercus agrifolia*), blue oaks (*Quercus douglassii*), California sycamores (*Platanus racemosa*), California buckeyes (*Aesculus californica*), and one mature valley oak (*Quercus lobata*). Other species of mature trees found in this habitat include non-native olive (*Olea europea*) and pine (*Pinus sp.*) trees.

Small mammals such as the California ground squirrel (*Otospermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) are common residents of annual and ruderal grasslands, and burrows of these species were observed in the BSA. Deer mice (*Peromyscus maniculatus*) and California voles (*Microtus californicus*) are likely common throughout this habitat as well. Black-tailed deer (*Odocoileus hemionus columbianus*) are common browsers in this habitat, and coyotes (*Canis latrans*) hunt prey in the grasslands of the BSA. Mammals such as raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), and the non-native Virginia opossum (*Didelphis virginiana*) are also expected to occur in this habitat type. Trees with cavities or loose bark may provide roosting habitat for small numbers of bats, including the California myotis (*Myotis californicus*) and Mexican free-tailed bat (*Tadarida brasiliensis*), but no trees capable of supporting large day roosts are present in the BSA, and no evidence of substantial day roosts or maternity colonies were observed during the reconnaissance survey.

A number of common bird species may utilize the scattered trees in this habitat for cover, nesting, and foraging, including Anna's hummingbird (*Calypte anna*), Nuttall's woodpecker (*Dryobates nuttallii*), ash-throated flycatcher (*Myiarchus cinerascens*), Hutton's vireo (*Vireo huttoni*), California scrub-jay (*Aphelocoma californica*), violet-green swallow (*Tachycineta thalassina*), chestnut-backed chickadee (*Poecile rufescens*), bushtit (*Psaltriparus minimus*), and Bewick's wren (*Thryomanes bewickii*). These trees may also provide hunting perches and nesting substrate for native raptors, such as the great horned owl (*Bubo virginianus*) and red-tailed hawk (*Buteo jamaicensis*).

Bird species that nest in nearby woodland habitats will forage within grassland areas during the nesting season as well; these include the western bluebird (*Sialia mexicana*), violet-green swallow, mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), and California scrub-jay. Raptors such as the red-tailed hawk and white-tailed kite (*Elanus leucurus*) may forage for small mammals within these grassland habitats.

Several reptile species regularly occur in grassland habitats, including the western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), Pacific rattlesnake (*Crotalus oreganus*), and common kingsnake (*Lampropeltis getula*). Burrows of Botta's pocket gophers provide refugia for these reptile species, as well as for common amphibians such as the western toad (*Anaxyrus boreas*) and Pacific treefrog (*Pseudacris regilla*).

Developed

Approximately 2.83 acres of developed habitat is present in the BSA in the form of the existing bridge, wooden pedestrian pathway, hardscaped areas along Arroyo Road, and hard pack dirt and gravel roads. Small, landscaped areas with ornamental trees are found along the edges of the ranch property driveway, east of Arroyo Road and adjacent to the Wente Vineyards Golf Course in the southeast section of the BSA. With the exception of minimal ornamental vegetation such as a

Japanese cherry tree (*Prunus serrulata*) and ornamental rose (*Rosa sp.*) bushes, these areas are unvegetated and heavily/frequently disturbed.

Although these developed areas provide little to no wildlife habitat value, some wildlife species that are typically accustomed to high levels of human disturbance may occur in this habitat. These include native bird species such as the native house finch and non-native European starling (Sturnus vulgaris) and rock pigeon (*Columba livia*). Additional bird species, such as Anna's hummingbird, American robin (*Turdus migratorius*), American crow (*Corvus brachyrhynchos*), and lesser goldfinch may utilize trees or other vegetation within developed areas for nesting. Mammals such as the non-native house mouse (*Mus musculus*) and Norway rat (*Rattus norvegicus*) and the native raccoon can also occur in developed portions of the BSA. Reptiles such as western fence lizards and gopher snakes bask on the paved surfaces in order to raise their body temperature.

Vineyard

The vineyard land cover type encompasses 0.68 acres in the northwest section of the BSA. No trees or other naturally occurring vegetation is present in this intensively cultivated vineyard area. This vineyard land cover type supports relatively few wildlife species due to the frequent disturbance associated with farming, the low stature of the vineyard trellises, and the lack of structural diversity in the vegetation. Rodent control is practiced throughout many agricultural and vineyard fields, reducing the abundance of small mammals and the suitability of these fields as foraging habitat for raptors and larger mammals that prey on smaller mammals. Nevertheless, California ground squirrel and Botta's pocket gopher burrows occur along margins of the vineyard within the BSA, and raptors such as red-tailed hawks, American kestrels (*Falco sparverius*), and white-tailed kites forage at the edges of fields. Gopher snakes and western fence lizards are among the reptiles that forage at the edges of vineyard and agricultural lands.

Golf Course

The Wente Vineyards Golf Course comprises approximately 0.60 acres of the BSA on the east side of Arroyo Road in the southeast section of the BSA. A few trees, including olive and California sycamore planted along the paved golf course pathway, fall within this habitat type in the BSA. The remainder of this land cover type within the BSA consists of manicured lawn. Wildlife use of the golf course within the BSA is limited by human disturbance (e.g., due to mowing and recreational use) and the limited extent of the vegetation present. However, trees provide nesting and foraging opportunities for urban-adapted species of birds such as the Anna's hummingbird, American robin, and mourning dove. Additional common bird species that could nest in trees and other vegetation on the golf course include the American crow, house finch, lesser goldfinch, bushtit, and dark-eyed junco (*Junco hyemalis*). Migrants and wintering birds such as the white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*), yellow-rumped warbler (*Setophaga coronata*), and cedar waxwing (*Bombycilla cedrorum*) will forage in the trees within the golf course during spring, fall, and winter.

The urban-adapted, non-native eastern gray squirrel (*Sciurus carolinensis*) may utilize the larger California sycamore trees on the golf course for nesting and foraging. Native raccoons and striped skunks and non-native Norway rats, and house mice are also common in these habitats. Western fence lizards commonly occur on golf courses and may bask on paved pathways.

Riverine (Ephemeral Stream)

Dry Creek was mapped as riverine (ephemeral stream) habitat and its channel makes up approximately 0.27 acres of the BSA. Ephemeral streams convey water during and immediately following rain events, and then dry out shortly afterwards, typically staying dry throughout the summer months. No emergent wetland vegetation was observed within the riverine habitat of Dry Creek, although there were a few scattered patches of a hydrophytic rush (*Juncus sp.*). However, the density of this species did not meet the minimum five percent cover threshold for vegetated wetlands. The majority of the riverine habitat was not shaded, with the exception of small areas near the existing bridge where large trees were present. The channel contains some woody debris (e.g., downed limbs), from adjacent trees and a few patches of ruderal grasses and forbs, primarily on the east portion of the channel.

The ephemeral nature of Dry Creek precludes the presence of fish. Similarly, aquatic wildlife species are not expected to occur regularly within the channel but may utilize this habitat for dispersal when water is present. Wildlife using adjacent habitats are expected to forage and take shelter in the vegetation along the banks of the channel. However, due to the limited extent of this habitat type within the BSA, it is not expected to support wildlife species not found in adjacent, more extensive, grassland habitats.

Riparian Grassland

Riparian habitat in the BSA (0.53 acres) comprises grassy habitats similar to the California Annual Grassland previously discussed. Riparian trees are largely absent from this habitat type, with the exception of one mature California sycamore rooted within the channel of Dry Creek. The herbaceous layer of this habitat supports similar species to those found in the adjacent grassland habitat, with which it intergrades with to the north. Riparian habitat is typically of high value to wildlife, with water and streamside vegetation supporting a diverse and abundant fauna. However, the lack of structural diversity and limited extent of riparian trees in the BSA, as well as the generally dry conditions of Dry Creek for most of the year, greatly limits its value for wildlife.

Pond

A portion of the pond on the Wente Vineyards Golf Course makes up approximately 0.03 acres of the BSA. It is located in the southeast section of the BSA and is surrounded by the manicured lawns of the golf course and bordered on its west side by two non-native Chinese weeping willows (*Salix sp*.) and a native California sycamore. The pond does not support any emergent vegetation within the section of the BSA where it occurs.

Ponds and other water features on golf courses typically support relatively few wildlife species due to heavy disturbance from golf course management activities, including the removal of emergent aquatic vegetation in ponds. Nonetheless, a few aquatic species may occur in the pond including the native Pacific treefrog and western toad, as well as non-native bullfrogs (*Lithobates catesbeianus*), red swamp crayfish (*Procambarus clarkia*), and red-eared sliders (*Trachemys scripta elegans*). No fish were observed in the pond during H.T. Harvey's site survey, but is possible that the pond may provide habitat for some non-native fish species such as western mosquitofish (*Gambusia affinis*), which in the past were introduced to golf course water features to reduce the levels of mosquito

larvae. Invertebrates likely to be present in this habitat include species in the orders Diptera (aquatic flies), Trichoptera (caddisflies), and Ephemeroptera (mayflies). A number of bird species may forage across the pond and at its edges including violet-green swallows, black phoebe (*Sayornis nigricans*), spotted sandpiper (*Actitis macularius*), as well as a number of common waterbird species such as the American coot (*Fulica americana*), Canada goose (*Branta canadensis*), and mallard (*Anas platyrhynchos*).

Special-Status Plant Species

A query of the CNPS inventory (CNPS 2022) and California Natural Diversity Database (CNDDB) database (CNDDB 2022) identified a total of 58 special-status plant species as potentially occurring in at least one of the nine USGS 7.5-minute quadrangles containing or surrounding the BSA for CRPR 1 and 2 species, or in Alameda County for CRPR 3 and 4 species. Only one special-status plant, Palmate-bracted bird's beak, is known to occur in the project region. However, it was determined to be absent from the BSA based on a lack of suitable habitat conditions, a lack of proper soil conditions, and the level of disturbance within the BSA.

Special-Status Wildlife Species

In addition to the CNDDB, USFWS and NMFS species lists and the EACCS and associated Programmatic Biological Opinion (PBO) were reviewed to identify potential wildlife species that may be present in the BSA. While a number of special-status wildlife species are known to occur in the project region, the majority are not expected to occur within the BSA because of the lack of suitable habitat or because the site is outside of the known range of the species. The full list of wildlife species considered and the rationale used to determine their absence from the BSA is included in Appendix A of this Draft Initial Study. Special-status wildlife species that have some potential to occur in habitats in or adjacent to the project site include the California red-legged frog (CRLF) (*Rana draytonii*), California tiger salamander (CTS) (*Ambystoma californiense*), San Joaquin kit fox (*Vulpes macrotis mutica*), monarch butterfly (*Danaus plexippus*), coast horned lizard (*Phrynosoma blainvillii*), southwestern pond turtle (*Actinemys pallida*), yellow warbler (*Setophaga petechia*), grasshopper sparrow (*Ammodramus savannarum*), golden eagle (*Aquila chrysaetos*), tricolored blackbird (*Agelaius tricolor*), burrowing owl (*Athene cunicularia*) American badger (*Taxidea taxus*), white-tailed kite (*Elanus leucurus*) loggerhead shrike (*Lanius ludovicianus*) Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*) and western red bat (*Lasiurus blossevillii*). However, the tricolored blackbird, yellow warbler, grasshopper sparrow, golden eagle, and Townsend's big-eared bat are expected to occur in the BSA only as occasional foragers, migrants, or transients; these species are not expected to nest in, or otherwise regularly use, the BSA, and they are not expected to be adversely affected by project activities. Thus, these species are not discussed in further detail. No designated critical habitat for any special-status species occurs in the BSA.

<u>California Red-legged Frog</u>

Potentially occupied aquatic breeding habitat for CRLF is found in Arroyo Valle, approximately 1,000 feet southwest of the BSA, as well as in the Wente Vineyards Golf Course pond. While neither of these aquatic habitats are known breeding locations, the CNDDB identifies breeding in reaches of Arroyo Valle approximately 1.3 miles southeast of the BSA. CRLF breeding is also known from a 2005 CNDDB record in a stock pond approximately 1.15 miles southeast of the BSA. These distances are beyond the typical upland dispersal distance for CRLF; however, breeding is

reasonably likely to occur in other reaches of Arroyo Valle, including reaches that pass within approximately 1,000 feet of the BSA as described above.

Aquatic non-breeding habitat is found in Dry Creek, and individuals from nearby breeding populations may occupy Dry Creek when water is present during periods of precipitation. The BSA's grasslands also provide upland habitat where individuals may forage or take shelter in the small mammal burrows clustered throughout the site, and individuals may disperse across all habitats within the BSA, as there are no substantial barriers inhibiting CRLF movement. The EACCS maps the BSA as potential upland/movement habitat for the California red-legged frog.

California Tiger Salamander

While CTS breeding is not known in the BSA, the CNDDB records indicate that breeding occurs within the species' maximum known dispersal distance (1.3 miles) in a stock pond located approximately 0.65 miles west-southwest of the BSA (CNDDB 2022). Arroyo Valle separates this breeding location from the BSA, but likely does not represent a complete barrier to dispersal onto the project site. As previously noted, while CTS breeding is not known to occur within the BSA, the Wente Vineyards Golf Course pond is potentially suitable CTS breeding habitat. The grasslands in the BSA provide upland habitats with small mammal burrows adjacent to this potential breeding habitat, and all habitats in the BSA provide dispersal habitat. The EACCS maps the BSA as potential upland habitat for the California tiger salamander.

San Joaquin Kit Fox

The grassland habitats in the BSA provide potentially suitable foraging and dispersal habitat for the San Joaquin kit fox. However, all available data indicates that the current range of the San Joaquin kit fox does not extend into the Project region (USFWS 2020). A historical CNDDB record of a kit fox den with two adults and two juveniles was recorded in 1989, approximately seven miles northeast of the BSA. The closest more recent record (2002) is approximately 12 miles to the east of the BSA. Additionally, scent dog surveys conducted in 2018 at the Lawrence Livermore National Laboratory Site (approximately 4.6 miles northeast of the project site) detected no kit fox sign across approximately 20.5 mi of transects in the project region (USFWS 2020). Given the existing high levels of human disturbance and lack of recent records in the project region, this species is not expected to occur in the BSA except, possibly, as a rare dispersant or forager. It is not expected to den or otherwise reside on the site for a substantial amount of time. EACCS habitat modeling places the BSA along the outer margin of core habitat for the San Joaquin kit fox.

Monarch Butterfly

No monarch butterflies were observed within or adjacent to the BSA during the reconnaissance surveys in February 2020. This species occurs in the project vicinity primarily as a migrant, and no current or historical overwintering sites are known in the BSA vicinity, so no large nonbreeding populations are expected to occur. Given that much of the grassland in the BSA is grazed, it is unlikely that large populations of milkweeds, which serve as larval host plants, are present. However, it is possible that a small number of milkweeds could be present, and thus, a small number of individual monarch butterflies could breed in the BSA from May through October.

Coast Horned Lizard

No coast horned lizards were observed during the February 2020 reconnaissance surveys. However, the species is known in the project vicinity from a single CNDDB record located approximately 4.4 miles southeast of the BSA (CNDDB 2022). Suitable loose, sandy soils and sparse vegetation are present in the BSA in the California annual grassland and riparian grassland habitats. While rocks and woody or other debris are largely absent from the BSA, small mammal burrows provide refugial habitat, and this species may occur in the BSA.

Southwestern Pond Turtle

No southwestern pond turtles were observed during the February 2020 reconnaissance surveys. However, the species is known in the project vicinity from several CNDDB records, one of which is in Arroyo Valle approximately 0.6 miles southeast of the BSA (CNDDB 2022). Arroyo Valle flows within approximately 1,000 feet of the BSA, and has direct connectivity to Dry Creek, within the BSA. Dry Creek is ephemeral, and lacks sufficient hydroperiod to offer suitable aquatic habitat to southwestern pond turtles during most times of year. However, the Wente Vineyards Golf Course pond, within and outside the southeastern portion of the BSA, provides suitable aquatic habitat for this species. Individuals may be present in this pond, and they may also nest in upland habitats surrounding this pond, within the BSA. Additionally, they may disperse between Arroyo Valle and the pond via upland habitats in the BSA, and through aquatic habitats of Dry Creek when water is present.

Burrowing Owl and American Badger

Both burrowing owls and American badgers occur in grassland habitats. Both species are dependent on ground squirrels and other burrowing mammals because burrowing owls use abandoned burrow of ground squirrels for shelter and nesting, and American badgers primarily feed upon burrowing mammals such as ground squirrels. Neither burrowing owls nor evidence of their presence (i.e., whitewash, pellets, or feathers) were detected in the BSA during the February 2020 reconnaissance surveys. Burrowing owls are, however, known to occur in the project vicinity from a number of CNDDB records within approximately four miles to the northeast (CNDDB 2022). Burrows of California ground squirrels and active ground squirrel colonies were observed during the reconnaissance surveys and the grassland habitats in and surrounding the BSA provide suitable foraging and breeding habitat. Thus, burrowing owls may be present anywhere in the undeveloped habitats within the BSA where ground squirrels are present. Given the proximity of all suitable habitat to Arroyo Road, the likelihood of nesting is low, but there is some potential for burrowing owls to nest and/or roost in ground squirrel burrows.

