

Initial Study/Mitigated Negative Declaration

**Children's Health Council San Francisco
Creek Bank Stabilization Project – Phase II**



CITY OF
**PALO
ALTO**



February 2021



DRAFT MITIGATED NEGATIVE DECLARATION

CIRCULATION PERIOD	2/5/2021 to 3/8/2021
PROJECT NAME	Children's Health Council San Francisquito Creek Bank Stabilization Project – Phase II
PROJECT LOCATION	The project site encompasses a portion of the eastern bank of the San Francisquito Creek located in the northwest portion of the Children's Health Council campus at 650 Clark Way in the City of Palo Alto (Assessor's Parcel Number 142-02-015).
PROJECT PROPONENT	Children's Health Council 650 Clark Way Palo Alto, CA 94304
CITY CONTACT	Claire Raybould, AICP, Senior Planner City of Palo Alto, 250 Hamilton Avenue, Ground Floor Palo Alto, CA 94301 Fax: 650.329.2240, Email: Claire.Raybould@cityofpaloalto.org

PROJECT DESCRIPTION

The project proposes to construct a log crib wall with a rock toe foundation to stabilize the eroding eastern embankment of San Francisquito Creek that forms the western border of the Children's Health Council campus, while preserving and enhancing the existing stream and riparian habitat.

DETERMINATION

In accordance with the City of Palo Alto's procedures for compliance with the California Environmental Quality Act (CEQA), the City has conducted an Initial Study to determine whether the proposed project could have a significant effect on the environment. On the basis of that study, the City makes the following determination:

- ☐ The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION is hereby adopted.
- ☒ Although the project, as proposed, could have a significant effect on the environment, there will not be a significant effect on the environment in this case because mitigation measures have been added to the project and, therefore, a MITIGATED NEGATIVE DECLARATION is hereby adopted.

The attached initial study incorporates all relevant information regarding the potential environmental effects of the project and confirms the determination that an EIR is not

required for the project. In addition, the following mitigation measures have been incorporated into the project:

MM AIR-3.1

During any construction period ground disturbance, the project applicant shall ensure that the project contractor implements measures to control dust and exhaust. Implementation of the measures recommended by the Bay Area Air Quality Management District (BAAQMD) and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. The contractor shall implement the following Best Management Practices that are required of all projects:

- 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).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized by either 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 City of Palo Alto regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

MM AIR-3.2

The project shall use equipment that has low diesel particulate matter (DPM) or zero emissions, and implement the following measures:

- All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days shall meet EPA particulate matter emissions standards for Tier 4 or use engines meeting the Tier 2 or 3 standards that include particulate matter emissions control equivalent to the California Air Resources Board (CARB) Level 3 Verified Diesel Emission Control Strategy (VDEC) devices. Alternatively (or in combination), the use of alternatively-fueled or electric equipment (i.e., non-diesel) would be consistent with this requirement.

- Avoid staging of construction equipment near portions of the site that are adjacent to residences.

MM Bio-1.1

If dewatering is required, a National Marine Fisheries Service (NMFS)- and United States Fish and Wildlife Service (USFWS)-approved biologist shall lead a fish rescue to capture and relocate any steelhead from within the work area prior to the start of work. The biologist shall be on-site during all activities that may result in take of steelhead or California red-legged frogs (CRLF). Additionally:

- If habitat is available, any captured steelhead shall be relocated immediately downstream of the work area. If suitable habitat is not available, any steelhead shall be released at the perennial pool below Searsville Dam.

- If a fish rescue is required, the NMFS- and USFWS-approved biologist shall lead the fish rescue to capture and relocate any steelhead from within the work area prior to the start of work.

- A bypass shall be installed to route flows around the work area either via diversion into another portion of the extant channel which is outside of the work area footprint, or via a pipe, hose, or similar structure.

- Any pumps used for the project shall be screened according to NMFS criteria for salmonid streams until the area has been cleared by a NMFS- and USFWS-approved biologist.

- Any water actively pumped out of the work area (e.g. removal of groundwater seepage) shall (at minimum) pass through a gravel bucket or filter sock to lower turbidity before waters are allowed to reenter the live stream.

- Any pumps used in areas not cleared of fish shall be screened according to the NMFS screening criteria for waters containing salmonids (NMFS 1997). Once an area has been cleared, no additional

screening shall be required.