No American badgers or potential badger dens were observed in the BSA during the reconnaissance-level survey. Badgers are not known to occur on-site, but have been recorded in the surrounding vicinity (CNDDB 2022). Suitable denning and foraging habitat for badgers is present in grassland habitats, although badgers are unlikely to den on-site due to the surrounding high levels of human disturbance. Should badgers occur in the BSA, they would most likely represent dispersing or foraging individuals. Nevertheless, there is some potential (albeit low) for badgers to den in the BSA.

White-Tailed Kite and Loggerhead Shrike

No loggerhead shrikes or white-tailed kits were observed during the February 2020 reconnaissance surveys. However, the loggerhead shrike and white-tailed kit are year-round residents and breeders in the project vicinity (Cornell Lab of Ornithology 2022), and grasslands within the BSA provide suitable breeding habitat for these species and mature trees in the BSA provide suitable nesting habitat for both species. Due to the relatively large territory requirements of both species, no more than one nesting pair of either species is expected to occur within the BSA.

Pallid Bat and Western Red Bat

No pallid bats or western red bats were observed within or adjacent to the BSA during the reconnaissance surveys in February 2020. However, no focused surveys (i.e., acoustic monitoring, netting) to determine presence of this species have been performed within the BSA or surrounding area. Pallid bats occur as migrants and winter residents in the riparian habitats of the BSA, and western red bats may winter in the BSA. However, neither species breeds in the BSA. Suitable roosting habitat is present in the BSA for both species in the form of large deciduous trees. Thus, small numbers may roost in trees from approximately October through May throughout the BSA.

Trees

H.T. Harvey & Associates prepared a Tree Survey for the project (included in Appendix A). Forty-two (42) trees were surveyed within the BSA. The species, heights, and diameter at breast height (DBH) measurements are summarized below in Table 4.4-1.

Table 4.4-1: Summary of Existing Trees

Species	Number of Trees	Height Range (feet)	DBH Range (inches)	Number of Trees to be Removed
Olive (*Olea europea*)	4	10-15	8-13	1
Coast live oak (*Quercus agrifolia*)	13	15-35	9.5-61	3
California buckeye (*Aesculus californica*)	3	18-30	13-132	1
Blue oak (*Quercus douglassii*)	8	8-30	7.5-64.5	5
Cherry blossom (*Prunus serrulata*)	1	20	29	1
California sycamore (*Platanus racemose*)	9	15-40	6-58	2
Chinese weeping willow (*Salix sp.*)	2	25, 30	20, 42	0
Pine (*Pinus sp.*)	1	20	92	0
Valley oak (*Quercus lobata*)	1	45	106	0

One tree within the BSA that is proposed for removal was found to be dead and thus, was excluded from the survey. The species of the dead tree was not identified. The dead tree would also be removed during project construction in addition to the 13 trees identified in Table 4.4-1 for a total of 14 trees proposed for removal. Large trees adjacent to the existing roadway are topped to avoid conflict with the overhead utility lines.

4.4.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) 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 (CDFW) or United States Fish and Wildlife Service (USFWS)?	☐	☒	☐	☐
2) 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 CDFW or USFWS?	☐	☒	☐	☐
3) 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?	☐	☐	☒	☐
4) 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?	☐	☒	☐	☐
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

Impact BIO-1:	The project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. **(Less than Significant Impact with Mitigation Incorporated)**

As previously discussed, the only special-status species that have some potential to occur in habitats in or adjacent to the project site include CRLF, CTS, and San Joaquin kit fox. The project would not substantially impact species that are only expected to occur on-site as occasional foragers, migrants, or transients (i.e., tricolored blackbird, yellow warbler, grasshopper sparrow, golden eagle, and Townsend's big-eared bat). Thus, no avoidance or minimization measures would be required for these species only occurring on-site as occasional foragers, migrants, and transients. No special-status plant species occur on-site due to a lack of suitable habitat. The project would have temporary and permanent impacts on special-status wildlife species as described in further detail below.

CRLF and CTS

The project could result in impacts to as much as 3.11 acres of non-breeding habitat, including California annual grassland, riparian grassland, and riverine habitats that may serve as foraging, dispersal or upland refugial habitat for one or both of these species. Approximately 1.95 acres of potential California tiger salamander and California red-legged frog foraging, dispersal, and upland refugial habitat will be temporarily impacted by utilization as construction access and staging while the project is being constructed. However, these areas are expected to provide habitat of similar quality to existing conditions shortly (i.e., in less than one year) after the completion of construction. Project construction has the potential for take of adult or juvenile CRLF and CTS through the direct mortality associated with vegetation removal; construction equipment and personnel; construction activities; unintentional spills of toxic contaminants; and being crushed or exposed in their burrows during ground disturbance or vegetation removal. Mortality or impaired health could also result from disruption of daily or seasonal movements due to disturbance and habitat alteration; disruption of foraging as a result of new noise and vibrations; and increased exposure to predators. Take of CRLF and/or CTS during project construction would constitute a significant impact.

Approximately 1.16 acres of potential CRLF and CTS foraging, dispersal, and upland refugial habitat would be permanently lost due to the construction of the new bridge in areas that currently provide natural habitat that may be used by the species. In accordance with the EACCS, compensatory mitigation would be required for the permanent loss of CRLF and CTS non-breeding habitat.

Mitigation Measure: The project will be required to implement the following mitigation measures to reduce impacts to CRLF and CTS to a less than significant level:

MM BIO-1.1: At least 15 days prior to any ground disturbing activities, the applicant will submit to the Service for review and approval the qualifications of the proposed biological monitor(s). A qualified biological monitor means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the [California tiger salamander, California red-legged frog, and/or San Joaquin kit fox].

MM BIO-1.2: A United States Fish and Wildlife Service (USFWS)-approved biologist shall survey the work site immediately prior to construction activities. If California red-legged frogs (CRLF), California tiger salamanders (CTS), or larvae or eggs of either species are found, the approved biologist shall contact the USFWS to determine if moving any of these life-stages is appropriate. In making this determination the USFWS shall consider if an appropriate relocation site exists as provided in the relocation plan. If the USFWS approves moving animals, the approved biologist shall be allowed sufficient time to move CRLF and/or CTS from the work site before work activities begin. Only USFWS-approved biologists shall participate in activities associated with the capture, handling, and monitoring of CRLF and/or CTS.

MM BIO-1.3: Bare hands shall be used to capture CRLF and/or CTS. USFWS-approved biologists will not use soaps, oils, creams, lotions, repellents, or solvents of any sort on their hands within two hours before and during periods when they are capturing and relocating individuals. To avoid transferring disease or pathogens of handling of the amphibians, USFWS-approved biologists will follow the Declining Amphibian Populations Task Force's "Code of Practice."

MM BIO-1.4: Prior to construction, a construction employee education program will be conducted in reference to the CTS and CRLF. At minimum, the program will consist of a brief presentation by persons knowledgeable in endangered species biology and legislative protection (USFWS-approved biologist) to explain concerns to contractors, their employees, and agency personnel involved in the project. The program will include: a description of the species and their habitat needs; any reports of occurrences in the project area; an explanation of the status of each listed species and their protection under the Act; and a list of measures being taken to reduce effects to the species during construction and implementation. Fact sheets conveying this information and an educational brochure containing color photographs of all listed species in the work area(s) will be prepared for distribution to the above-mentioned people and anyone else who may enter the project area. A list of employees who attend the training sessions will be maintained by the applicant to be made available for review by the USFWS upon request. Contractor training will be incorporated into construction contracts and will be a component of weekly project meetings.

MM BIO-1.5: Environmental tailboard trainings will take place on an as-needed basis in the field. The environmental tailboard trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects to these species during construction activities. Agencies, Managers, Superintendents, and the crew foremen and forewomen will be responsible for ensuring that crewmembers comply with the guidelines.

MM BIO-1.6: A USFWS-approved biological monitor will remain on-site during all construction activities in or adjacent to habitat for the CTS and CRLF that could

result in take of any listed species. The USFWS-approved biological monitor(s) will be given the authority to stop any work that may result in the take of the CTS and/or CRLF. If the USFWS-approved biological monitor(s) exercises this authority, the USFWS will be notified by telephone and electronic mail within one working day. The USFWS-approved biological monitor will be the contact for any employee or contractor who might inadvertently kill or injure a CTS or CRLF or anyone who finds a dead, injured or entrapped individual. The USFWS-approved biological monitor will possess a working wireless/mobile phone whose number will be provided to the USFWS.

MM BIO-1.7: Contracts with contractors, construction management firms, and subcontractors will obligate all contractors to comply with these requirements, AMMs.

MM BIO-1.8: The following will not be allowed at or near work sites for covered activities: trash dumping, firearms, open fires (such as barbecues) not required by the activity, hunting, and pets (except for safety in remote locations).

MM BIO-1.9: Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. Off-road vehicle travel will be minimized. Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land-cover types, or during off-road travel.

MM BIO-1.10: Vehicles or equipment will not be refueled within 100 ft of a wetland, stream, or other waterway unless a bermed and lined refueling area is constructed.

MM BIO-1.11: Vehicles shall be washed only at approved areas. No washing of vehicles shall occur at job sites.

MM BIO-1.12: To discourage the introduction and establishment of invasive plant species, seed mixtures/straw used within natural vegetation will be either rice straw or weed-free straw.

MM BIO-1.13: Pipes, culverts and similar materials greater than four inches in diameter, will be stored so as to prevent covered wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved.

MM BIO-1.14: Erosion control measures will be implemented to reduce sedimentation in wetland habitat occupied by covered animal and plant species when activities are the source of potential erosion problems. Plastic mono-filament netting (erosion control matting) or similar material containing netting shall not be used at the project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

MM BIO-1.15: Stockpiling of material will occur such that direct effects to covered species are avoided. Stockpiling of material in riparian areas will occur outside of the top of

bank, and preferably outside of the outer riparian dripline and will not exceed 30 days.

MM BIO-1.16: Grading will be restricted to the minimum area necessary.

MM BIO-1.17: Prior to ground disturbing activities in sensitive habitats, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.

MM BIO-1.18: Significant earth moving-activities will not be conducted in riparian areas within 24 hours of predicted storms or after major storms (defined as one-inch of rain or more).

MM BIO-1.19: To prevent the accidental entrapment of special-status species during construction, all excavated holes or trenches deeper than six inches will be covered at the end of each workday with plywood or similar materials. Trenches will be backfilled as soon as possible. Foundation trenches or larger excavations that cannot easily be covered will be ramped at the end of the workday at intervals prescribed by a USFWS-approved biologist to allow trapped animals an escape method. Prior to the filling of such holes, these areas will be thoroughly inspected for listed species by USFWS-approved biologists. In the event of a trapped animal is observed, construction will cease until the individual has been relocated to an appropriate location.

MM BIO-1.20: The applicant will prepare a [California tiger salamander and California red-legged frog] translocation plan for the Project to be reviewed and approved by the USFWS prior to Project implementation. The plan will include trapping and translocation methods, translocation site, and post translocation monitoring. Only USFWS-approved biologists will conduct surveys and move listed species. If at any point construction activities cease for more than five consecutive days, additional preconstruction surveys will be conducted prior to the resumption of these actions.

MM BIO-1.21: All trash and debris within the work area will be placed in containers with secure lids before the end of each workday in order to reduce the likelihood of predators being attracted to the site by discarded food wrappers and other rubbish that may be left on-site. Containers will be emptied as necessary to prevent trash overflow onto the site and all rubbish will be disposed of at an appropriate off-site location.

MM BIO-1.22: All vegetation which obscures the observation of wildlife movement within the affected areas containing or immediately adjacent aquatic habitats will be completely removed by hand just prior to the initiation of grading to remove cover that might be used by listed species. The USFWS-approved biologist will survey these areas immediately prior to vegetation removal to find, capture and relocate any observed listed species, as approved by the USFWS.

MM BIO-1.23: All construction activities must cease one half hour before sunset and should not begin prior to one half hour after sunrise. There will be no nighttime construction.

MM BIO-1.24: Grading and construction will be limited to the dry season (April 15 to October 15).

MM BIO-1.25: Best Management Practices (BMPs) will be used to minimize erosion and impacts to water quality and effects to aquatic habitat. If necessary, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared.

MM BIO-1.26: The applicant will ensure a readily available copy of the biological opinion prepared for the project is maintained by the construction foreman/manager on the project site whenever earthmoving and/or construction is taking place. The name and telephone number of the construction foreman/manager will be provided to the USFWS prior to groundbreaking.

MM BIO-1.27: The construction area shall be delineated with high visibility temporary fencing at least four feet in height, flagging, or other barrier to prevent encroachment of construction personnel and equipment outside of the construction area. Such fencing shall be inspected and maintained daily until completion of the Project. The fencing will be removed only when all construction equipment is removed from the site.

MM BIO-1.28: Silt fencing or wildlife exclusion fencing will be used to prevent listed species from entering the project area. Exclusion fencing will be at least three feet high and the lower six inches of the fence will be buried in the ground to prevent animals from crawling under. The remaining 2.5 feet will be left above ground to serve as a barrier for animals moving on the ground surface. The fence will be pulled taut at each support to prevent folds or snags and supports shall be placed on the inside of the fence. Fencing shall be installed and maintained in good condition during all construction activities. Such fencing shall be inspected and maintained daily until completion of the project. The fencing will be removed only when all construction equipment is removed from the site.

MM BIO-1.29: A USFWS-approved biologist shall ensure that the spread or introduction of invasive exotic plant species shall be avoided to the maximum extent possible. When practicable, invasive exotic plants in the project areas shall be removed.

MM BIO-1.30: Project sites shall be revegetated with an appropriate assemblage of native riparian wetland and upland vegetation suitable for the area. A species list and restoration and monitoring plan shall be included with the project proposal for review and approval by the appropriate regulatory agencies. Such a plan must include, but not be limited to, location of the restoration, species to be used, restoration techniques, time of year the work will be done, identifiable success criteria for completion, and remedial actions if the success criteria are not achieved.

MM BIO-1.31: If a work site is to be temporarily dewatered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters. Water shall be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow shall be removed in a manner that would allow flow to resume with the least disturbance to the substrate.

MM BIO-1.32: A USFWS-approved biologist shall permanently remove, from within the project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible. The applicant shall have the responsibility to ensure that their activities are in compliance with the California Fish and Game Code.

MM BIO-1.33: The project will be required to pay compensatory mitigation as outlined in Tables 3-7 and 3-8 of the EACCS. The ratio of mitigation to impact varies with the location of the proposed mitigation, and would be 2.5:1 at minimum, but may be as high as 4:1 (on an acreage basis). Mitigation will take the form of purchase of mitigation credits from a conservation bank or project-specific mitigation consisting of the preservation, enhancement, and long-term management of suitable habitat occupied by these species.

With implementation of MM BIO-1.1 through MM BIO-1.33, the project impacts to CRLF and CTS would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

San Joaquin Kit Fox

As previously discussed, San Joaquin kit fox are not expected to occur within the BSA. However, due to the presence of potentially suitable grassland habitat in the BSA and in areas between the BSA and historical occurrences to the east, there is some potential for an occasional kit fox to disperse into the BSA. Take of a San Joaquin kit fox during project construction would constitute a significant impact.

The project will permanently affect approximately 1.16 acres of potentially suitable annual grassland habitat for San Joaquin kit fox. Because kit foxes may occur in the action area very infrequently (if they occur at all), the habitat to be lost is not valuable to individuals of this species, or to maintenance of the species' populations. As a result, loss of this habitat would not significantly impair essential behavioral patterns such as breeding, feeding, or sheltering, and no injury or mortality of kit foxes would result from this habitat loss. In summary, the project is not expected to result in a reduction in the number, reproductive potential, or distribution of the San Joaquin kit fox, and therefore it would have no permanent impacts on this species' populations. No compensatory mitigation would be necessary for impacts to San Joaquin kit fox.

Mitigation Measure: The project will be required to implement the following mitigation measure to reduce impacts to San Joaquin kit foxes to a less than significant level:

MM BIO-1.34: During pre-construction surveys and construction monitoring for CRLF and the CTS, a qualified biologist will also look for San Joaquin kit foxes and their dens within the project's impact areas. Construction worker trainings shall also include a presentation on the San Joaquin kit fox.

MM BIO-1.35: If potential San Joaquin kit fox dens are present, their disturbance and destruction will be avoided. If potential dens are located within the proposed work area and cannot be avoided during construction, a qualified biologist will determine if the dens are occupied or were recently occupied using methodology coordinated with the USFWS and the California Department of Fish and Wildlife (CDFW). If unoccupied, the qualified biologist will collapse these dens by hand in accordance with USFWS procedures.

MM BIO-1.36: Exclusion zones will be implemented following USFWS procedures (USFWS 1999) or the latest USFWS procedures available at the time. The radius of these zones will follow current standards or the following standards listed in the Programmatic Biological Opinion (PBO) for the East Alameda County Conservation Strategy (EACCS):

- Potential Den – A total of four to five flagged stakes will be placed 50 feet from the den entrance to identify the den location;
- Known Den – Orange construction barrier fencing will be installed between the construction work area and the known den site at a minimum distance of 100 feet from the den. The fencing will be maintained until all construction-related disturbances have been terminated. At that time, all fencing will be removed to avoid attracting subsequent attention to the den;
- Natal or Pupping Den – The USFWS will be contacted immediately if a natal or pupping den is discovered at or within 200 feet from the boundary of the construction area.

MM BIO-1.37: Pipes will be capped and trenches will contain exit ramps to avoid direct mortality while construction areas are active.