MM BIO-1.2

To avoid take of the CRLF, the following mitigation measures are proposed:

- Within 24 hours prior to the start of construction, a NMFS- and USFWS-approved biologist shall conduct a preconstruction survey for CRLF within the bounds of the work area.
- The NMFS- and USFWS-approved biologist shall have stop work authority for all project activities to protect CRLF and shall be given the authority to communicate with the USFWS if they exercise such authority.
- If CRLF are detected during preconstruction surveys, or during the course of work, any work in the vicinity that may threaten CRLF shall stop. The NMFS- and USFWS-approved biologist shall then determine the best course of action. If possible, the CRLF will be monitored and allowed to leave the area of its own volition. However, if the CRLF is unlikely to fully relocate out of the work area on their own in a reasonable timeframe, or if they cannot leave the area without exposure to other risks (e.g. predation); the individual(s) shall be captured and relocated.
- Any vegetation that is proposed for removal and could conceal CRLF shall be removed under the supervision of a NMFS- and USFWS-approved biologist. If vegetation is too dense to be adequately surveyed (e.g. tall grasses, or blackberry), the NMFS- and USFWS-approved biologist may request that vegetation is cut to a height of six to 12 inches (and cut vegetation removed) prior to conducting a survey. If no CRLF are found, the vegetation shall be cut to ground level before work with tracked or wheeled equipment is initiated.
- Project-related vehicles shall observe a 20-mile per hour speed limit within the work area. All construction activities shall cease one half hour before sunset and shall not begin prior to one half hour after sunrise.
- Construction activities shall not occur during rain events or within 24 hours of events which have delivered greater than 0.25 inches of rain, until a NMFS- and USFWS-approved biologist resurveys and clears the work site.
- Erosion control structures shall not include monofilament netting or similar materials that may entangle CRLF.
- Any open holes or trenches shall be covered or have escape ramps installed to prevent CRLF from becoming entrapped.

- Any pipes or similar materials required for the project shall be stored in upland areas, and elevated or covered to prevent entrance by CRLF.
- MM Bio-1.3** Prior to the initiation of project work within the creek or banks of San Francisquito Creek, a qualified biologist shall conduct a preconstruction survey for dusky-footed woodrat nests. If a dusky-footed woodrat nest is found during the survey, the qualified biologist shall relocate it outside of the work area, out of harm's way or allow it to move out of the area under its own power.
- MM Bio-1.4** A qualified wildlife biologist shall conduct a nesting bird survey no more than 14 days prior to the start of project construction activities. During this survey, the ornithologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings) in and immediately adjacent to the impact areas for nests) If no active nests are identified during the surveys, no disturbances will occur to birds and work will progress without restriction. If active nests are identified, a no-disturbance buffer around the nest shall be implemented to avoid disturbances to nesting birds. Buffers will be determined by a qualified biologist, and typically range from 25 feet to 500 feet depending on the species and protection status of that species. Once an active nest is determined to no longer be active, because of young fledging or predation, the buffer around the nest shall be removed and work will progress without restriction.
- MM CUL-2.1** The property owner or its designee shall hire an Archaeological Monitor to provide spot check monitoring during ground-disturbing activities and to provide on-call support in the event of an unanticipated discovery. The Archaeological Monitor must have a degree in Archaeology or a related field and must have at least one year of demonstrated field experience. The Archaeological Monitor shall work under the supervision of a Professional Archaeologist meeting the minimum requirements of the Secretary of the Interior's Standards for Prehistoric and Historic Archaeology. The qualifications of the Archaeological Monitor and the Professional Archaeologist shall be provided to the City Planning & Development Services (PDS) Department for review and approval prior to construction. If, in the course of construction, a resource is uncovered that is determined to be Native American in nature, the appropriate tribe shall be contacted and offered the opportunity to provide monitoring of ground-disturbing activities. If Native American monitoring is requested, the Native American Monitor may determine at any point during the course of construction that ground-disturbing activities are not anticipated to result in impacts to a tribal cultural resource and that Native American Monitoring may cease. Documentation of this determination shall be provided to the City PDS Department in writing.

- MM CUL-2.2** If prehistoric or historic resources are encountered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped, the City of Palo Alto Planning & Development Services Department and the United States Army Corps of Engineers (USACE) shall be notified, and a qualified archaeologist shall examine the find. The archaeologist shall 1) evaluate the find(s) to determine if they meet the definition of a historical or archaeological resource; and 2) make appropriate recommendations regarding the disposition of such finds prior to issuance of building permits. Recommendations could include collection, recordation, and analysis of any significant cultural materials. A report of findings documenting any data recovery shall be submitted to the Planning & Development Services Department and the Northwest Information Center (if applicable). Project personnel shall not collect or move any cultural materials. The project applicant shall implement the recommendations of the qualified archaeologist.
- MM CUL-2.3** Prior to construction, the archaeological monitor shall provide a worker environmental awareness training to all site personnel. The training shall discuss the appearance of resources that may be encountered during construction and the procedures and notification process in the event of a discovery.
- MM CUL-3.1** If any human remains are found during any field investigations, grading, or other construction activities, all provisions of California Health and Safety Code Sections 7054 and 7050.5 and Public Resources Code Sections 5097.9 through 5097.99, as amended per Assembly Bill 2641, shall be followed. If human remains are discovered during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The project applicant shall immediately notify the City of Palo Alto Planning & Development Services Department and a qualified archaeologist, who shall then notify the Santa Clara County Coroner. The Coroner will make a determination as to whether the remains are Native American. If the remains are believed to be Native American, the Coroner will contact the (Native American Heritage Commission) NAHC within 24 hours. The NAHC will then designate a Most Likely Descendant (MLD). The MLD will inspect the remains and make a recommendation on the treatment of the remains and associated artifacts. If one of the following conditions occurs, the landowner or his authorized representative shall work with the Coroner to reinter the Native American human remains and associated grave goods with appropriate dignity in a location not subject to further subsurface disturbance:

- The NAHC is unable to identify an MLD or the MLD failed to make a

recommendation within 48 hours after being given access to the site;

- The MLD identified fails to make a recommendation; or
- The landowner or his authorized representative rejects the recommendation of the MLD, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

MM GEO-6.1

A qualified paleontologist will develop a Worker's Environmental Awareness Program (WEAP) to train the construction crew on the legal requirements for preserving fossil resources as well as procedures to follow in the event of a fossil discovery. This training program will be given to the crew before ground-disturbing work commences and will include handouts to be given to new workers as needed.

MM GEO-6.2

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 City's Planning Manager notified immediately. A qualified paleontologist shall evaluate the find and prescribe mitigation measures to reduce impacts to a less than significant level. Upon completion of the paleontological assessment, a report shall be submitted to the City and, if paleontological materials are recovered, a paleontological repository such as the University of California Museum of Paleontology shall also be submitted to the City.

MM HYD-3.1

The crib wall shall be monitored for a minimum of five years during and immediately after each rainy season post-construction and shall include a survey of three cross sections. Monitoring documentation shall include, at minimum, a description the topographic elevation, cover material, and conditions (i.e., vegetation, sediment) for each cross section and shall note and photo-document any changes. If the trajectory of the channel suggests that the left (north) bank of the creek is experiencing morphologic changes that threaten to erode the upper terrace outside of the active channel, the applicant or their designee shall prepare a geomorphic assessment to determine the cause of the issue and identify appropriate measures to address the off-site erosion. Appropriate measures include, but are not limited to, activities within Palo Alto's jurisdiction such as the removal of accumulated sediment from the active channel, removal of debris accumulated along or near the crib wall, thinning or trimming of vegetation, and/or installation of willow poles or other bioengineering measures.

DocuSigned by:

Claire Raybould

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Senior Planner

2/4/2021

Signature (Project Planner)

Title

Date

<i>Adopted by</i> <i>Director of Planning & Development Services</i> <i>(signed after MND has been approved)</i>	<i>Title</i>	<i>Date</i>
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WE, THE UNDERSIGNED, HEREBY ATTEST THAT WE HAVE REVIEWED THE INITIAL STUDY AND DRAFT MITIGATED NEGATIVE DECLARATION FOR THE PROJECT DESCRIBED ABOVE AND AGREE TO IMPLEMENT ALL MITIGATION MEASURES CONTAINED THEREIN.

<i>Signature (Project Applicant)</i>	<i>Printed Name</i>	<i>Date</i>
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SECTION 1.0 INTRODUCTION AND PURPOSE

1.1 PURPOSE OF THE INITIAL STUDY

The City of Palo Alto, as the Lead Agency, has prepared this Initial Study for Phase II of the Children's Health Council's San Francisquito Creek Bank Stabilization 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 City of Palo Alto, California.

The project proposes to construct a wooden log crib wall along an eroding section of property along San Francisquito Creek located at 650 Clark Way. The property is owned by the Stanford University Board of Trustees and leased by the Children's Health Council. This 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 Initial Study marks the beginning of a 30-day public review and comment period. During this period, the 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 Initial Study during the 30-day public review period should be sent to:

City of Palo Alto
Planning & Development Services
250 Hamilton Avenue
Palo Alto, CA 94301
Contact: Claire Raybould, Senior Planner
(650) 329-2116; Claire.Raybould@cityofpaloalto.org

1.3 CONSIDERATION OF THE INITIAL STUDY AND PROJECT

During the 30-day public review period, the City of Palo Alto will hold a public hearing at a regularly scheduled Architectural Review Board (ARB) hearing meeting. The ARB, as a recommending body, will consider the draft environmental analysis in making a recommendation on the proposed project. The City will consider the Initial Study/Mitigated Negative Declaration (MND) together with any comments received during the public review process and publish a Final MND. If the City intends to approve the project, the Director of Planning & Development Services, the decisionmaker for the proposed project, would adopt the Final MND before approving the Planning Entitlement for the proposed project.