With implementation of MM BIO-1.34 through MM BIO-1.37, impacts to San Joaquin kit foxes would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

Monarch Butterfly

If monarch butterfly eggs, larvae, or pupae are present on larval host plants on the project site, construction activities could impact this species. Individual monarch butterflies and their host plants could be impacted by heavy equipment use, vehicle traffic, worker foot traffic, petrochemicals, hydraulic fluids, and solvents that are spilled or leaked from construction vehicles or equipment. However, because milkweeds are expected to be scarce in the BSA, the loss of suitable habitat or larval hostplants would not result in a substantial impact to the regional availability of such habitat, larval hostplants, or monarch butterfly populations. Similarly, if any host plants containing monarch

butterfly eggs, larvae, or pupae were to be impacted, they would represent such a small proportion of the regional population of monarchs that such impacts would not result in a substantial reduction in regional populations of monarchs. Given the limited potential impact to larval host plants in the BSA, and therefore, limited potential to the number of eggs, larvae, and pupae, the project would result in a less than significant impact on monarch butterflies. **(Less than Significant Impact)**

Coast Horned Lizard

Project construction could affect individual coast horned lizards through trampling by construction personnel or equipment, roadkill by the construction and vehicular use in and around the project footprint, the collapse of underground burrows resulting from soil compaction, the loss of dispersal habitat and refugia, and any physiological stress, increased risk of predation, or increased competition when any individuals found during pre-activity surveys are relocated to suitable habitat outside of the BSA. Approximately 1.16 acres of coast horned lizard habitat would be permanently lost due to the project construction in areas that currently provide natural habitat that may be used by coast horned lizards. An additional 1.95 acres of coast horned lizard habitat would be temporarily impacted due to utilization as staging areas during project construction. Project conditions after implementation are expected to provide habitat of similar quality to existing conditions in less than one year after completion of construction.

Mitigation Measure: The project will be required to implement the following mitigation measure to reduce impacts to coast horned lizards to a less than significant level:

MM BIO-1.38: If a coast horned lizard is detected during the course of the project, any project activities that could result in harm to the lizard will cease until the individual has moved out of the project area on its own or has been relocated by an approved biologist.

With implementation of MM BIO-1.38, temporary construction impacts to coast horned lizards would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

Southwestern Pond Turtle

Southwestern pond turtles may occasionally occur in the BSA. Project construction could impact southwestern pond turtles as a result of crushing by construction personnel or equipment, roadkill caused by construction and vehicular use in and around the project footprint, crushing of subterranean nests by heavy equipment or soil compaction, loss of suitable aquatic or upland nesting and dispersal habitat, degradation of water quality resulting from unregulated discharge of hazardous materials, contaminants, or sediment, and physiological stress, increased risk of predation, or increased competition when any individuals found during pre-activity surveys are relocated to suitable habitat outside of the BSA.

The project will not result in the permanent loss of any aquatic habitat, given that the Wente Vineyard Golf Course pond is outside of the project's area of permanent impacts. The project will result in the loss of approximately 0.89 acres of California annual grassland that may be utilized as upland dispersal and nesting habitat. The project would also temporarily impact approximately 1.75 acres of California annual grassland during construction. However, these areas of expected to provide

habitat of similar quality to existing conditions in less than one year after the completion of construction. The 0.89 acres of habitat loss would not represent a substantial impact on southwestern pond turtles and the 1.75 acres of temporary habitat impacts would be expected to provide habitat of similar quality to existing conditions in less than one year after completion of project construction. Because southwestern pond turtles may periodically occupy the terrestrial and aquatic habitats of the BSA during dispersal or nesting events, there is some potential for the project to result in the injury or mortality of the species.

Mitigation Measure: The project will be required to implement the following mitigation measure to reduce impacts to southwestern pond turtles to a less than significant level:

MM BIO-1.39: If a southwestern pond turtle is detected during the course of the project, any project activities that could result in harm to the turtle will cease until the individual has moved out of the project area on its own or has been relocated by an approved biologist.

With implementation of MM BIO-1.39, temporary construction impacts to southwestern pond turtles would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

Burrowing Owl and American Badger

The number of burrowing owls and American badgers that could potentially occur in the project area is low due to the relatively small extent of the BSA compared to the available grassland habitats surrounding it and the close proximity of human disturbance associated with the roadway and golf course. However, individuals could potentially be present in burrows within and nearby the project footprint when construction activities occur. Project construction could impact these species as a result of crushing or collision with construction vehicles or equipment, roadkill caused by construction and vehicular use in and around the vicinity of the project, collapse of underground burrows resulting from soil compaction, the loss of breeding foraging, or dispersal habitat, and the loss of eggs (for burrowing owls) or young (for either species) as a result of abandonment of occupied nests/dens due to construction-related disturbance.

The project could result in impacts to as much as 3.12 acres of habitat, including all undeveloped habitat types that will be impacted, that may serve as foraging, dispersal, or nesting/denning habitat for burrowing owls or American badgers. Approximately 1.17 acres of potential burrowing owl and American badger habitat would be permanently lost due to the construction of the new bridge, placement of fill, pavement, and other hardscape in areas that currently provide natural habitat that may be used by burrowing owls or American badgers. Approximately 1.95 acres of potential burrowing owl and American badger foraging and breeding habitat would be temporarily impacted due to utilization as construction access and staging areas during project construction. The EACCS identifies burrowing owl nesting habitat as suitable within 0.5 miles of a documented nest occurrence during the previous three years, and it recommends compensatory mitigation in the event of any impacts to such habitat.

Mitigation Measure: The project will be required to implement the following mitigation measure to reduce impacts to burrowing owls and American badgers to a less than significant level:

MM BIO-1.40: Preconstruction surveys for nesting burrowing owls and denning American badgers will be conducted by a qualified biologist per EACCS requirements. To the extent access allows, all suitable habitat within 0.5 miles of the project footprint will be surveyed for nesting burrowing owls and for American badgers. The survey shall be conducted during the owl's nesting season, defined by the EACCS as March 15 to September 1. This survey will consist of at least two site visits within 30 days prior to construction (with the second survey no more than seven days prior to construction). The biologist will examine all potential burrows within 0.5 miles, as access permits, for signs of nesting burrowing owls (i.e., owls, pellets, feathers, and/or whitewash) and for American badger dens. In the event an American badger den is identified near a proposed work area, MM BIO-1.34 to MM BIO 1.37, identified above, would be implemented consistent with EACCS MAMM-1.

MM BIO-1.41: If an active burrowing owl nest is identified near a proposed work area, work will be conducted outside of the nesting season (March 15 to September 1). If an active nest is identified near a proposed work area and work cannot be conducted outside of the nesting season, a no-activity zone will be established by a qualified biologist. The no activity zone will be large enough to avoid nest abandonment and will at minimum be 250-foot radius from the nest. If burrowing owls are present at the site during the non-breeding period, a qualified biologist will establish a no-activity zone of at least 150 feet. If an effective no-activity zone cannot be established in either case, an experienced burrowing owl biologist will develop a site-specific plan (i.e., a plan that considers the type and extent of the proposed activity, the duration and timing of the activity, and the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity with background activities) to minimize the potential to affect the reproductive success of the owls.

MM BIO-1.42: In the event burrowing owls are found to be nesting on or within 0.5 miles of the project footprint during preconstruction surveys, or if owls need to be evicted from burrows (which can only occur when they are not actively nesting), compensatory mitigation will be necessary to mitigate for impacts on occupied burrowing owl habitat. If the California red-legged frog/California tiger salamander habitat mitigation provides suitable habitat for burrowing owls as well, then no additional mitigation for impacts to burrowing owls would be necessary. Otherwise, additional habitat mitigation would be necessary, in the form of purchase of mitigation credits from a conservation bank or project specific mitigation in an area that supports such habitat. The EACCS prescribes mitigation ratios of 3:1 to 3.5:1 (mitigation:impact), depending on the location of the mitigation site.

Areas used for construction access and staging during construction would not be subject to paving and would be expected to provide habitat of similar quality to existing conditions in less than one year after the completion of construction. With implementation of MM BIO-1.40 to MM BIO-1.42,

impacts to burrowing owls and American badgers would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

White-Tailed Kites, Loggerhead Shrikes, and Other Migratory Birds and Raptors

The project would remove approximately 14 existing trees along the existing bridge to accommodate project construction. The existing trees on-site could provide nesting habitat for birds, including migratory birds and raptors. Raptors with the potential to occur within the BSA include great horned owls, red-tailed hawks, white-tailed kites, loggerhead shrike, and American kestrels. Nesting birds are among the species protected under provisions of the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, and 2800. Nesting birds protected under the MBTA may include, among others, Anna's hummingbird, ash-throated flycatcher, California scrub-jay, violet-green swallow, chestnut-backed chickadee, bushtit, Bewick's wren, and other common bird species.

Construction of the project during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes abandonment and/or loss of reproductive effort is considered a taking by the CDFW. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute an impact. Construction activities such as tree removal and site grading that disturb a nesting bird or raptor on-site or immediately adjacent to the construction zone would also constitute an impact.

Mitigation Measure: The project will be required to implement the following mitigation measures to reduce impacts to raptors and nesting birds to a less than significant level:

MM BIO-1.43: If feasible, project activities will be scheduled to avoid the avian nesting season. If such activities are scheduled to take place outside the nesting season, all impacts on nesting birds, including raptors, protected under the MBTA and California Fish and Game Code, would be avoided. The nesting season for most birds in Alameda County typically extends from February 1 through August 31, although in most years, a majority of birds have finished nesting by August 1.

MM BIO-1.44: If Project activities will not be initiated until after the start of the nesting season, potential nesting substrate (e.g., bushes, trees, grasses, and other vegetation) that is scheduled to be removed by the Project may be removed prior to the start of the nesting season (e.g., prior to February 1) to reduce the potential for initiation of nests. If it is not feasible to schedule vegetation removal during the nonbreeding season, or where vegetation cannot be removed (e.g., in areas immediately adjacent to the site), then pre-construction surveys for nesting birds will be conducted as described below. It is not recommended to remove sensitive and/or regulated wetland vegetation prior to construction, because of the potential water quality impacts such activities could enact.

MM BIO-1.45: If it is not possible to schedule project activities between September 1 and February 1, then pre-construction surveys for nesting birds will be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. These surveys will be conducted no more than one week prior to the initiation of project activities. During this survey, a qualified biologist will

inspect all potential nesting habitats (e.g., trees, shrubs, grasslands, and structures) within 300 feet of impact areas for raptor nests and burrowing owls and within 100 feet of impact areas for nests of non-raptors.

MM BIO-1.46: If an active nest (i.e., a nest with eggs or young, or any completed raptor nest attended by adults) is found sufficiently close to work areas to be disturbed by these activities, the biologist, in consultation with CDFW, will determine the extent of a disturbance-free buffer zone to be established around the nest to ensure that no nests of species protected by the MBTA and California Fish and Game Code will be disturbed during project implementation. Typical buffers are 250 feet for burrowing owls, 300 feet for other raptors, and 50-100 feet for non-raptors. Because the majority of the site is already subject to disturbance by vehicles and pedestrians, activities that will be prohibited from occurring within the buffer zone around a nest will be determined on a case-by-case basis. In general, activities prohibited within such a buffer while a nest is active will be limited to new construction-related activities (i.e., activities that were not ongoing when the nest was constructed) involving significantly greater noise, human presence, or vibrations than were present prior to nest initiation.

MM BIO-1.47: If necessary to avoid impacts to active nests (i.e., nests containing eggs or young), nest starts may be removed on a regular basis (e.g., every second or third day), starting in late January or early February to prevent active nests from becoming established.

Conformance to State and federal law protecting nesting birds through implementation of mitigation measures MM BIO-1.43 to MM BIO-1.47 would reduce potential impacts to a less than significant level. **(Less Than Significant Impact with Mitigation Incorporated)**

Pallid Bat and Western Red Bat

No pallid bats or western red bats were observed within or adjacent to the BSA during the reconnaissance surveys. Pallid bats occur as migrants and winter residents in the riparian habitats of the BSA, and western red bats may winter in the BSA, but would not breed in the BSA. Suitable roosting habitat is present in the BSA for both species in the form of large deciduous trees. Thus, small numbers may roost in trees from approximately October through May throughout the BSA. If a pallid bat or western red bat were roosting in a tree to be removed by the project, or if it were roosting very close to construction areas, the individual is expected to flush from the tree. Bats that are flushed during daylight hours would not be subject to injury or mortality from the project itself, though they could potentially be preyed upon by diurnal predators such as raptors. Nevertheless, the number of individuals that could be affected by the project is very low and the project would have no measurable effect on regional populations of these species. Therefore, project construction would result in a less than significant impact on pallid bats and western red bats. **(Less than Significant Impact)**

Impact BIO-2:	The project would not 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 CDFW or USFWS. **(Less than Significant Impact with Mitigation Incorporated)**

Riverine Habitat

The BSA contains 0.27 ac of aquatic riverine habitat that occurs within the ordinary high water mark (OHWM) of Dry Creek, comprising a total stream reach of 390 linear feet. The channel is primarily unshaded, with a sparse riparian canopy of only a few trees, and underlain by a substrate of sand, gravel, and small to medium cobble. Approximately 30 linear feet of the channel are currently shaded by the existing car and pedestrian bridges.

The project will result in direct permanent impacts to 0.11 acres and 148 linear feet of ephemeral stream habitats through construction of the new bridge, which will include placement of fill, piles, wing walls, abutments and RSP. The project will also result in direct temporary impacts to 0.07 acres and 96 linear feet of ephemeral stream habitat due to construction access, movement of equipment and personnel, and construction of cofferdams and stream bypass structures. Indirect impacts could include interruption or alteration of hydrology to waters downstream of the project, or reduction in water quality downstream of the project if water is present in the channel of Dry Creek and mitigation measures are not employed.

Potential shading effects upon vegetation growth are expected to have a negligible effect. Although the new bridge will be slightly longer and wider than the existing vehicle and pedestrian bridges, the river bottom currently consists of sands and gravel with some cobbles of varying sizes and the area is largely devoid of vegetation. Thus, no in-channel wetlands within the BSA will be lost due to shading in the area of the new bridge deck, as none currently exist.

Riparian Grassland

Riparian habitats are found along streams, rivers, creeks, and lakes. Riparian habitat can range from dense thickets of shrubs to closed canopy of large mature trees, to non-forested, grassy areas below the top-of-bank and above the OHWMs of streams. Riparian habitat quality can be quantified based upon fish and wildlife habitat values such as the presence/absence and the density of the overstory vegetation, the presence or absence of native species, and the complexity of vegetation structure (e.g., presence of tree, shrub, and herbaceous layers). There are 0.53 acres of riparian grasslands in the BSA. The riparian habitat within the BSA is of low quality due to the overall lack of overstory and sparse, non-native understory/herbaceous cover: the riparian vegetation comprises one mature California sycamore tree, a few widely scattered native shrubs, and sparse, primarily non-native grasses, many of which are invasive, such as wild oats and ripgut brome.

The project will result in 0.17 acres of permanent impacts to riparian grasslands in the BSA due to construction of the new bridge, including realignment of the roadway and placement of fill, piles, wing walls, abutments and RSP outside of the ordinary high water marks of Dry Creek but below the top of bank. An additional 0.13 acres of riparian grassland would be temporarily impacted due to staging of equipment and personnel and equipment access. No riparian trees will be removed as a result of project activities, and impacts to other woody vegetation, such as shrubs, are expected to be

very limited, as only a few small woody shrubs are present in the permanent impact areas. Impacts to herbaceous vegetation are expected to be limited as well, due to the somewhat low quality and sparse cover of herbaceous vegetation in these areas. Since no riparian trees (and only, potentially, a very small number of small shrubs) will be removed, no effects from loss of riparian shading are expected. The 0.17 acres of riparian grassland habitat that will be permanently impacted within the BSA represents only a small fraction of this habitat type present along Dry Creek. Further, since no riparian trees will be impacted, and effects on other vegetation will be limited to primarily sparse, non-native grasses and a few small shrubs, no substantial effects on the functions and values of the riparian corridor are anticipated.

Mitigation Measure: The project will be required to implement the following mitigation measures, as well as water quality BMPs described in Section 4.10 Hydrology and Water Quality, to reduce impacts to riparian habitat to a less than significant level:

MM BIO-2.1: Work within streams would be restricted to the dry season from April 15 to October 15 [or as directed by regulatory permitting agency] to protect water quality.

MM BIO-2.2: All appropriate Avoidance and Minimization Measures (AMMs) listed in the EACCS that would apply to and protect these aquatic habitats will be implemented and listed on final project plan sets with the limits of Dry Creek clearly depicted.

MM BIO-2.3: Areas to be avoided during construction shall be indicated on all final plan sets and protected at the site using orange sensitive area fencing to ensure inadvertent impacts do not occur.

MM BIO-2.4: Final grading and construction plans shall minimize construction-related impacts to Dry Creek to the maximum extent feasible to achieve project goals and improvements.

MM BIO-2.5: All temporarily impacted habitat will be restored to pre-project conditions through the re-establishment of original contours within Dry Creek.

MM BIO-2.6: No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material will be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the U.S./State or aquatic habitat.

MM BIO-2.7: No equipment will be operated in the live stream channel.

MM BIO-2.8: Equipment staging and parking areas shall occur within established access areas in upland habitat above the top of bank.

MM BIO-2.9: Machinery or vehicle refueling, washing, and maintenance shall occur at least 100 feet from the top of bank. Equipment shall be regularly maintained to prevent fluid leaks. Any leaks shall be captured in containers until the equipment is

moved to a repair location. A spill prevention and response plan shall be prepared prior to construction and shall be implemented immediately for cleanup of fluid or hazardous materials spills.

MM BIO-2.10: Standard erosion control and slope stabilization measures shall be required for work performed in any area where erosion could lead to sedimentation of a waterbody.

MM BIO-2.11: The Project shall comply with the Municipal Regional Stormwater NPDES Permit and General Construction permit to prevent increases in peak flow, erosion, or reduction in water quality for downslope waters.

MM BIO-2.12: The project will provide compensatory mitigation for permanent loss of riverine habitat. According to the EACCS, such mitigation is typically provided based on the standards (e.g., EACCS mitigation ratios) set for focal species that occur in the riverine habitat to be impacted. Because riverine habitat in the Project footprint provides dispersal and foraging habitat for California red-legged frog but is outside of designated critical habitat for the species, the mitigation ratio for the impacts would be 2.5:1, as determined by the EACCS requirements for focal species (ICF International 2010). Such mitigation may take the form of the purchase of credits in a mitigation bank and/or project-specific mitigation. Additionally, the project would comply with all mitigation requirements based on the conditions of permits from the USACE, RWQCB, and CDFW required for these impacts.

Implementation of mitigation measures MM BIO-2.1 to MM BIO-2.12 would reduce project impacts to riparian habitat to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

Impact BIO-3:	The project would not have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means. **(Less than Significant Impact)**

No emergent wetland vegetation was observed within the riverine habitat of Dry Creek, although there were a few scattered patches of a hydrophytic rush (Juncus sp.). However, the density of this species did not meet the minimum five percent cover threshold for vegetated wetlands. Wetlands were not identified elsewhere in the BSA and, therefore, the project would result in less than significant impacts to wetlands. **(Less than Significant Impact)**

Impact BIO-4:	The project would not 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. **(Less than Significant Impact with Mitigation Incorporated)**

Given that Dry Creek is generally dry for most of the year, the project site does not provide any habitat for native resident or migratory fish. As previously discussed, the project site does not provide suitable breeding habitat for CRLF, CTS, or den habitat for San Joaquin kit foxes. Therefore,

the project site is not considered a wildlife nursery site and there are no known nursery sites within the immediate vicinity.

The BSA is not located within a particularly important corridor for terrestrial wildlife movement, as the project vicinity contains extensive natural habitat suitable for use by terrestrial species and suitable for movement among areas of core habitat. Due to lack of consistent flows, Dry Creek does not provide an important movement corridor for any aquatic species. However, during rain events, it may provide a dispersal pathway for California red-legged frogs and southwestern pond turtles. Project activities are unlikely to, but may produce a temporary barrier to wildlife movement along Dry Creek due to dewatering structures via a cofferdam/culvert system. Project demolition and construction would occur during the dry season, when Dry Creek is expected to be dry, and use of the project site as a movement pathway by aquatic species would be at its lowest. If amphibians or terrestrial animals try to avoid dewatering activity within the stream bed, they may attempt to move upslope and cross the road, increasing their risk of road mortality. However, these animals will be able to continue moving along the Dry Creek drainages during construction, even if they need to move around the work areas. Once project construction is complete there would be no permanent impacts to wildlife movement in the BSA.

Mitigation measures for special status species, aquatic and riparian habitats, and water quality, as described above under Impact BIO-1 and Impact BIO-2, would be implemented to avoid and minimize impacts to wildlife movements areas. **(Less than Significant Impact with Mitigation Incorporated)**

Impact BIO-5:	The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **(Less than Significant Impact with Mitigation Incorporated)**

The project would remove approximately 14 existing trees during construction. Trees removed during project construction would be limited to those located within the Alameda County right of way. Removal of trees within the County right of way will require approval by the Director of the ACPWA or the director's designee. Any trees that would be retained would be protected throughout project construction.

Mitigation Measure: The project will be required implement the following mitigation measures to address project tree removal:

MM BIO-5.1: The project shall be required to provide replacement trees at a minimum ratio of 1:1. The final number, species, and location of the replacement plantings shall be shown in the final landscaping plan subject to approval by the ACPWA. If replacement trees cannot be accommodated on-site, the project shall provide replacement tree plantings off-site.

Implementation of mitigation measure MM BIO-5.1 would ensure the project would not conflict with the Alameda County Tree Ordinance or any other local policies or ordinances protecting biological resources. **(Less than Significant Impact with Mitigation Incorporated)**

Impact BIO-6:	The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. **(Less than Significant Impact with Mitigation Incorporated)**

The project site is within the boundaries of the EACCS. As discussed under Impact BIO-1 and Impact BIO-2, while the project would impact mapped habitat for CRLF, CTS, and San Joaquin kit fox, the project will implement mitigation measures consistent with the guidance of the EACCS. Therefore, the project will not conflict with the provisions of the EACCS or any other applicable conservation plan. **(Less than Significant Impact with Mitigation Incorporated)**

4.5 CULTURAL RESOURCES

The following discussion is based, in part, on an Archaeological Survey Report and a Historic Property Survey Report (HPSR) prepared for the project by Archaeological/Historical Consultants, both dated September 2022. These reports are on file with the ACPWA.

4.5.1 Environmental Setting

4.5.1.1 *Regulatory Framework*

Federal and State

National Historic Preservation Act

Federal protection is legislated by the National Historic Preservation Act of 1966 (NHPA) and the Archaeological Resource Protection Act of 1979. These laws maintain processes for determination of the effects on historical properties eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA and related regulations (36 Code of Federal Regulations [CFR] Part 800) constitute the primary federal regulatory framework guiding cultural resources investigations and require consideration of effects on properties that are listed or eligible for listing in the NRHP. Impacts to properties listed in the NRHP must be evaluated under CEQA.

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is administered by the State Office of Historic Preservation and encourages protection of resources of architectural, historical, archeological, and cultural significance. The CRHR identifies historic resources for state and local planning purposes and affords protections under CEQA. Under Public Resources Code Section 5024.1(c), a resource may be eligible for listing in the CRHR if it meets any of the NRHP criteria.[15]

Historical resources eligible for listing in the CRHR must meet the significance criteria described previously and retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if it maintains the potential to yield significant scientific or historical information or specific data.

The concept of integrity is essential to identifying the important physical characteristics of historical resources and, therefore, in evaluating adverse changes to them. Integrity is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance." The processes of determining integrity are similar for both the CRHR and NRHP and use the same seven variables or aspects to define integrity that are used to evaluate a resource's eligibility for listing. These seven characteristics include 1) location, 2) design, 3) setting, 4) materials, 5) workmanship, 6) feeling, and 7) association.

[15] California Office of Historic Preservation. "CEQA Guidelines Section 15064.5(a)(3) and California Office of Historic Preservation Technical Assistance Series #6." Accessed August 31, 2020. http://www.ohp.parks.ca.gov/pages/1069/files/technical%20assistance%20bulletin%206%202011%20update.pdf.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act applies to both state and private lands. The act requires that upon discovery of human remains, construction or excavation activity must cease and the county coroner be notified.

Public Resources Code Sections 5097 and 5097.98

Section 15064.5 of the CEQA Guidelines specifies procedures to be used in the event of an unexpected discovery of Native American human remains on non-federal land. These procedures are outlined in Public Resources Code Sections 5097 and 5097.98. These codes protect such remains from disturbance, vandalism, and inadvertent destruction, establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, and establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

Pursuant to Public Resources Code Section 5097.98, in the event of human remains discovery, no further disturbance is allowed until the county coroner has made the necessary findings regarding the origin and disposition of the remains. If the remains are of a Native American, the county coroner must notify the NAHC. The NAHC then notifies those persons most likely to be related to the Native American remains. The code section also stipulates the procedures that the descendants may follow for treating or disposing of the remains and associated grave goods.

4.5.1.2 *Existing Conditions*

The Area of Potential Effects (APE) for the proposed project encompasses all areas where work associated with the project would occur. Based on cultural resources studies completed by Caltrans in compliance with Section 106 of the National Historic Preservation Act, the existing bridge was constructed in 1935 and is considered "Category 5", meaning it does not meet any of the criteria for National Register or California Register eligibility. In addition, the HPSR did not identify any potentially eligible historic resources in the area, including the existing bridge. The APE has been used as a road since the 1870s. No evidence was found that buildings, structures, or other activities likely to create stratified deposits of historic-era artifacts were ever present in the project area. The project APE therefore has low sensitivity for buried historic archaeological resources.

A records search and literature review identified no known archeological sites within the project's APE or a quarter-mile radius. No cultural resources have been recorded within the APE or the search radius. A scatter of artifacts were identified approximately 2,000 feet south of the project APE, in 1993. In 2001, a study of the Olivina Winery ruins and associated historic architectural and archaeological resources was conducted. However, the remnants of the Olivina Winery are all further than a half-mile away from the project APE, west of Arroyo Road. Other cultural resources studies have been conducted outside the project APE, but within the search radius. No other resources within a half-mile radius of the project APE have been identified.

The project area consists of Holocene alluvial fan and fluvial deposits in and adjacent to Dry Creek, flanked by Holocene alluvial terrace deposits. Fluvial areas are high-energy depositional environments which do not typically contain buried cultural resources; the Dry Creek channel itself therefore has low sensitivity for archaeological resources. Dry Creek is an intermittent stream that is

dry for most of the year. The nearest perennial source of water is Arroyo del Valle, approximately 1,000 feet south of the project area. Given the distance to perennial freshwater and the existing geological conditions of the project area, the project site has moderate sensitivity for surface archaeological resources and low to moderate sensitivity for buried archaeological resources.

The Native American Heritage Commission (NAHC) completed searches of their Sacred Lands File for the project area in March 2020 and September 2022. The search did not identify cultural resources in the project area. The NAHC provided a contact list of 16 individuals associated with local Native American groups. Attempts were made to contact all 16 individuals, six were successfully contacted. The Native American representatives contacted did not identify any Native American sites within or adjacent to the project footprint, though one individual noted that a village site had been reported near a bridge in the vicinity. After further location details were given, this individual agreed with the findings and recommendations of Archaeological/Historical Consultants.

4.5.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	☐	☐	☐	☒
2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	☐	☒	☐	☐
3) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Impact CUL-1:	The project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5. **(No Impact)**

As previously discussed, there are no historic resources located within the project APE. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource. **(No Impact)**

Impact CUL-2:	The project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. **(Less than Significant Impact with Mitigation Incorporated)**

Given the distance to perennial freshwater and the existing geological conditions of the project area, the project site has moderate sensitivity for surface archaeological resources and low to moderate sensitivity for buried archaeological resources. Project-related grading during construction could result in the discovery of unknown archaeological resources. The project, therefore, includes the following standard construction measures to avoid potential impacts to unknown subsurface

archaeological or prehistoric resources. Additional measures are also included at the request of the Native American representatives contacted about this project.

Mitigation Measures: The project will be required to implement the following mitigation measures to reduce potential impacts to archaeological resources to a less than significant level:

MM CUL-2.1: Prior to the issuance of a grading permit, the project applicant shall hire a qualified Professional Archaeologist to develop a Worker's Environmental Awareness Program (WEAP) to train the construction crew on the legal requirements for the treatment of cultural resources as well as procedures to follow in the event of a cultural resources discovery. This training program shall be given to the crew before ground disturbing work commences and shall include handouts to be given to new workers.

MM CUL-2.2: If evidence of an archaeological site or other suspected cultural resource as defined by CEQA Guideline Section 15064.5, including darkened soil representing past human activity ("midden"), that could conceal material remains (e.g., worked stone, worked bone, fired clay vessels, faunal bone, hearths, storage pits, or burials) is discovered during construction related earth-moving activities, all ground-disturbing activity within 100 feet of the resources shall be halted and the County shall be notified. The County and Alameda County Coroner shall consult with a qualified archaeologist and Native American representative from a culturally affiliated Tribe to assess the significance of the find. Impacts to any significant resources shall be mitigated to a less-than-significant level through data recovery or other methods determined adequate by the qualified archaeologist and Native American representative and that are consistent with the Secretary of the Interior's Standards for Archaeological documentation. Any identified cultural resources shall be recorded on the appropriate DPR 523 (A-J) form and filed with the NWIC.

MM CUL-2.3: If archaeological resources are identified, a final report summarizing the discovery of cultural materials shall be submitted to the County prior to project closeout. This report shall contain a description of the mitigation program that was implemented and its results, including a description of the monitoring and testing program, a list of the resources found and conclusion, and a description of the disposition/curation of the resources consistent with Secretary of the Interior's Standards for Archaeological documentation.

With implementation of MM CUL-2.1 through MM CUL-2.3, any impacts to undiscovered archaeological resources would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

Impact CUL-3:	The project would not disturb any human remains, including those interred outside of dedicated cemeteries. **(Less than Significant Impact with Mitigation Incorporated)**

As described above, the site has no known archaeological resources, including human remains. In the unlikely event human remains are unearthed during project construction, damage to or destruction of significant archaeological remains would be a potentially significant impact.

Mitigation Measures: The project will be required to implement the following mitigation measure to reduce potential impacts to buried human remains to a less than significant level:

MM CUL-3.1: If human remains are discovered during project construction, all ground-disturbing activity within 100 feet of the resources shall be halted and the County and the Alameda County Coroner shall be notified immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined by the County Coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. A qualified archaeologist and Native American representative shall conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist and Native American representative may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The County of Alameda shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of State law, as set forth in CEQA Guidelines section 15064.5(e) and Public Resources Code section 5097.98. The project sponsor shall implement approved mitigation, to be verified by the County of Alameda, before the resumption of ground-disturbing activities within 100 feet of where the remains were discovered.

With implementation of MM CUL-3.1, any potential impacts to human remains would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

4.6 ENERGY

4.6.1 Environmental Setting

The existing bridge does not result in any operational energy use. The consumption of energy related to use of the bridge is primarily associated with vehicle trips that are a function of other land uses in the vicinity of the bridge and larger region.

4.6.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☒	☐	☐
2) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Impact EN-1:	The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. **(Less than Significant Impact with Mitigation Incorporated)**

Energy Efficiency During Construction

The anticipated construction schedule assumes that the project will be built over a period of approximately 18 months. The construction phase would require energy for the manufacture and transportation of materials, site preparation, grading and excavation, trenching, paving, bridge construction and demolition of the existing bridge. Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy during construction. Energy would not be wasted or used inefficiently by construction equipment, as the proposed project would include several measures to improve efficiency of the construction (e.g., limiting idling time and using properly maintained equipment) per the BAAQMD standard construction mitigation measures identified in Section 4.3 Air Quality. **(Less than Significant Impact with Mitigation Incorporated)**

Energy Use During Project Operation

The project would not include any new sources of permanent energy use. The project would replace the existing bridge and would not include any land uses changes that would cause an increase in vehicles using Arroyo Road. The project includes construction of a Class I bicycle path that may increase access to recreational facilities in the area through non-auto modes. The project would not include any energy-consuming facilities or change operational energy usage from existing conditions. **(Less than Significant Impact)**

Impact EN-2:	The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **(Less than Significant Impact)**

As described under Impact EN-1, the project would not result in any permanent increase in energy use. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **(Less than Significant Impact)**

4.7 GEOLOGY AND SOILS

The following discussion is based, in part, on a Preliminary Foundation Report prepared for the project by WRECO. A copy of this report is included in Appendix C of this Draft Initial Study.

4.7.1 Environmental Setting

4.7.1.1 *Existing Conditions*

Subsurface Conditions

Two exploratory borings taken at the project site revealed that subsurface conditions at the site generally consist of a variable thickness of fill and alluvium over decomposed rock with less weathered rock at depth. The soils at the site can be generally categorized into three units. The upper-most unit consists of a thin layer of gravelly silt with sand, which can be attributed to alluvial fill and top soil. Along the roadway, approximately six inches of asphalt concrete exists above cement concrete. The thickness of the cement concrete has not been determined as WRECO's drill rig was unable to penetrate this layer. The middle soil unit consists of decomposed rock that grades to intensely weathered rock. The decomposed rock is soil-like and consists of dense to very dense clayey sand with gravel and medium stiff silty clay with gravel. The weathered rock consists of very hard clay to soft claystone. The bottom-most unit consists of very hard clay and intensely weathered claystone.

Groundwater was not observed in the borings taken on-site or in the existing channel during the field investigation. WRECO conservatively concluded the design water elevation on-site to be at a depth of approximately 20 feet below ground surface. Groundwater levels can be expected to vary with the level of precipitation, irrigation and other factors.

Geologic Hazards

The project site is not located in an Alquist-Priolo Earthquake Fault Zone.[16] The project site is approximately 2.3 miles southwest from the Las Positas Fault and five miles northeast from the Verona Fault. According to WRECO, small movements (0.25 inches) could be expected at the project site in the event of an earthquake.

The parcels surrounding the project site are mapped as being partially or wholly within liquefaction and landslide zones. The roadway itself is mapped as an area not evaluated for liquefaction or landslides.[17] Liquefaction and settlement are known to occur at any depth in loose sands. Dense to very dense sands with gravely silt were encountered within approximately five feet of depth in both borings taken on-site and groundwater, a risk factor in liquefaction, was generally absent in the upper 20 feet of the site during the field investigation. Hard clay (decomposed claystone) was encountered below 30 feet in depth in both borings. WRECO concluded that these site conditions observed do not present risk for liquefaction or settlement.