1.4 NOTICE OF DETERMINATION

If the project is approved, the City of Palo Alto 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

Children's Health Council San Francisquito Creek Bank Stabilization Project – Phase II

2.2 LEAD AGENCY CONTACT

Claire Raybould, AICP, Senior Planner
Planning & Development Services
City of Palo Alto
250 Hamilton Avenue
Palo Alto, CA 94301
(650) 329-2116; Claire.Raybould@cityofpaloalto.org

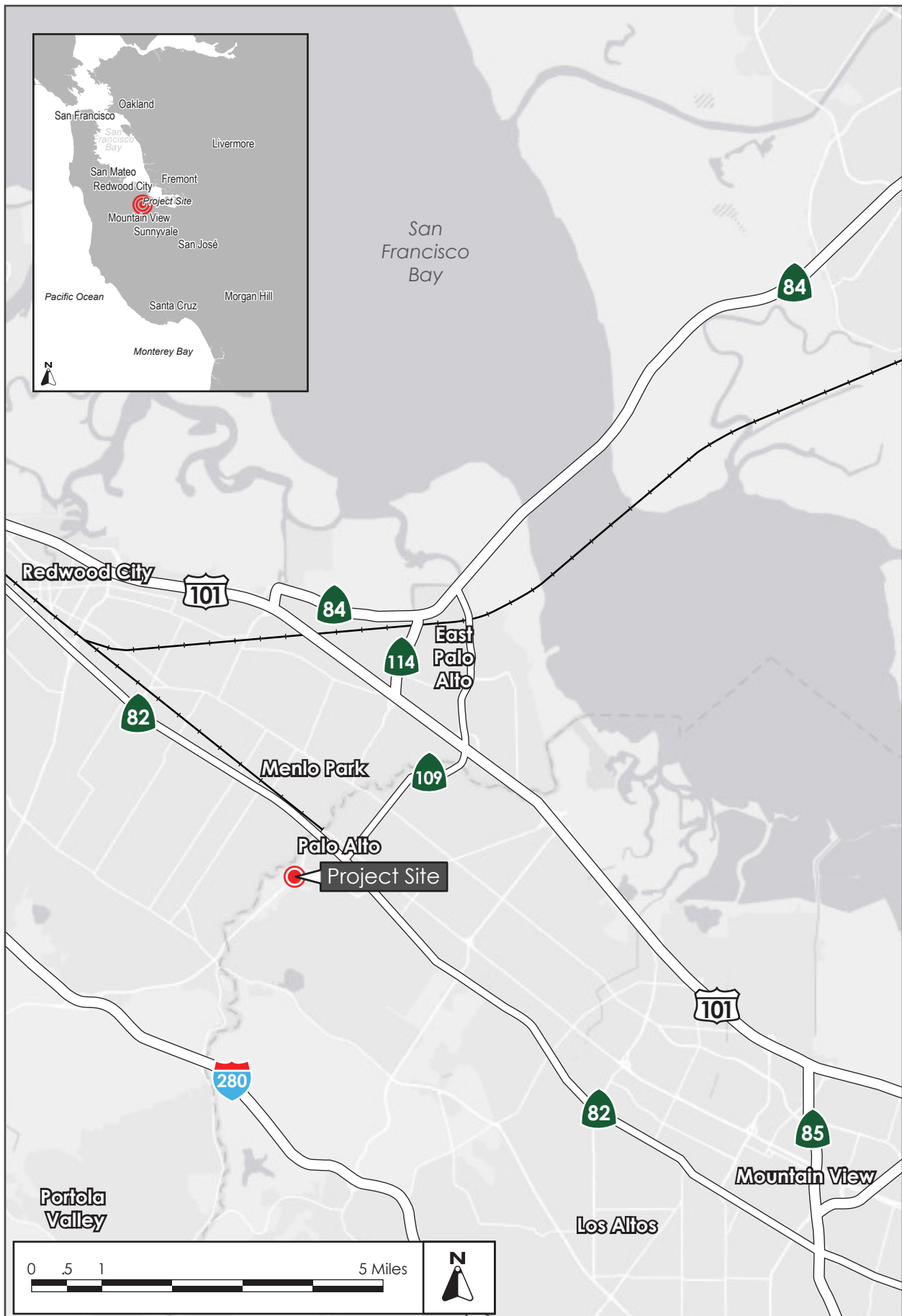
2.3 PROJECT APPLICANT

Children's Health Council
650 Clark Way
Palo Alto, CA 94304

2.4 PROJECT LOCATION

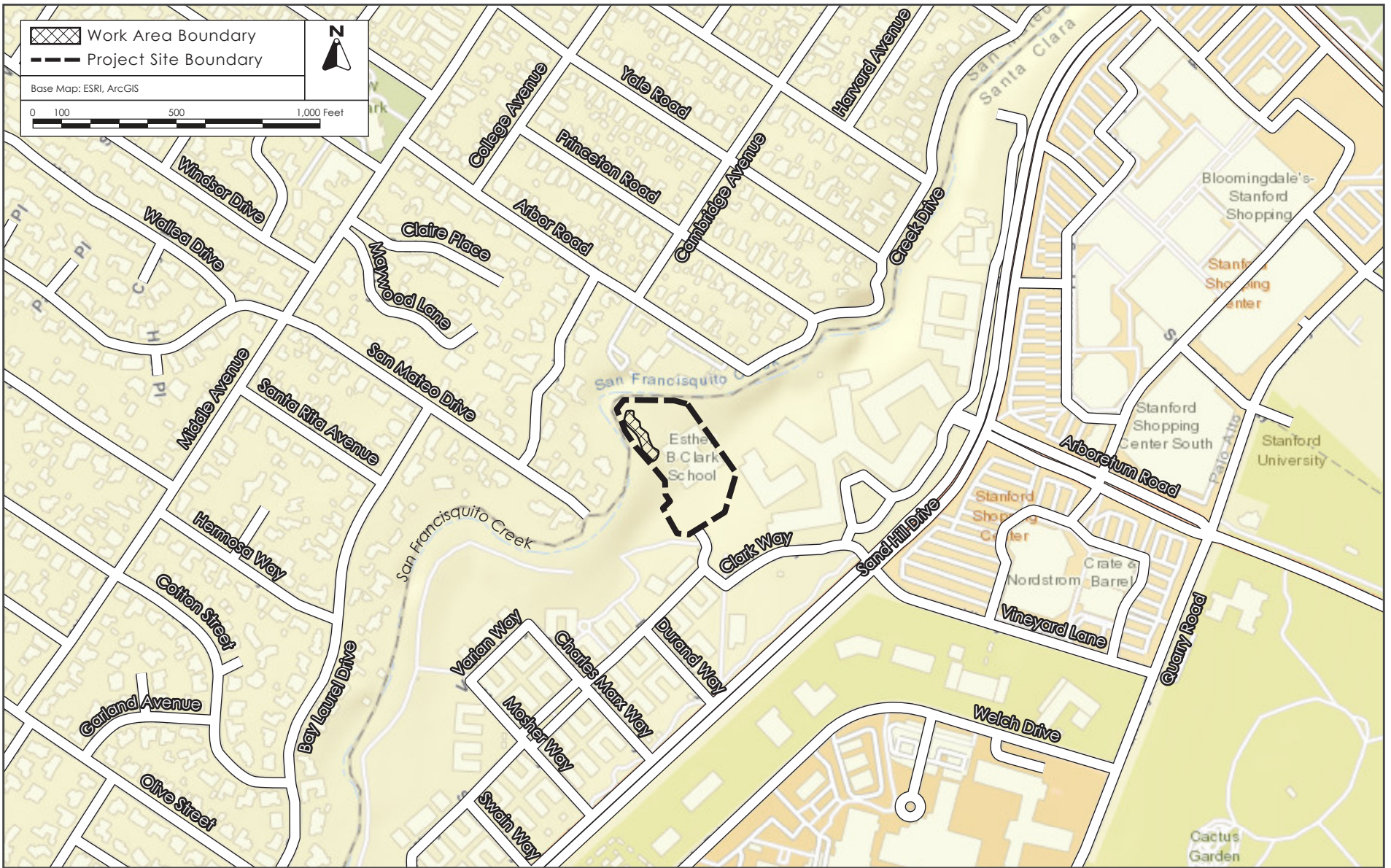
The project site encompasses a portion of the eastern bank of the San Francisquito Creek located in the northwest portion of the Children's Health Council campus at 650 Clark Way in the City of Palo Alto. The location of the project site is shown on the following figures:

- Figure 2.4-1 Regional Map
- Figure 2.4-2 Vicinity Map
- Figure 2.4-3 Aerial Photograph and Surrounding Land Uses



REGIONAL MAP

FIGURE 2.4-1



VICINITY MAP

FIGURE 2.4-2



AERIAL PHOTOGRAPH AND SURROUNDING LAND USES

FIGURE 2.4-3

2.5 ASSESSOR'S PARCEL NUMBER

The Assessor's Parcel Number (APN) for the project site parcel is 142-02-015.

2.6 COMPREHENSIVE PLAN DESIGNATION AND ZONING DISTRICT

In November 2017, the City adopted the City of Palo Alto Comprehensive Plan 2030 (Comprehensive Plan), which serves as the City's General Plan. The Children's Health Council site has a split Comprehensive Plan land use designation of Streamside Open Space (SOS) and Major Institution/Special Facility (MISP). The portion of San Francisquito Creek within the project site parcel boundary, which includes the proposed work site, has a Comprehensive Plan land use designation of Streamside Open Space. The site is zoned Public Facility (PF).