Existing landslides are mapped to the southeast and the channel bank north and downstream of the existing bridge has been over steepened and is near vertical in some areas. WRECO concluded that

[16] California Department of Conservation. Earthquake Zones of Required Investigation Map. Accessed November 23, 2022. https://maps.conservation.ca.gov/cgs/EQZApp/app/
[17] Ibid.

the risk of seismic-induced slope failures is considered high for the channel slope downstream of the existing bridge. Other portions of the project site have more level terrain and the potential for seismically-induced slope failures east and south of the bridge is considered low.

4.7.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
– 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)?	☐	☐	☒	☐
– Strong seismic ground shaking?	☐	☐	☒	☐
– Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
– Landslides?	☐	☐	☒	☐
2) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
3) 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?	☐	☐	☒	☐
4) Be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
5) 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?	☐	☐	☐	☒
6) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	☐	☒	☐	☐

Impact GEO-1:	The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides. **(Less than Significant Impact)**

As previously noted, the project site is not located within an Alquist-Priolo Fault Zone and thus, is not subject to fault rupture. The project would experience strong seismic shaking and small movements in the event of an earthquake given its location near existing fault lines within the seismically active Bay Area region. Portions of the project site may also be within mapped liquefaction and landslide zones. However, the project is replacing the structurally deficient bridge over Dry Creek with a new bridge that will meet current applicable County, AASHTO, and Caltrans design criteria and standards. The project design will also incorporate the recommendations of the Preliminary Foundations Report prepared for the project (see Appendix C). Thus, the project will improve the safety of this segment of Arroyo Road and will reduce the risks associated with geologic hazards compared to existing conditions. **(Less than Significant Impact)**

Impact GEO-2:	The project would not result in substantial soil erosion or the loss of topsoil. **(Less than Significant Impact with Mitigation Incorporated)**

Project construction activities would include grading that could result in the loss of topsoil. As discussed in Section 4.10 Hydrology and Water Quality, the project shall be required to implement construction sediment and erosion control measures as specified by MM HYD-1.1 and MM HYD-1.2. Through the implementation of these mitigation measures, the proposed project would avoid soil erosion and would not cause a significant loss of topsoil. **(Less than Significant Impact with Mitigation Incorporated)**

Impact GEO-3:	The project would not 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. **(Less than Significant Impact)**

The project site is within a mapped liquefaction zone and near mapped landslide zones. As previously described, the soils on-site are generally hard and dense in nature, they are not loose or unstable. As determined by WRECO, the project site is not susceptible to liquefaction but portions of the site downstream of the existing bridge are subject to slope failure. However, the project is replacing the structurally deficient bridge over Dry Creek with a new bridge that will meet current applicable County, AASHTO, and Caltrans design criteria and standards. The project design will also incorporate the recommendations of the Preliminary Foundations Report prepared for the project (see Appendix C). Thus, the project will improve the safety of this segment of Arroyo Road and will reduce the risks associated with geologic hazards compared to existing conditions. **(Less than Significant Impact)**

Impact GEO-4:	The project would not be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property. **(Less than Significant Impact)**

The project site is underlain by surficial sediments consisting of alluvial gravel, sand, and clay. Clay soils are generally considered to be expansive. The project is replacing the structurally deficient bridge over Dry Creek with a new bridge that will meet current applicable County, AASHTO, and Caltrans design criteria and standards. The project design will also incorporate the recommendations of the Preliminary Foundations Report prepared for the project (see Appendix C). Thus, the project will improve the safety of this segment of Arroyo Road and will reduce the risks associated with expansive soil as compared to existing conditions. **(Less than Significant Impact)**

Impact GEO-5:	The project would not 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. **(No Impact)**

The project would not include any septic systems. **(No Impact)**

Impact GEO-6:	The project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature. **(Less than Significant Impact with Mitigation Incorporated)**

The project site is not known to contain any subsurface paleontological resources or geological features. Although unlikely, grading of the project site could result in the disturbance of previously undiscovered paleontological resources. The following mitigation measure would ensure that the proper precautions are taken in the event of an inadvertent paleontological discovery.

Mitigation Measure: The project will be required to implement the following mitigation measure to reduce potential impacts to paleontological resources to a less than significant level:

MM GEO-6.1: Should a unique paleontological resource or site or unique geological feature be identified at the project site during any phase of construction, all ground disturbing activities within 25 feet shall cease and the County shall be notified immediately. A qualified paleontologist shall evaluate the find and prescribe mitigation measures to reduce impacts to a less than significant level. Work may proceed on other parts of the project site while mitigation for paleontological resources or geologic features is implemented. Upon completion of the paleontological assessment, a report shall be submitted to the County and, if paleontological materials are recovered, a paleontological repository, such as the University of California Museum of Paleontology.

With implementation of MM GEO-6.1, impacts to undiscovered paleontological resources would be reduced to a less than significant level. **(Less than Significant with Mitigation Incorporated)**

4.8 GREENHOUSE GAS EMISSIONS

4.8.1 Existing Setting

The existing bridge does not result in any operational greenhouse gas (GHG) emissions. GHG emissions related to use of the bridge is primarily associated with vehicle trips that are a function of other land uses in the vicinity of the bridge and larger region.

4.8.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?	☐	☐	☒	☐

Impact GHG-1: The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. **(Less than Significant Impact)**

Construction Emissions

Sources of GHG emissions during project construction would include on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the County nor BAAQMD have an adopted threshold of significance for construction related GHG emissions. BAAQMD encourages the incorporation of best management practices (BMPs) to reduce GHG emissions during construction where feasible and applicable. As previously described in Section 4.3 Air Quality, the project would be required to implement construction BMPs that would reduce GHG emissions.

Operational Emissions

The project would not include any new sources of operational GHG emissions. The project would not result in any land use changes that would alter the number of vehicle trips along Arroyo Road. Therefore, the project would not result in any net new operational GHG emissions. **(No Impact)**

Impact GHG-2: The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. **(Less than Significant Impact)**

As discussed under Impact GHG-1, the project would not result in any net new operational GHG emissions and would comply with BAAQMD's recommendation to implement construction BMPs.

Therefore, the project would not conflict with any plan, policy, or regulation adopted for the purpose of reducing GHG emissions. **(Less than Significant Impact)**

4.9 HAZARDS AND HAZARDOUS MATERIALS

4.9.1 Environmental Setting

4.9.1.1 *Regulatory Framework*

Overview

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). In turn, local agencies have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program.

Worker health and safety and public safety are key issues when dealing with hazardous materials. Proper handling and disposal of hazardous material is vital if it is disturbed during project construction. Cal/OSHA enforces state worker health and safety regulations related to construction activities. Regulations include exposure limits, requirements for protective clothing, and training requirements to prevent exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigations and abatement.

Federal and State

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), enacted in 1976, is the principal federal law in the United States governing the disposal of solid waste and hazardous waste. RCRA gives the EPA the authority to control hazardous waste from the "cradle to the grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid wastes.

The Federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focused on waste minimization, phasing out land disposal of hazardous waste, and corrective action for releases. Some of the other mandates of this law include increased enforcement authority for the EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.[18]

Government Code Section 65962.5

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by state and local agencies and developers to comply with CEQA requirements. The Cortese List includes hazardous substance release sites identified by the Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB).[19]

[18] United States Environmental Protection Agency. "Summary of the Resource Conservation and Recovery Act." Accessed November 28, 2022. https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act.
[19] California Environmental Protection Agency. "Cortese List Data Resources." Accessed November 28, 2022. https://calepa.ca.gov/sitecleanup/corteselist/.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. The TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

California Accidental Release Prevention Program

The California Accidental Release Prevention (CalARP) Program aims to prevent accidental releases of regulated hazardous materials that represent a potential hazard beyond the boundaries of a property. Facilities that are required to participate in the CalARP Program use or store specified quantities of toxic and flammable substances (hazardous materials) that can have off-site consequences if accidentally released. The Alameda County Department of Environmental Health reviews CalARP risk management plans as the CUPA.

Asbestos-Containing Materials

Friable asbestos is any asbestos-containing material (ACM) that, when dry, can easily be crumbled or pulverized to a powder by hand, allowing the asbestos particles to become airborne. Common examples of products that have been found to contain friable asbestos include acoustical ceilings, plaster, wallboard, and thermal insulation for water heaters and pipes. Common examples of non-friable ACMs are asphalt roofing shingles, vinyl floor tiles, and transite siding made with cement. The EPA began phasing out use of friable asbestos products in 1973 and issued a ban in 1978 on manufacture, import, processing, and distribution of some asbestos-containing products and new uses of asbestos products.[20] The EPA is currently considering a proposed ban on on-going use of asbestos.[21] National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines require that potentially friable ACMs be removed prior to building demolition or remodeling that may disturb the ACMs.

CCR Title 8, Section 1532.1

The United States Consumer Product Safety Commission banned the use of lead-based paint in 1978. Removal of older structures with lead-based paint is subject to requirements outlined by the Cal/OSHA Lead in Construction Standard, CCR Title 8, Section 1532.1 during demolition activities. Requirements include employee training, employee air monitoring, and dust control. If lead-based paint is peeling, flaking, or blistered, it is required to be removed prior to demolition.

[20] United States Environmental Protection Agency. "EPA Actions to Protect the Public from Exposure to Asbestos." Accessed November 28, 2022. https://www.epa.gov/asbestos/epa-actions-protect-public-exposure-asbestos
[21] Ibid.

4.9.1.2 *Existing Conditions*

The project site is not located within or near a Cortese List site.[22] The existing bridge over Dry Creek was constructed in 1935. Due to its age, there is a potential for the presence of asbestos containing materials (ACM) and lead based paint (LBP) in the existing bridge materials. Small quantities of lead in the existing traffic striping would be considered a California hazardous waste. Additionally, soils along the road shoulder and below the bridge may be contaminated with aerial deposited lead (ADL) from the exhaust of cars burning leaded gasoline. Soils on the shoulder of Arroyo Road and below the bridge may have also been impacted with hazardous levels of pesticides and herbicides from surrounding agricultural operations.

4.9.2 **Impact Discussion**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
2) 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?	☐	☒	☐	☐
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
4) 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?	☐	☐	☐	☒
5) 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, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
6) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
7) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

[22] California Environmental Protection Agency. "Cortese List Data Resources." Accessed November 28, 2022. https://calepa.ca.gov/sitecleanup/corteselist/.

Impact HAZ-1:	The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. **(Less than Significant Impact)**

The proposed bridge replacement project would not involve the use, storage, or disposal of hazardous materials following construction. Therefore, no long-term impacts involving the release of hazardous materials into the environment would occur as a result of project implementation.

Project construction would require the temporary use of heavy equipment. Construction would also require the use of hazardous materials including petroleum products, lubricants, cleaners, paints, and solvents. These materials would be used in accordance with all federal, state, and local laws and regulations. Thus, hazardous materials used during construction would not pose a hazard to workers or persons in the vicinity. **(Less than Significant Impact)**

Impact HAZ-2:	The project would not 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. **(Less than Significant Impact with Mitigation Incorporated)**

As described above, pesticides, herbicides, and aerially-deposited lead may be present in the soils at the project site. Lead-based paint and asbestos-containing materials may also be present, as well as lead in the striping on Arroyo Road. Exposure to these hazardous substances at levels exceeding regulatory levels by construction workers could lead to adverse health effects.

Mitigation Measure: The project will be required to implement the following mitigation measure to reduce impacts to construction workers to a less than significant level:

MM HAZ-2.1: Prior to demolition or any construction related activities, surface soils located within the project area shall be tested and analyzed for hazardous levels of pesticides, herbicides, lead, and arsenic by a qualified hazardous materials consultant. A report describing the sampling locations, analytical methods, results, and recommendations, shall be submitted to the Alameda County Public Works Agency prior to commencing demolition or construction related activities. Any contaminated soil identified shall be abated and disposed of by certified contractors in accordance with state and federal regulations.

MM HAZ-2.2: Per Caltrans' requirements, the contractor(s) shall prepare a project-specific Health and Safety Plan (HSP) to prevent or minimize worker exposure to soil. The HSP shall include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures required for handling of contaminated soil.

MM HAZ-2.3: All contaminated soil identified on the project site shall be abated and disposed of by certified contractors in accordance with state and federal regulations. This includes lead-containing soils and sampled soils that may be restricted based on herbicide, pesticide, and/or arsenic content.

MM HAZ-2.4: All demolition activities and construction activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8 of CCR, *Section 1529*, to protect workers from exposure to asbestos.

MM HAZ-2.5: A registered asbestos abatement contractor shall be retained to remove and dispose of asbestos-containing materials (ACMs) identified in the asbestos survey performed for the site in accordance with the standards stated above.

MM HAZ-2.6: All demolition and construction related activities shall be undertaken in accordance with Cal/OSHA standards and Title 8 of CCR, *Section 1532.1*, to protect workers from exposure to lead-containing paint. Written notification to the nearest Cal/OSHA district office is required at least 24 hours prior to certain lead-related work.

MM HAZ-2.7: Yellow traffic striping and paints classified as California hazardous wastes will be removed and disposed of prior to renovation, demolition, or other activities that would disturb the paint. The contractor shall be required to use personnel who have lead-related construction certification as supervisors or workers, as appropriate, from the California Department of Public Health for lead-containing paint removal work. Yellow striping and loose and peeling/flaking paints with hazardous lead levels require removal prior to demolition for waste segregation purposes: to separate potentially hazardous waste (Category III concentrated lead such as loose paint, paint sludge, vacuum debris, and vacuum filters) from non-hazardous demolition debris. Category I waste is low lead waste (typically non-hazardous) such as construction materials, filtered wash water, and plastic sheeting.

Contractors will be responsible for informing the landfill of the contractor's intent to dispose of RCRA waste, California hazardous waste, and/or materials containing intact lead-based paint. Some landfills may require additional waste characterization. Contractors are responsible for segregating and characterizing waste streams prior to disposal.

MM HAZ-2.8: Written notification to the Bay Area Air Quality Management District (BAAQMD) shall be provided ten working days prior to commencement of any demolition activity.

MM HAZ-2.9: The Alameda County Agriculture Department shall be contacted prior to commencement of construction activities to identify properties that have recently applied pesticides. Areas where pesticides have been applied with restrictions of re-entry shall be identified and all restrictions shall be complied with.

With implementation of the mitigation measures listed above, project construction would not create a significant hazard to the public or the environment involving the release of hazardous materials into the environment. **(Less than Significant Impact with Mitigation Incorporated)**

Impact HAZ-3:	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. **(No Impact)**

There are no schools within a quarter-mile of the project site. The nearest school to the project site, Sunset Elementary School, is located approximately 1.75 miles northwest of the project site. Therefore, the project would not emit hazardous emissions or handle hazardous or materials within one quarter mile of a school. **(No Impact)**

Impact HAZ-4:	The project would not 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, create a significant hazard to the public or the environment. **(No Impact)**

The project site is not located within or near a Cortese List site.[23] **(No Impact)**

Impact HAZ-5:	The project would not be 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. The project would not result in a safety hazard or excessive noise for people residing or working in the project area. **(No Impact)**

Livermore Municipal Airport, the nearest airport to the project site, is located approximately 4.5 miles northeast of the project site. The project site is located outside of the airport influence area (AIA) of the Livermore Municipal Airport.[24] Additionally, the proposed bridge replacement would not introduce any new residents or workers to the project area. Therefore, the project would not result in any noise or safety hazards associated with airports. **(No Impact)**

Impact HAZ-6:	The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. **(Less than Significant Impact)**

The proposed bridge replacement would maintain vehicle access across Dry Creek along Arroyo Road throughout project construction and would result in improved safety features. Therefore, the project would not impair implementation of an adopted emergency response plan or emergency evacuation plan. **(Less than Significant Impact)**

[23] California Environmental Protection Agency. "Cortese List Data Resources." Accessed November 28, 2022. https://calepa.ca.gov/sitecleanup/corteselist/.
[24] Alameda County Community Development Agency. *Livermore Executive Airport – Airport Land Use Compatibility Plan.* August 2012.

Impact HAZ-7:	The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. **(No Impact)**

The project site is within an area mapped as a moderate to high fire hazard severity zone.[25] However, the proposed bridge replacement would not exacerbate any existing conditions related to wildfire risk and would not introduce any new residents or structures to the project area. The project would maintain vehicle access across Dry Creek along Arroyo Road throughout construction and would result in improved safety features. Therefore, the project would not expose people or structures to a significant risk involving wildland fires. **(No Impact)**

[25] CAL FIRE. Alameda County Fire Hazard Severity Zones Map. Adopted November 7, 2007. https://osfm.fire.ca.gov/media/7271/fhszs_map1.pdf

4.10 HYDROLOGY AND WATER QUALITY

The following discussion is based, in part, on a Hydrologic and Hydraulic Assessment prepared for the project by WRECO dated April 2021. A copy of this report is included in Appendix D.

4.10.1 Environmental Setting

4.10.1.1 *Regulatory Framework*

Federal and State

The federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality in California. Regulations set forth by the Environmental Protection Agency (EPA) and the State Water Resources Control Board (SWRCB) have been developed to fulfill the requirements of this legislation. EPA regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into the waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by the Regional Water Quality Control Boards (RWQCBs). The project site is within the jurisdiction of the San Francisco Bay RWQCB.

Under Section 303(d) of the federal Clean Water Act, the SWRCB and RWQCBs are required to identify impaired surface water bodies that do not meet water quality standards and develop total maximum daily loads (TMDLs) for contaminants of concern. The list of the state's identified impaired surface water bodies, known as the "303(d) list" can be found on the on the SWRCB's website.[26]

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) established the National Flood Insurance Program (NFIP) to reduce impacts of flooding on private and public properties. The program provides subsidized flood insurance to communities that comply with FEMA regulations protecting development in floodplains. As part of the program, FEMA publishes Flood Insurance Rate Maps (FIRMs) that identify Special Flood Hazard Areas (SFHAs). An SFHA is an area that would be inundated by the one-percent annual chance flood, which is also referred to as the base flood or 100-year flood.

Statewide Construction General Permit

The SWRCB has implemented an NPDES General Construction Permit for the State of California (Construction General Permit). For projects disturbing one acre or more of soil, a Notice of Intent (NOI) must be filed with the RWQCB by the project sponsor, and a Storm Water Pollution Prevention Plan (SWPPP) must be prepared by a qualified professional prior to commencement of construction and filed with the RWQCB by the project sponsor. The Construction General Permit includes requirements for training, inspections, record keeping, and, for projects of certain risk

[26] California State Water Resources Control Board. "2020-2022 California Integrated Report (Clean Water Act Section 303(d) List and 305(b) Report)." May 11, 2022. Accessed November 28, 2022. https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html.

levels, monitoring. The general purpose of the requirements is to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges.

4.10.1.2 *Existing Conditions*

The existing Arroyo Road bridge crosses Dry Creek, which is located in the Arroyo del Valle Watershed which drains northeast until it joins Arroyo de la Laguna in Pleasanton.[27] The project area largely consists of undeveloped or agricultural land, with the exception of Arroyo Road. Stormwater in the project area runs off the roadway and is absorbed by the pervious surfaces adjacent to Arroyo Road.

Flooding

The project site is located within Zone X, an area of minimal flood hazard.[28] WRECO used modeling to determine the 24-hour frequency storm depth, a duration commonly used for design calculations, for the Dry Creek watershed to be 4.68 inches for the 100-year storm event and 4.11 inches for the 50-year storm event.

The project site is not located within a tsunami hazard zone.[29]

Groundwater

Groundwater was not observed in the borings taken on-site or in the existing channel during the field investigation conducted by WRECO (see Section 4.7 Geology and Soils). WRECO conservatively concluded the design water elevation on-site to be at a depth of approximately 20 feet below ground surface. Groundwater levels can be expected to vary with the level of precipitation, irrigation and other factors.

4.10.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐

[27] Alameda County Flood Control and Water Conservation District. "Upper Alameda Creek Watershed – Southern Section." Accessed November 28, 2022. https://acfloodcontrol.org/the-work-we-do/resources/upper-alameda-creek-watershed-south/

[28] FEMA. Flood Rate Insurance Map No. 06001C0344G. Effective on August 3, 2009.

[29] California Department of Conservation. "Tsunami Hazard Area Map." Accessed November 28, 2022. https://maps.conservation.ca.gov/cgs/informationwarehouse/ts_evacuation/?extent=-13660824.1095%2C4512285.6761%2C-13543416.8341%2C4564415.7294%2C102100&utm_source=cgs+active&utm_content=alameda

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
2) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
3) 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:	☐	☐	☒	☐
– result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
– substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
– 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	☐	☐	☒	☐
– impede or redirect flood flows?	☐	☐	☒	☐
4) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
5) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Impact HYD-1:	The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. **(Less than Significant Impact with Mitigation Incorporated)**

The project will be designed to avoid permanent impacts on Dry Creek to the maximum extent feasible. Temporary impacts on Dry Creek will also be avoided to the maximum extent feasible, and the original contours in the channel of Dry Creek re-established after project completion in areas of temporary impacts. Affected areas will be limited to the minimum extent necessary to perform the proposed work, and all work within the banks of the active channel will be restricted to the dry season (April 15 – October 15). Nevertheless, construction activities on the banks of the creek or other areas of the project site could affect water quality in the creek.

Mitigation Measures: To reduce these potential impacts to water quality to a less-than-significant level, the following mitigation measures are included in the project.

MM HYD-1.1: The project applicant will implement the following Best Management Practices (BMPs) as described under in the Caltrans Construction Manual and as contained within Caltrans Construction Site BMPs. Implementation of the measures described below will reduce potential effects from degradation of water quality.

- No equipment will be operated in the live stream channel;
- Standard erosion control and slope stabilization measures will be required for work performed in any area where erosion could lead to sedimentation of a waterbody;
- Silt fencing will be installed between any activities conducted within, or just above the edge of, the top-of-bank and the edge of the creek to prevent dirt or other materials from entering the channel;
- No debris, soil, silt, sand, bark, slash, sawdust, cement, concrete, washings, petroleum products or other organic or earthen material will be allowed to enter into or be placed where it may be washed by rainfall or runoff into waters of the U.S./State or aquatic habitat;
- Machinery will be refueled at least 60 feet from any aquatic habitat, and a spill prevention and response plan will be implemented;
- Water from dewatering of the work areas will not be pumped or allowed to flow into the creek until the water is clear. The method will be the responsibility of the contractor but will be a standard practice such as using sediment basins outside of the channel or portable settling bins, and must successfully filter the water until clear; and
- Post-construction BMPs will be implemented as necessary to prevent a long-term increase in runoff and road-based contamination, as well as to prevent hydrological modification of Dry Creek following project construction, as required by the General Construction Permit. These may include the use of bioswales and/or velocity reducing structures to treat and slow runoff from increased hardscape as needed, and measures to ensure runoff and road debris from the bridge is not allowed to enter directly into the creek. Volume that cannot be addressed using nonstructural practices shall be captured in structural practices and approved by the San Francisco Bay RWQCB. All post-construction BMPs shall be implemented and functioning prior to completion of the project.

MM HYD-1.2: A Stormwater Pollution Prevention Program (SWPPP) shall be prepared in conformance with RWQCB requirements. The SWPPP shall include post-construction water quality BMP's, as appropriate. BMPs shall be designed in accordance with the engineering criteria in the Caltrans Storm Water Quality Handbook-Project Planning and Design Guide or other accepted guidance. BMP designs shall be reviewed and approved by the Alameda County Public Works Agency prior to issuance of grading permits.

With implementation of the mitigation measures described above, the project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. **(Less than Significant Impact with Mitigation Incorporated)**

Impact HYD-2:	The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. **(Less than Significant Impact)**

WRECO concluded that during the dry season, groundwater seepage during project construction is expected to be generally minor and limited to nuisance water within the upper 20 feet below existing grade (see Appendix C). Groundwater may exist below 20 feet in depth or in possible isolated zones above the weathered rock. Seepage within underlying weather rock is expected to be minor, but could be locally heavy where fractured. Project excavation during construction could also encounter heavy seepage in granular soil below groundwater. Therefore, dewatering would likely be required during project construction. All dewatering activities would be conducted in compliance with the Construction General Permit. Groundwater removed from the project site would be relatively minor and would not substantially decrease groundwater supplies. Project implementation would not interfere with future groundwater recharge or sustainable groundwater management. **(Less than Significant Impact)**

Impact HYD-3:	The project would not 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 result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; 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 impede or redirect flood flows. **(Less than Significant Impact)**

The proposed bridge will be longer and wider than the existing bridge, resulting in a larger opening than the existing bridge. Thus, the project will slightly alter the course of Dry Creek in the project vicinity. WRECO conducted hydraulic modeling for the project and determined that the proposed bridge would result in a localized decrease in water elevations upstream of the bridge (up to maximum of two feet) and increase in water elevations downstream of the bridge (up to a maximum of one foot) in 100-year and 50-year storm events. The increased flow downstream of the bridge during 100-year and 50-year storm events would be contained within the existing channel and therefore, would not result in a substantial change in the local hydrology. The proposed bridge replacement would not substantially increase impervious surfaces on-site so as to result in substantial erosion, substantially increase runoff, or result in flooding. **(Less than Significant Impact)**

Impact HYD-4:	The project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. **(No Impact)**

The project site is within an area of minimal flood hazard and is not subject to tsunami or seiche. WRECO modeled the proposed bridge in 100-year and 50-year design storms and confirmed that the

proposed bridge will have capacity to convey both the 100-year and 50-year design storms. **(No Impact)**

Impact HYD-5:	The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. **(No Impact)**

The proposed project is limited to the replacement of the existing bridge over Dry Creek along Arroyo Road. The project would have no effect on groundwater resources or groundwater usage and would not conflict with any water quality control plans. **(No Impact)**

4.11 LAND USE AND PLANNING

4.11.1 Environmental Setting

4.11.1.1 *Existing Conditions*

The project site is located in a rural/agricultural area of unincorporated Alameda County. The surrounding properties are all zoned A-CA (Agriculture, Cultivated Agriculture Overlay).[30]

4.11.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Physically divide an established community?	☐	☐	☐	☒
2) 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?	☐	☐	☐	☒

Impact LU-1:	The project would not physically divide an established community. **(No Impact)**

The proposed project is the replacement of an existing bridge in the same location. Bridge access would be maintained throughout construction, there would be no road closures. Temporary construction easements would be required from the surrounding parcels and permanent right of way acquisition would be required from the Wente Bros property and the LARPD. These easements and acquisitions would be relatively minor pieces of land compared to the size of the existing parcels. No structures aside from the existing bridge, roadway, and fences would be impacted. For these reasons, the project would not physically divide an established community. **(No Impact)**

Impact LU-2:	The project would not 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. **(No Impact)**

The proposed bridge replacement would not result in any substantial land use changes at the project site. As previously discussed, the project would require temporary construction easements and permanent right of way acquisition from surrounding parcels. However, these easements and acquisitions would be relatively small and would not adversely affect the operations of the surrounding agricultural properties, golf course, or parkland. The project would not conflict with any land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. **(No Impact)**

[30] Alameda County Community Development Agency. Zoning Viewer Public Access Map. Accessed November 14, 2022. https://acpwa.maps.arcgis.com/apps/View/index.html?appid=4a648cb409d744b8a4f645e6e35fe773

4.12 MINERAL RESOURCES

4.12.1 Existing Setting

4.12.1.1 *Existing Conditions*

The project site and adjacent parcels are used for roadway, agriculture, and open space. There are no active quarry operations in the vicinity of the project site.[31]

4.12.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) 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?	☐	☐	☐	☒
2) 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?	☐	☐	☐	☒

Impact MIN-1:	The project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state. **(No Impact)**

The proposed bridge replacement would be constructed in the same location as the existing bridge and would not impact any known mineral resources. **(No Impact)**

Impact MIN-2:	The project 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. **(No Impact)**

The project is limited to the replacement of an existing bridge and associated roadway improvements. The project would not result in the loss of availability of a locally important mineral resource recovery site. **(No Impact)**

[31] Community Development Agency, Neighborhood Preservation and Sustainability Department. "Quarries in Alameda County." Accessed May 11, 2023. https://nps.acgov.org/npsquarries.page?

4.13 NOISE

4.13.1 Environmental Setting

4.13.1.1 *Background Information*

Noise

Factors that influence sound as it is perceived by the human ear, include the actual level of sound, period of exposure, frequencies involved, and fluctuation in the noise level during exposure. Noise is measured on a decibel scale, which serves as an index of loudness. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness. Because the human ear cannot hear all pitches or frequencies, sound levels are frequently adjusted or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or dBA.

Since excessive noise levels can adversely affect human activities and human health, federal, state, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. Noise guidelines are generally expressed using one of several noise averaging methods, including L_{eq}, DNL, or CNEL.[32] These descriptors are used to measure a location's overall noise exposure, given that there are times when noise levels are higher (e.g., when a jet is taking off from an airport or when a leaf blower is operating) and times when noise levels are lower (e.g., during lulls in traffic flows on freeways or in the middle of the night). L_{max} is the maximum A-weighted noise level during a measurement period.

Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Vibration amplitude can be quantified using Peak Particle Velocity (PPV), which is defined as the maximum instantaneous positive or negative peak of the vibration wave. PPV has been routinely used to measure and assess ground-borne construction vibration. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 inches/second (in/sec) PPV.

4.13.1.2 *Regulatory Framework*

Federal

Federal Transit Administration Noise Limits

Table 7.2 of the Federal Transit Administration's (FTA's) Transit Noise and Vibration Impact Assessment Manual[33] provides daytime and nighttime construction noise criteria based on the type of receiving land use. These thresholds are shown in Table 4.13-1.

[32] L_{eq} is a measurement of average energy level intensity of noise over a given period of time. Day-Night Level (DNL) is a 24-hour average of noise levels, with a 10 dB penalty applied to noise occurring between 10:00 PM and 7:00 AM. Community Noise Equivalent Level (CNEL) includes an additional five dB applied to noise occurring between 7:00 PM and 10:00 PM. Where traffic noise predominates, the CNEL and DNL are typically within two dBA of the peak-hour L_{eq}.

[33] Federal Transit Administration, "Transit Noise and Vibration Impact Assessment Manual," FTA Report No. 0123, September 2018.

Table 4.13-1: General Assessment Construction Noise Criteria		
Land Use	**$L_{eq,\ equip(1hr)}$, dBA**	
	Day	**Night**
Residential	90	80
Commercial	100	100
Industrial	100	100

State and Local

Caltrans Standards

Noise associated with construction is controlled by Caltrans Standard Specification Section 14-8.02, "Noise Control," which states the following:

- Do not exceed 86 dBA L_{max} at 50 feet from the job site activities from 9:00 p.m. to 6:00 a.m.
- Equip an internal combustion engine with the manufacturer recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

Typically, work taking place within the Caltrans right of way is not subject to local noise ordinances; however, Caltrans will work with the contractor to meet local requirements where feasible. If construction noise level is expected to exceed the contract specification criteria or construction noise levels is expected to exceed the ambient (baseline) noise levels, and there are sensitive receptors near the project site construction noise control measures should be considered.

The *Transportation and Construction Vibration Guidance Manual* (Manual) was published by Caltrans in April 2020 and includes guidance for construction vibration assessment. Table 4.13-2 and Table 4.13-3 summarize the effects on buildings and human reaction, respectively, expected for different vibration levels, as described in the Manual. For structural damage, Caltrans recommends a vibration limit of 0.5 in/sec PPV for new residential structures and modern industrial/commercial buildings, 0.3 in/sec PPV for older residential structures, and 0.25 in/sec PPV for historic and some old buildings.

Table 4.13-2: Guideline Vibration Damage Potential Threshold Criteria		
Structure and Condition	**Maximum PPV (in/sec)**	
	Transient Sources	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5

Table 4.13-2: Guideline Vibration Damage Potential Threshold Criteria		
Structure and Condition	**Maximum PPV (in/sec)**	
	Transient Sources	**Continuous/Frequent Intermittent Sources**
Modern industrial/commercial buildings	2.0	0.5
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020.		

Table 4.13-3 Guideline Vibration Annoyance Potential Criteria		
Human Response	**Maximum PPV (in/sec)**	
	Transient Sources	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.035	0.01
Distinctly perceptible	0.24	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4
Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, April 2020.		

Alameda County Municipal Code

The Municipal Code specifically exempts noise sources associated with construction, provided said activities do not take place before seven a.m. or after seven p.m. on any day except Saturday or Sunday, or before eight a.m. or after five p.m. on Saturday or Sunday.

4.13.1.3 *Existing Conditions*

The project site is located on Arroyo Road in a rural/agricultural area of Alameda County. Existing noise levels are primarily associated with vehicles driving along Arroyo Road. Other sources of noise in the project vicinity may include farm equipment, golf course and park maintenance equipment, golfers, and trail users.

Sensitive receptors in the project area are limited to a residence off of Arroyo Road, located approximately 625 feet east of the nearest proposed staging area and approximately 800 feet from the project work area.

4.13.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
1) 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?	☐	☐	☒	☐
2) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 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?	☐	☐	☐	☒

Impact NOI-1:	The project would not result in 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. **(Less than Significant Impact)**

The proposed bridge replacement would not result in any permanent noise increases. The project would not alter any land uses and would not affect the number of vehicles traveling along Arroyo Road. The project would, however, result in a temporary noise increase during construction.

Construction Noise

Construction is anticipated to last for approximately 18 months. Construction will take place Monday through Friday during daylight hours; no night work is anticipated. Construction noise would primarily result from the operation of heavy construction equipment and arrival and departure of heavy-duty trucks. The project does not propose any pile-driving, a particularly loud construction activity.

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

Construction noise levels vary on a day-to-day basis, depending on the type and amount of equipment operating on-site and the specific task that is being completed on a particular day.

Construction activities generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used. Table 4.13-4 summarizes the maximum instantaneous noise levels generated by typical construction equipment at a distance of 50 feet from the noise source. Typical hourly average construction-generated noise levels for various types of projects are summarized in Table 4.13-4 at a distance of 50 feet from the center of the site during busy construction periods (e.g., earth moving equipment, impact tools, etc.).

Table 4.13-4: Construction Equipment, 50-foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous

Table 4.13-4: Construction Equipment, 50-foot Noise Emission Limits		
Equipment Category	**L_{max} Level (dBA)[1,2]**	**Impact/Continuous**
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes: [1] Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.

[2] Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.

[3]Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

Source: Mitigation of Nighttime Construction Noise, Vibrations and Other Nuisances, National Cooperative Highway Research Program, 1999.