2.7 PROJECT-RELATED APPROVALS, AGREEMENTS, AND PERMITS

City of Palo Alto

- Architectural Review Board (ARB) approval
- Building permit(s)
- Grading permit(s)

California Department of Fish & Wildlife

- Section 1602 Streambed Alteration Agreement

National Marine Fisheries Service (NMFS)

- Federal Endangered Species Act Section 7 Biological Assessment

National Park Service (NPS)

- Section 106 Consultation

Santa Clara Valley Water District

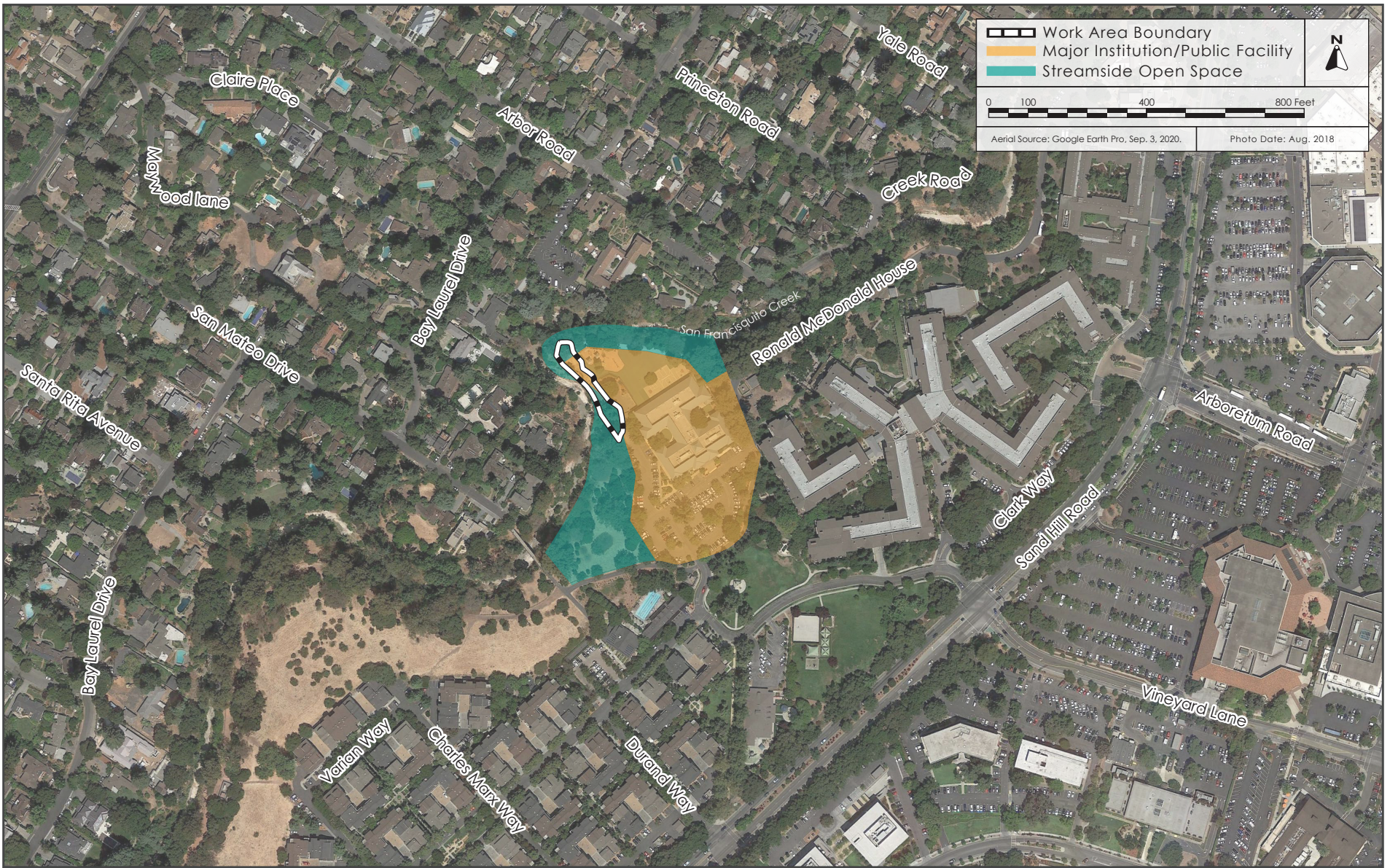
- Encroachment permit

Regional Water Quality Control Board

- Clean Water Act Section 401 Water Quality Certification

U.S. Army Corps of Engineers

- Clean Water Act Section 404 Permit



2030 COMPREHENSIVE PLAN LAND USE DESIGNATIONS

FIGURE 2.6-1

SECTION 3.0 PROJECT DESCRIPTION

3.1 STUDY AREA CHARACTERISTICS

3.1.1 Project Location

The project site is located at 650 Clark Way in the City of Palo Alto (APN: 142-02-015), in the far northwest corner of Santa Clara County. The site is bordered to the west and north by San Francisquito Creek, the historic centerline of which forms the border between Santa Clara County and San Mateo County, as well as the Cities of Palo Alto and Menlo Park. The proposed work area is in the northwestern portion of the Children's Health Council (CHC) campus, extending from the top of the eastern creek bank west to the historic centerline of the San Francisquito Creek, which defines the Children's Health Council campus property line. Regional, vicinity, and aerial maps of the project site are shown above in Figures 2.4-1, 2.4-2, and 2.4-3, respectively.