As shown in Table 4.13-4, the highest maximum noise levels generated by project construction would typically range from about 80 to 90 dBA L_{max} at a distance of 50 feet from the noise source. As previously mentioned, extreme noise generating construction methods such as pile driving are not expected for the proposed project. As shown in Table 4.13-5, below, the hourly average noise level for roadway projects typically ranges from approximately 78 to 88 dBA.

Table 4.13-5: Hourly Average Noise Levels for Construction Equipment at 50 feet								
	Domestic Housing		**Office Building, Hotel, Hospital, School, Public Works**		**Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station**		**Public Works Roads & Highways, Sewers, and Trenches**	
	I	**II**	**I**	**II**	**I**	**II**	**I**	**II**
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I – All pertinent equipment present at site.

II – Minimum required equipment present at site.

Source: United States Environmental Protection Agency, 1973, Legal Compilation on Noise, Vol. 1, p. 2-104.

Construction-generated noise levels drop off at a rate of about six dBA per doubling of the distance between the source and receptor. Given that the nearest sensitive receptor is located approximately 800 feet from the project, four times the 50 feet assumed in the tables above, noise levels would drop off by approximately 24 dBA at the residence off of Arroyo Road. Therefore, maximum noise levels generated by individual pieces of equipment would range from approximately 56 to 66 dBA L_{max} at the residence and hourly average noise levels would range from approximately 54 to 64 dBA at the residence. Project construction noise levels would not exceed the FTA's daytime threshold of 90 DBA L_{eq}. The Alameda County Municipal Code specifically exempts noise sources associated with construction, provided said activities do not take place before 7:00 a.m. or after 7:00 p.m. on any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday. Project construction would only occur during the daytime hours allowed in the Alameda County Municipal Code. Therefore, temporary construction noise generated by the project would be less than significant. **(Less than Significant Impact)**

Impact NOI-2:	The project would not result in generation of excessive groundborne vibration or groundborne noise levels. **(Less than Significant Impact)**

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g., jackhammers, hoe rams) are used. The proposed project would not require pile driving, which can cause excessive vibration. Instead, a cast-in-drilled-hole method will be utilized to install the piles. Critical factors pertaining to the impact of construction vibration on sensitive receptors include the proximity of the existing structures to the project site, the soundness of the structures, and the methods of construction used.

For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for new residential structures and modern industrial/commercial buildings, 0.3 in/sec PPV for older residential structures, and 0.25 in/sec PPV for historic and some old buildings. No known historical buildings adjoin the project area. Therefore, groundborne vibration levels exceeding 0.3 in/sec PPV would have the potential to result in cosmetic damage to normal buildings in the project vicinity.

Table 4.13-6 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may generate substantial vibration in the immediate vicinity. Vibration levels perceived at receptors would vary depending on soil conditions, construction methods, and equipment used. Table 4.13-6 also summarizes the distances to the 0.3 in/sec PPV threshold for conventional buildings.

Table 4.13-6: Vibration Source Levels for Construction Equipment			
Equipment		**PPV at 25 ft. (in/sec)**	**Minimum Distance to Meet 0.3 in/sec PPV (feet)**
Clam shovel drop		0.202	18
Hydromill (slurry wall)	in soil	0.008	1
	in rock	0.017	2
Vibratory roller		0.210	19
Hoe ram		0.089	9
Large bulldozer		0.089	9
Caisson drilling		0.089	9
Loaded trucks		0.076	8
Jackhammer		0.035	4
Small bulldozer		0.003	<1
Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, September 2018, as modified by Illingworth & Rodkin, Inc., May 2022.			

The farthest distance from the project site that would exceed the 0.3 in/sec PPV threshold for typical construction equipment would be approximately 19 feet, as shown in Table 4.13-6. Therefore, the residence off of Arroyo Road, approximately 800 feet from project construction, would not experience vibration over the 0.3 in/sec PPV threshold. **(Less than Significant Impact)**

Impact NOI-3:	The project would not be 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. The project would not expose people residing or working in the project area to excessive noise levels. **(No Impact)**

Livermore Municipal Airport, the nearest airport to the project site, is located approximately 4.5 miles northeast of the project site. The project site is located outside of the AIA and the noise contours of the Livermore Municipal Airport.[34] Additionally, the proposed bridge replacement would not introduce any new residents or workers to the project area. Therefore, the project would not result in any noise or safety hazards associated with airports. **(No Impact)**

[34] Alameda County Community Development Agency. *Livermore Executive Airport – Airport Land Use Compatibility Plan.* August 2012.

4.14 POPULATION AND HOUSING

4.14.1 Existing Setting

4.14.1.1 *Existing Conditions*

The project site is located in a rural area of unincorporated Alameda County. The closest residential uses in the project area consist of a residence off Arroyo Road, located approximately 625 feet east of the nearest proposed staging area and approximately 800 feet from the project work area.

4.14.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) 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)?	☐	☐	☐	☒
2) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Impact POP-1:	The project would not 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). **(No Impact)**

The project would not introduce any new homes or businesses and would be limited to the replacement of the existing bridge and associated roadway improvements. The project would not extend Arroyo Road and would not induce any population growth. **(No Impact)**

Impact POP-2:	The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. **(No Impact)**

The proposed bridge replacement would not displace any existing people or housing. **(No Impact)**

4.15 PUBLIC SERVICES

The following discussion is based, in part, on Section 4(f) Memo prepared for the project by David J. Powers & Associates, Inc. in March 2023 and a De Minimis Determination Concurrence Letter issued for the project by the LARPD in April 2023. A copy of the Section 4(f) Memo and Determination are included in Appendix C and Appendix D of this Draft Initial Study, respectively.

4.15.1 Environmental Setting

4.15.1.1 *Existing Conditions*

Parks

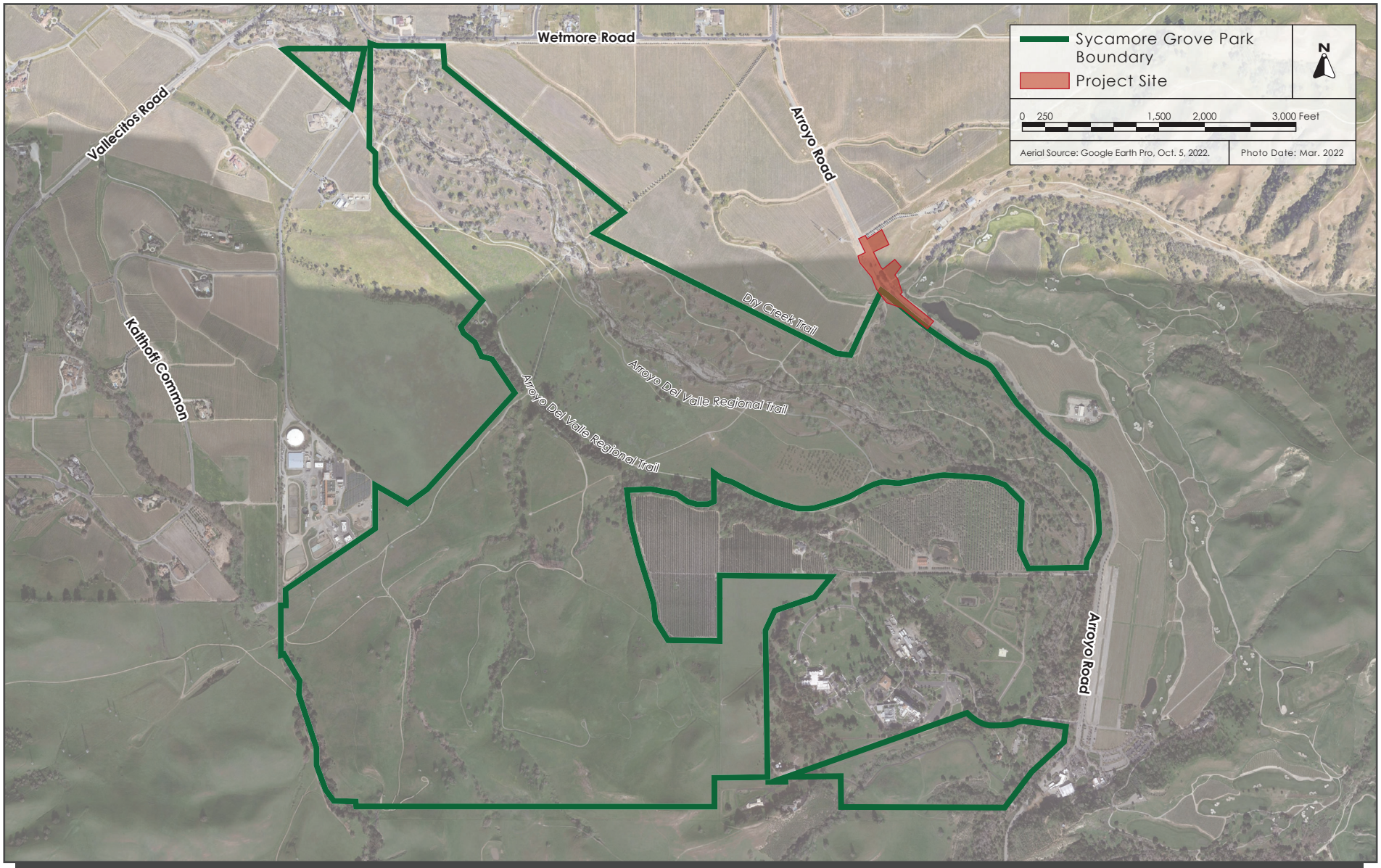
Sycamore Grove Park is an 847-acre open space located in the project area, adjacent to the west side of Arroyo Road. Sycamore Grove Park is owned and operated by the LARPD. Sycamore Grove Park is located southwest of the Arroyo Road Bridge (see Figure 4.15-1). The park is generally bounded by vineyards to the north and west, Arroyo Road and Wente Vineyards and golf course to the east, and Olivina (olive oil producer) and Veterans Administration Medical Center to the south. Sycamore Grove Park includes paved pathways, hiking and horse-riding trails, restrooms, and picnic areas.

Other Government Facilities

The Palo Alto Veterans Administration (VA) Medical Center – Livermore campus is located at 4951 Arroyo Road, south of the project site. The VA Medical Center provides primary care and specialty health services, including cardiology, dental care and oral surgery, mental health care, nutrition and dietary services, and eye health and vision services (ophthalmology and optometry), among others. The VA Medical Center is open Monday to Friday from 8:00 A.M. to 4:30 P.M. and no emergency services are provided at this facility.[35]

There are no other government facilities for fire or police protection, schools, or libraries located on or adjacent to the project site.

[35] U.S. Department of Veterans Affairs. "Palo Alto VA Medical Center-Livermore." Accessed May 11, 2023. https://www.va.gov/palo-alto-health-care/locations/palo-alto-va-medical-center-livermore/#health-care-offered-here



SYCAMORE GROVE PARK MAP | FIGURE 4.15-1

4.15.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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:				
1) Fire Protection?	☐	☐	☐	☒
2) Police Protection?	☐	☐	☐	☒
3) Schools?	☐	☐	☐	☒
4) Parks?	☐	☐	☒	☐
5) Other Public Facilities?	☐	☐	☐	☒

Impact PS-1:	The project would not 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 fire protection services. **(No Impact)**

The proposed project is limited to the replacement of an existing bridge at the same location and other minor roadway improvements. The replacement bridge would not induce population growth in the project area. Response times by emergency service vehicles would be unchanged because the project would not modify the roadway network and vehicle access would be maintained throughout construction. Therefore, demand for fire protection services would be unaffected. **(No Impact)**

Impact PS-2:	The project would not 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 police protection services. **(No Impact)**

The proposed project is limited to the replacement of an existing bridge at the same location and other minor roadway improvements. The replacement bridge would not induce population growth in the project area. Response times by emergency service vehicles would be unchanged because the project would not modify the roadway network and vehicle access would be maintained throughout construction. Therefore, demand for police protection services would be unaffected. **(No Impact)**

Impact PS-3:	The project would not 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 schools. **(No Impact)**

The proposed project is limited to the replacement of an existing bridge at the same location and other minor roadway improvements. The replacement bridge would not induce population growth in the project area. Therefore, demand for schools would be unaffected. **(No Impact)**

Impact PS-4:	The project would not 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 parks. **(Less than Significant Impact)**

As previously described, the proposed bridge replacement would not induce population growth. Thus, the project would not affect demand for park facilities. The project would, however, result in direct physical impacts to Sycamore Grove Park. The project would result in both temporary and permanent impacts to Sycamore Grove Park.

Temporary Construction Impacts

The portion of Dry Creek Trail northwest of the Nature Area/Special Use Entrance running adjacent to Arroyo Road would be temporarily rerouted to avoid temporary closures during construction. The remainder of Dry Creek Trail would remain open, in addition to all other trails and facilities within Sycamore Grove Park. During the construction phase, the project would result in the following temporary impacts to Sycamore Grove Park:

- Temporary unavailability for use of the portion of Dry Creek Trail northwest of the Nature Area/Special Use Entrance that runs adjacent to Arroyo Road.
- Temporary increases in noise that would be audible in portions of the park. Construction noise would affect a limited area of the 847-acre park and patrons would have the option to use multiple other trails within the park during periods of heavy construction.
- Temporary increases in emissions of pollutants and generation of dust that could potentially adversely affect users of the park. As discussed in Section 4.3 Air Quality, the project would result in less than significant air quality impacts and would be required to implement construction BMPs. Additionally, trail users passing by the project site are not considered sensitive receptors.

To protect trail users from construction activities, temporary fencing would be erected to separate the construction zone from park facilities prior to the start of construction. To avoid short-term closures, the temporary relocation of the impacted segment of Dry Creek Trail would occur prior to the start of construction. Therefore, project construction impacts on Sycamore Grove Park and its users would be less than significant.

Permanent Impacts

The footprint of the proposed realignment of Arroyo Road and bridge replacement would require approximately 0.25-acre right of way from Sycamore Grove Park and would permanently impact a total of approximately 0.48-acre. This area is currently occupied by a segment of Dry Creek Trail (see Figure 3.2-3), which would be directly impacted. The encroachment onto Dry Creek Trail would eliminate the ability of its users to traverse this segment of the trail. However, the project would realign and reconstruct this segment of Dry Creek Trail. Additionally, as confirmed by the LARPD, the project would fully offset the loss of the 0.25 acre of land from Sycamore Grove Park by improving access to the park across Dry Creek via the Class I bicycle path that would be included on the proposed bridge (see Section 3.2.1 Bridge and Roadway Improvements). The project would also re-establish the border fencing between the park property and Arroyo Road.

A group of approximately three trees adjacent to Dry Creek Trail would be removed, as well as several other trees adjacent to Arroyo Road in the vicinity, to accommodate the project. Tree replacement will be provided consistent with the Alameda County Tree Ordinance and mitigation measure MM BIO-5.1. The existing trees provide partial screening from Arroyo Road; however, the existing Dry Creek Trail follows a path directly adjacent to the fenceline of the roadway. Removing the trees would create limited visual and aesthetic impacts for park users. **(Less than Significant Impact)**

Impact PS-5:	The project would not 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 other public facilities. **(No Impact)**

The proposed project is limited to the replacement of an existing bridge at the same location and other minor roadway improvements. Vehicular access to properties south of the project site would be maintained throughout construction and would not impact operations at the VA Medical Center. The replacement bridge would also not induce population growth in the project area and, therefore, demand on other public facilities would be unaffected. **(No Impact)**

4.16 RECREATION

The following discussion is based, in part, on Section 4(f) Memo prepared for the project by David J. Powers & Associates, Inc. in March 2023 and a De Minimis Determination Concurrence Letter issued for the project by the LARPD in April 2023. A copy of the Section 4(f) Memo and Determination are included in Appendix C and Appendix D of this Draft Initial Study, respectively.

4.16.1 Environmental Setting

4.16.1.1 *Existing Conditions*

Sycamore Grove Park is an 847-acre open space located in the project area, adjacent to the west side of Arroyo Road. Sycamore Grove Park is owned and operated by the LARPD. Sycamore Grove Park is located southwest of the Arroyo Road Bridge (see Figure 4.15-1). The park is generally bounded by vineyards to the north and west, Arroyo Road and Wente Vineyards and golf course to the east, and Olivina (olive oil producer) and VA Medical Center to the south. Sycamore Grove Park includes paved pathways, hiking and horse-riding trails, restrooms, and picnic areas.

4.16.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1) 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?	☐	☐	☒	☐
2) 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?	☐	☐	☒	☐

Impact REC-1:	The project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. **(Less than Significant Impact)**

As previously described, the proposed bridge replacement would not induce population growth. Thus, the project would not affect demand for park facilities. The project would, however, result in direct physical impacts to Sycamore Grove Park. The project would result in both temporary and permanent impacts to Sycamore Grove Park.

Temporary Construction Impacts

The portion of Dry Creek Trail northwest of the Nature Area/Special Use Entrance running adjacent to Arroyo Road would be temporarily rerouted to avoid temporary closures during construction. The remainder of Dry Creek Trail would remain open, in addition to all other trails and facilities within

Sycamore Grove Park. During the construction phase, the project would result in the following temporary impacts to Sycamore Grove Park:

- Temporary unavailability for use of the portion of Dry Creek Trail northwest of the Nature Area/Special Use Entrance that runs adjacent to Arroyo Road.
- Temporary increases in noise that would be audible in portions of the park. Construction noise would affect a limited area of the 847-acre park and patrons would have the option to use multiple other trails within the park during periods of heavy construction.
- Temporary increases in emissions of pollutants and generation of dust that could potentially adversely affect users of the park. As discussed in Section 4.3 Air Quality, the project would result in less than significant air quality impacts and would be required to implement construction BMPs. Additionally, trail users passing by the project site are not considered sensitive receptors.