3.1.2 Background

3.1.2.1 *Project Site and Surrounding Uses*

The project site is leased from Stanford University and occupied by the CHC, which provides specialized education and clinical services to children and teens with autism, attention deficit hyperactivity disorder (ADHD), anxiety, depression, and other learning differences. The site is developed with two on-site schools, a therapy center, clinics for underserved families, a community education center, and an outdoor learning area/playground, and serves approximately 150 students daily.

The local character is predominantly suburban, and the immediate surrounding area consists of single-family and multi-family residential, commercial, and academic institutional land uses. There are single-family homes located to the north and west across San Francisquito Creek in Menlo Park and to the east and south in Palo Alto, commercial businesses and the Stanford Shopping Center to the northeast, and open space surrounded by apartment buildings to the south.

The proposed creek stabilization project would be completed along a 275-foot-long, 50-foot-wide linear portion of the CHC campus that borders San Francisquito Creek. Channel banks within this portion of San Francisquito Creek are approximately 30 feet high, and intact soils behind the bank failure are cracking and near failure.

A gravel access road where the Phase I shear pin wall was installed (see discussion in Section 3.1.2.3 below) forms the northeastern boundary of the proposed work area. The vicinity of the work area is sparsely vegetated by non-native grasses and herbs, as well as coast live oaks, bay laurels, and buckeyes, including four protected trees. The portion of San Francisquito Creek that runs through the project site is designated as critical habitat for steelhead trout, a federally listed endangered fish species.

3.1.2.2 *San Francisquito Creek Watershed*

San Francisquito Creek, which is within the San Francisquito Creek watershed, is the northernmost creek in the larger Santa Clara Valley Groundwater Basin. The mainstem of San Francisquito Creek begins southwest of the project site at the confluence of Corte Madera Creek and Bear Creek just below the Searsville Dam. From there, San Francisquito Creek flows generally in a northeast direction for approximately 10 miles before emptying into the San Francisco Bay.

Water drains into San Francisquito Creek from Searsville Dam throughout California's rainy season (October through April) and into midsummer during years with higher than average rainfall. Additional tributaries downstream of the Searsville Dam include West Union Creek and Los Trancos Creek. San Francisquito Creek experiences strong annual and seasonal variation in streamflow, with portions of the creek drying up during the summer months.¹

3.1.2.3 *San Francisquito Creek Bank Stabilization – Phase I*

Due to the steep topography of the upper San Francisquito Creek watershed, storm events often result in short periods of high intensity runoff. As a result, flooding of San Francisquito Creek is a relatively common occurrence, with eight episodes between 1910 and 1972, and major flood events occurring in 1998 and 2012.² During the 2016-2017 rainy season, active erosion of the natural San Francisquito channel banks on the CHC campus accelerated, resulting in the loss of approximately 20 horizontal feet of the creek bank and 7,500 square feet of the CHC outdoor learning area.

Due to the nature, location, and time sensitivity of the creek bank failure, an emergency project was approved by the City of Palo Alto on September 24, 2018 (Phase I of the San Francisquito Creek Bank Stabilization project). The purpose of the Phase I project was to stabilize the eastern bank of San Francisquito Creek to prevent further loss of outdoor learning areas used by CHC's students and minimize hazards to public safety due to imminent continued bank loss. Phase I of the project, completed in February 2019, included emergency installation of 19 concrete "shear pins" and steel tie-backs, set back from the creek bank by about six feet and extending 20 feet vertically below the existing creek bed. The shear pin wall is intended to stabilize the property behind the eroding bank and prevent imminent dangers to the property and human safety. The shear pins are a line-of-last-defense against bank retreat and loss of property into the creek, but do not protect the existing character of San Francisquito Creek, which supports significant ecological resources.

In finding Phase I of the San Francisquito Creek Bank Stabilization project exempt from CEQA pursuant to CEQA Guidelines Section 15269, Emergency Projects, the City of Palo Alto stipulated a number of Conditions of Approval. The 13th condition required the property owner to complete in-channel creek bank stabilization at a later date for the purposes of: (1) minimizing the risk of the shear pin wall being exposed in the future due to active erosion, (2) maintaining or improving sediment transport by minimizing erosion along the base of the shear pin wall, and (3) maintaining or improving stream function. The proposed Phase II project is intended to satisfy this Condition of Approval from the City.

¹ San Francisquito Creek Joint Powers Authority. *San Francisquito Creek Flood Protection, Ecosystem Restoration, and Recreation Project Upstream of Highway 101 Draft Environmental Impact Report*. April 2019.

² Ibid.

3.2 PROJECT DESCRIPTION

The project proposes to construct a log crib wall with a rock toe foundation to stabilize the eroding eastern embankment of San Francisquito Creek that forms the western border of the CHC campus, while preserving and enhancing the existing stream and riparian habitat. The site plan and the design of the crib wall and rock toe foundation are shown below in Figures 3.2-1 and 3.2-2, respectively.