To protect trail users from construction activities, temporary fencing would be erected to separate the construction zone from park facilities prior to the start of construction. To avoid short-term closures, the temporary relocation of the impacted segment of Dry Creek Trail would occur prior to the start of construction. Therefore, project construction impacts on Sycamore Grove Park and its users would be less than significant.

Permanent Impacts

The footprint of the proposed realignment of Arroyo Road and bridge replacement would require approximately 0.25-acre right of way from Sycamore Grove Park and would permanently impact a total of approximately 0.48-acre. This area is currently occupied by a segment of Dry Creek Trail (see Figure 3.2-3), which would be directly impacted. The encroachment onto Dry Creek Trail would eliminate the ability of its users to traverse this segment of the trail. However, the project would realign and reconstruct this segment of Dry Creek Trail. Additionally, as confirmed by the LARPD, the project would fully offset the loss of the 0.25 acre of land from Sycamore Grove Park by improving access to the park across Dry Creek via the Class I bicycle path that would be included on the proposed bridge (see Section 3.2.1 Bridge and Roadway Improvements). The project would also re-establish the border fencing between the park property and Arroyo Road.

A group of approximately three trees adjacent to Dry Creek Trail would be removed, as well as several other trees adjacent to Arroyo Road in the vicinity, to accommodate the project. Tree replacement will be provided consistent with the Alameda County Tree Ordinance and mitigation measure MM BIO-5.1. The existing trees provide partial screening from Arroyo Road; however, the existing Dry Creek Trail follows a path directly adjacent to the fenceline of the roadway. Removing the trees would create limited visual and aesthetic impacts for park users. **(Less than Significant Impact)**

Impact REC-2:	The project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. **(Less than Significant Impact)**

The project does not include recreational facilities and would not require the construction or expansion of recreational facilities. As previously described under REC-1, the project would include minor improvements to the existing Sycamore Grove Park. These improvements would include greater access to Sycamore Grove Park via the proposed Class I bicycle path and re-establishment of the border fencing between Sycamore Grove Park and Arroyo Road. The construction and operation of these facilities would not have an adverse physical effect on the environment. **(Less than Significant Impact)**

4.17 TRANSPORTATION

4.17.1 Existing Setting

4.17.1.1 *Existing Conditions*

Arroyo Road in the vicinity of the project follows an approximate northwest-southeast alignment and is classified as a Local Rural Road. The existing concrete encased steel girder bridge is a 25-feet long single span structure consisting of two, 10-feet wide traffic lanes and narrow one-foot-wide shoulders, one lane traveling in each direction. A separate timber pedestrian walkway is present along the east side of the bridge. The existing geometry of the road provides limited sight distance at the bridge due to profile and alignment constraints.

4.17.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian facilities?	☐	☐	☐	☒
2) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☐	☒
3) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
4) Result in inadequate emergency access?	☐	☐	☐	☒

Impact TRN-1:	The project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian facilities. **(No Impact)**

The project would be limited to the replacement of an existing bridge at the same location and minor roadway improvements. The bridge will also accommodate a 12-foot-wide Class I bike path separated from traffic by an interior vehicular traffic rated barrier. The project would result in improved safety compared to existing conditions and would improve bicycle infrastructure. Therefore, the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system. **(No Impact)**

Impact TRN-2:	The project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **(No Impact)**

CEQA Guidelines 15064.3 pertains to assessment of transportation impacts using a metric known as vehicle-miles-traveled (VMT). The project would have no effect on VMT because it is limited to the

replacement of an existing bridge at the same location and minor roadway improvements. A project of this type would not affect VMT because it would not generate traffic or result in roadway alterations that would alter traffic circulation. **(No Impact)**

Impact TRN-3:	The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). **(No Impact)**

The design of the new bridge will comply with all current design and seismic safety criteria, which would be a benefit when compared to existing conditions. The project proposes a minor realignment of the roadway and bridge to improve sight distance and roadway geometry. Therefore, the project would not substantially increase hazards due to a geometric design feature. The project does not propose any new uses. **(No Impact)**

Impact TRN-4:	The project would not result in inadequate emergency access. **(No Impact)**

Vehicle access would be maintained throughout construction of the replacement bridge. Emergency access along Arroyo Road would be unaffected. **(No Impact)**

4.18 TRIBAL CULTURAL RESOURCES

4.18.1 Environmental Setting

4.18.1.1 *Regulatory Framework*

State

Assembly Bill 52

AB 52, effective July 2015, established a new category of resources for consideration by public agencies called Tribal Cultural Resources (TCRs). AB 52 requires lead agencies to provide notice of projects to tribes that are traditionally and culturally affiliated with the geographic area if they have requested to be notified. Where a project may have a significant impact on a tribal cultural resource, consultation is required until the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource or until it is concluded that mutual agreement cannot be reached.

Under AB 52, TCRs are defined as follows:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are also either:
    - Included or determined to be eligible for inclusion in the California Register of Historic Resources, or
    - Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).
- A resource determined by the lead agency to be a TCR.

4.18.1.2 *Existing Conditions*

As discussed in Section 4.5 Cultural Resources of this Draft Initial Study, the project site has moderate sensitivity to surface archaeological resources and low to moderate sensitivity for buried archaeological resources (including TCRs) given the distance to perennial freshwater and the existing geological conditions of the project area.

The NAHC completed searches of their Sacred Lands File for the project area in March 2020 and September 2022. The search did not identify TCRs in the project area. The NAHC provided a contact list of 16 individuals associated with a total of 10 separate local Native American groups. Attempts were made to contact all 16 individuals beginning in March 2020 and several follow ups were sent to unresponsive groups in April 2020, May 2020, and August 2022. Out of the 16 individuals contacted, six responded. The Native American representatives contacted did not identify any Native American sites within or adjacent to the project footprint, though one individual noted that a village site had been reported near a bridge in the vicinity. After further location details were given, this individual agreed with the findings and recommendations of Archaeological/Historical Consultants.

Table 4.18-1: Summary of Native American Consultation

Organization or Tribe	Response Received?
Amah Mutsun Tribal Band of Mission San Juan Bautista	Yes

Table 4.18-1: Summary of Native American Consultation	
Organization or Tribe	**Response Received?**
Confederated Villages of Lisjan	Yes
Costanoan Rumsen Carmel Tribe	No
Indian Canyon Mutsun Band of Costanoan	Yes
Muwekma Ohlone Tribe of the SF Bay Area	No
North Valley Yokuts Tribe	Yes
The Ohlone Indian Tribe	Yes
Wilton Rancheria	No
Wuksache Indian Tribe/Eshom Valley Band	No
Tamien Nation	No

4.18.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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:				
1) 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)?	☐	☒	☐	☐
2) 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.	☐	☒	☐	☐

Impact TCR-1:	The project would not cause a substantial adverse change in the significance of a tribal cultural resource that is 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). **(Less than Significant Impact with Mitigation Incorporated)**

There are no known TCRs within or adjacent to the project site. As previously discussed in Section 4.5 Cultural Resources, grading activities during project construction could result in the discovery of unknown TCRs. However, with implementation of MM CUL-2.1 through MM CUL-2.3 and MM CUL-3.1 (see Section 4.5 Cultural Resources), impacts to buried TCRs would be reduced to a less than significant impact. Mitigation requested by tribe members contacted about this project has been included in the project mitigation measures described above. Therefore, the project would not cause a substantial adverse change in the significance of a TCR. **(Less than Significant Impact with Mitigation Incorporated)**

Impact TCR-2:	The project would not cause a substantial adverse change in the significance of a tribal cultural resource that is 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. **(Less than Significant Impact with Mitigation Incorporated)**

Please see response to Impact TCR-1, above. **(Less than Significant Impact with Mitigation Incorporated)**

4.19 UTILITIES AND SERVICE SYSTEMS

4.19.1 Environmental Setting

4.19.1.1 *Existing Conditions*

Existing utilities in the project vicinity include overhead electric and telecommunication lines along both sides of Arroyo Road, an abandoned underground water line within the roadway, and private potable and irrigation water lines along the northeast side of the roadway within the private frontage road.

4.19.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
1) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☒	☐	☐
2) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
3) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
4) 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?	☐	☐	☒	☐
5) Be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Impact UTL-1:	The project would require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. **(Less than Significant Impact with Mitigation Incorporated)**

To accommodate the realigned roadway and bridge, the project would implement the following utility relocations:

- Relocate existing overhead utility lines and support poles along both sides of the roadway
- Remove abandoned water line within the limits of excavation for the new bridge and cap within the approach roadway

No modifications are expected to the private water lines. The proposed bridge replacement would not result in an increase in demand on utilities requiring new or expanded utility facilities. The proposed relocation and removal of existing utility lines would be relatively minor and would be subject to the construction-related mitigation measures described throughout this Draft Initial Study (see Section 4.3 Air Quality, Section 4.4 Biological Resources, Section 4.5 Cultural Resources, Section 4.9 Hazards and Hazardous Materials, and Section 4.10 Hydrology and Water Quality). Therefore, with implementation of the construction-related mitigation measures previously described throughout this Draft Initial Study, the project would not result in a significant environment effect associated with the proposed utility relocations and removal. **(Less than Significant Impact with Mitigation Incorporated)**

Impact UTL-2:	The project would not have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. **(No Impact)**

The proposed bridge replacement would not result in an increase in demand on water supplies. **(No Impact)**

Impact UTL-3:	The project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. **(No Impact)**

The proposed bridge replacement would not increase wastewater demand. **(No Impact)**

Impact UTL-4:	The project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. **(Less than Significant Impact)**

The operational phase of the project would not generate solid waste. Solid waste generated from the demolition of the existing bridge would be recycled in accordance with County policies and

procedures. Therefore, the project would not generate excessive waste. **(Less than Significant Impact)**

Impact UTL-5:	The project would not be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste. **(Less than Significant Impact)**

Please see response to Impact UTL-4, above. **(Less than Significant Impact)**

4.20 WILDFIRE

4.20.1 Environmental Setting

4.20.1.1 *Existing Conditions*

The project site is within an area mapped as a moderate to high fire hazard severity zone.[36]

4.20.2 Impact Discussion

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
1) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
2) 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?	☐	☐	☐	☒
3) 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?	☐	☐	☐	☒
4) 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?	☐	☐	☐	☒

The project site is within an area mapped as a moderate to high fire hazard severity zone.[37] However, the proposed bridge replacement would not exacerbate any existing conditions related to wildfire risk and would not introduce any new residents or structures to the project area. The project would maintain vehicle access across Dry Creek throughout construction and would result in improved safety features. Therefore, the project would not result in wildfire impacts. **(No Impact)**

[36] CAL FIRE. Alameda County Fire Hazard Severity Zones Map. Adopted November 7, 2007. https://osfm.fire.ca.gov/media/7271/fhszs_map1.pdf
[37] Ibid.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
1) 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?	☐	☒	☐	☐
2) 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.)	☐	☒	☐	☐
3) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact MFS-1: The project does not 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. **(Less than Significant Impact with Mitigation Incorporated)**

As previously described in Section 4.4 Biological Resources, the project has the potential to impact special-status wildlife species and sensitive habitat. Accordingly, MM BIO-1.1 through MM BIO-2.12 would be implemented by the project to ensure impacts to these species and habitats would be less than significant. As described in Section 4.5 Cultural Resources, the project has the potential to impact undiscovered buried archaeological resources that could be examples of major periods of California history or prehistory. The project would implement MM CUL-2.1 through MM CUL-3.1 as applicable in the event of a discovery to ensure that impacts to archaeological resources are reduced to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

Impact MFS-2:	The project does not have impacts that are individually limited, but cumulatively considerable. **(Less than Significant Impact with Mitigation Incorporated)**

Cumulative impacts arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. Other projects in the area include past and planned transportation and commercial development projects that could adversely affect the environment. The primary environmental resource of concern associated with this project that could be subject to cumulative impacts is biological resources. Future development activities in Alameda County, and around the project vicinity, will result in impacts on the same types of habitats and species that will be affected by the project. The project, in combination with other projects in the area and other activities that impact the species that are affected by this project, could have cumulative effects on sensitive habitats and special-status species.

However, the EACCS provides conservation measures that would benefit biological resources, as well as measures to avoid, minimize, and mitigate impacts on these resources. Projects in the region that impact resources similar to those impacted by the project will be subject to CEQA requirements, and many will necessitate regulatory permits as well. It is expected that such projects will mitigate their impacts on sensitive habitats and special-status species through the incorporation of mitigation measures and compliance with permit conditions. Thus, provided that this project successfully incorporates the mitigation measures described in the EACCS and PBO, as well as other regulatory permits issued for the project, the project will not have a cumulatively considerable contribution to cumulative effects on biological resources.

Any cumulative projects would also be subject to federal, state, and local laws, regulations, and policies governing the other environmental resource topics discussed in this Draft Initial Study. Pursuant to CEQA, any cumulative projects would also be required to implement mitigation measures to reduce any environmental impacts that may be caused. Thus, the project is not anticipated to contribute toward a cumulative environmental impact. **(Less than Significant Impact with Mitigation Incorporated)**

Impact MFS-3:	The project does not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. **(Less than Significant Impact with Mitigation Incorporated)**

The project would have the potential to cause adverse effects on human beings during the construction phase via air pollutant emissions, release of hazardous materials, and noise. As described in Section 4.3 Air Quality, the project would not adversely affect the health of human beings due to a lack of nearby sensitive receptors. Additionally, the project would implement BAAQMD's BMPs to control emissions from construction activities. As described in Section 4.9 Hazards and Hazardous Materials, the project would comply with Cal/OSHA regulations and would implement MM HAZ-2.1 through MM HAZ-2.9 to ensure that construction workers are protected from hazardous materials that may be released during construction activities. As described in Section 4.13 Noise, the project would not have an adverse noise effect given the lack of nearby sensitive receptors. The operational phase of the project would not have any adverse effects on human beings as it would improve the safety of the bridge over Dry Creek compared to existing conditions.

Therefore, with implementation of the mitigation measures described above, the project would not have an adverse effect on human beings. **(Less than Significant Impact with Mitigation Incorporated)**

SECTION 5.0 REFERENCES

The analysis in this Draft Initial Study is based on the professional judgement and expertise of the environmental specialists preparing this document, based upon review of the site, surrounding conditions, site plans, and the following references:

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SECTION 6.0 LEAD AGENCY AND CONSULTANTS

6.1 LEAD AGENCY

Alameda County Public Works Agency
Road Design Section
Steven Hunte, Project Manager

6.2 CONSULTANTS

David J. Powers & Associates, Inc.
Environmental Consultants and Planners
Will Burns, AICP, Principal Project Manager
Connor Tutino, Associate Project Manager
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Archaeological/Historical Consultants
Cultural Resources Consultants
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Stephen Peterson, Senior Wildlife Ecologist
Jane Lien, Wildlife Ecologist
Jillian Pastick, Plant/Wetland Ecologist

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Geotechnical and Hydrologic/Hydraulic Consultants
David Kitzmann, CEG, P.E., Senior Engineering Geologist
Chris Sewell, Supervising Engineer and Associate Vice President

SECTION 7.0 ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
A-CA	Agriculture, Cultivated Agriculture Overlay
ACM	Asbestos-containing material
ACPWA	Alameda County Public Works Agency
ADL	Aerial deposited lead
AIA	Airport Influence Area
APE	Assessor's parcel number
APE	Area of Potential Effects
BAAQMD	Bay Area Air Quality Management District
BMPs	Best management practices
BSA	Biological study area
CalARP	California Accidental Release Prevention
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CAP	Clean Air Plan
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CTS	California tiger salamander
CUPA	Certified Unified Program Agency
dBA	A-weighted decibel
DNL	Day-Night Level
DPM	Diesel particulate matter
DTSC	Department of Toxic Substances Control
EACCS	East Alameda County Conservation Strategy

EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHGs	Greenhouse gases
HDM	Highway Design Manual
HSP	Health and Safety Plan
HSWA	Federal Hazardous and Solid Waste Amendments
I-680	Interstate 680
In/sec	Inches/second
LARPD	Livermore Area Recreation and Park District
LBP	Lead-based paint
L_{eq}	Average energy level intensity of noise
L_{max}	Maximum A-weighted noise level
MBTA	Migratory Bird Treaty Act
MND	Mitigated Negative Declaration
Mph	Miles per hour
NAHC	Native American Heritage Commission
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act of 1966
NOD	Notice of Determination
NOI	Notice of Intent
NO_x	Nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone
OHWM	Ordinary High Water Mark
PBO	Programmatic Biological Opinion
PCBs	Polychlorinated biphenyls
PM_{10}	Coarse particulate matter
$PM_{2.5}$	Fine particulate matter

PPV	Peak particle velocity
RCRA	Resource Conservation and Recovery Act
ROG	Reactive organic gases
RWQCB	Regional Water Quality Control Board
SFHA	Special Flood Hazard Area
SO_x	Sulfur oxide
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
TCE	Temporary construction easement
TCRs	Tribal cultural resources
TMDLs	Total maximum daily loads
TSCA	Toxic Substances Control Act
USACE	U.S. Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VMT	Vehicle miles traveled
WEAP	Worker's Environmental Awareness Program