3.2.1 Crib Wall

The project proposes to create a new lower channel embankment within San Francisquito Creek via construction of a crib wall.³ The crib wall would be built using stacked layers of 1.5-foot-diameter logs and rootwads installed at a 1:1 slope. The first level of the crib wall would utilize tie-back logs braced to absorb the impact of the streamflow. The first level of the crib wall would also include 13 rootwads, or large diameter coarse woody debris, spaced approximately 10 feet apart along the natural pool of the creek to provide interstitial spaces for fish habitat. The rootwads would be placed by existing pools in the creek to help reduce water velocities during high flow events.

The second layer of the crib wall would consist of two rows of logs parallel to the streamflow connecting the first layer of tie-back logs. Each log would be pinned to the logs below using steel bolts, nuts, and washers to provide redundancy in structural loading. Helical anchors would also be driven into the soil and connected to the crib wall to prevent the overall structure from moving laterally.

The third layer of crib wall would be similar to the first layer, using tie-back logs, and the fourth layer would connect to the tie-back logs underneath. Logs would be placed until the desired height of bank protection is achieved, approximately five to 10 feet above the creek bed. Above the crib wall, the upper channel embankment would be graded to a maximum horizontal to vertical slope of 2:1.

3.2.2 Rock Toe Protection

The proposed design calls for a rock toe foundation to be constructed at the base of the slope, under the first row of the crib wall, using imported clean boulder, cobble, and engineered fill material. The purpose of the rock toe foundation is to serve as the base for the aforementioned crib wall, which prevents: (1) movement of the channel bottom, and (2) channel flows from undercutting the crib wall.⁴

Boulders used in the construction of the rock toe foundation would be approximately two to three feet in diameter to compensate for the shear and velocity values of San Francisquito Creek. These boulders would be placed down to the maximum possible scour depth along the exterior of the eastern embankment, starting at approximately one foot below the winter base flow level and ending five feet below the channel bottom.⁵ The top of the rock toe foundation would be further supported laterally by base rock (cobble and engineered fill material) with an average diameter of eight inches.

³ A crib wall is a gravity retaining wall that uses the mass of the wall materials to support an unstable slope.

⁴ U.S. Army Corps of Engineers. *Toe Scour and Bank Protection Using Launchable Stone*. December 1995.

⁵ Hydrodynamic scour is the removal of sediment by swiftly moving water, creating holes that can compromise the integrity of a structure.

3.2.3 Conservation Measures and Best Management Practices

Phase II of the San Francisquito Creek Stabilization project includes the following conservation measures and best management practices identified by the San Francisco Regional Water Quality Control Board to avoid and minimize potential general impacts to sensitive species and habitats, including:

- The project shall be timed to occur during the dry season (May 1 to October 30).
- Construction disturbance or removal of vegetation shall be restricted to the minimum footprint necessary to complete the work. The work area will be delineated with high visibility fencing, markers, or silt fencing to minimize impacts to habitat beyond the work limit. Fencing will be maintained throughout project construction and removed upon completion.
- Any disturbed areas shall be restored with a combination of native seed mix, or appropriate plantings at the conclusion of the project.
- Staging, maintenance, and parking areas shall be located outside of stream channel banks. Any petroleum or similar substances shall be staged outside of the channel within a contained area.
- Prior to the start of construction, the contractor shall prepare a hazardous materials management/fuel spill containment plan. This plan shall include procedures to be used in the event of spills as well as information regarding the disposal of any spilled materials.
- Refueling or maintenance of equipment (stationary or otherwise) within the top of bank shall only occur when secondary containment sufficient to eliminate escape of all potential fluids is in place.
- Stationary equipment such as motors, pumps, and generators located adjacent to the creek shall be positioned over drip pans.
- All activities performed near aquatic features shall have spill kits available for use in the case of an accidental spill.
- Vehicles shall be decontaminated before and after working on the project (e.g. all soils and petroleum fluids shall be cleaned from the equipment).
- Any equipment or vehicles operated adjacent to aquatic features shall be checked and maintained daily to prevent leaks.
- Appropriate BMPs shall be installed around any stockpiles of soil or other materials which could be mobilized to prevent runoff from entering aquatic habitats.
- No construction debris or wastes shall be placed where they may be washed into the creek. All such debris and waste shall be picked up regularly and shall be disposed of at an appropriate facility.
- Any food waste that may attract scavengers shall be deposited in closed containers and removed from the work area daily.
- Upon completion of work, all temporary construction materials shall be removed from the work area, including any temporary ramps or temporary access points.
- All construction personnel shall participate in a worker environmental awareness program. Under this program, a National Marines Fishery Service (NMFS)- and United States Fish and

Wildlife Service (USFWS)-approved biologist (either in person or via a prerecorded presentation) will instruct all construction personnel about: (1) the description and status of the species found on-site; (2) the importance of their associated habitats; (3) a list of measures being taken to reduce impacts on these species during work, and (4) procedures to follow if a protected species is encountered. Once completed workers shall sign a list verifying the completion of training. The list of trained personnel shall be available on-site until completion of the project.

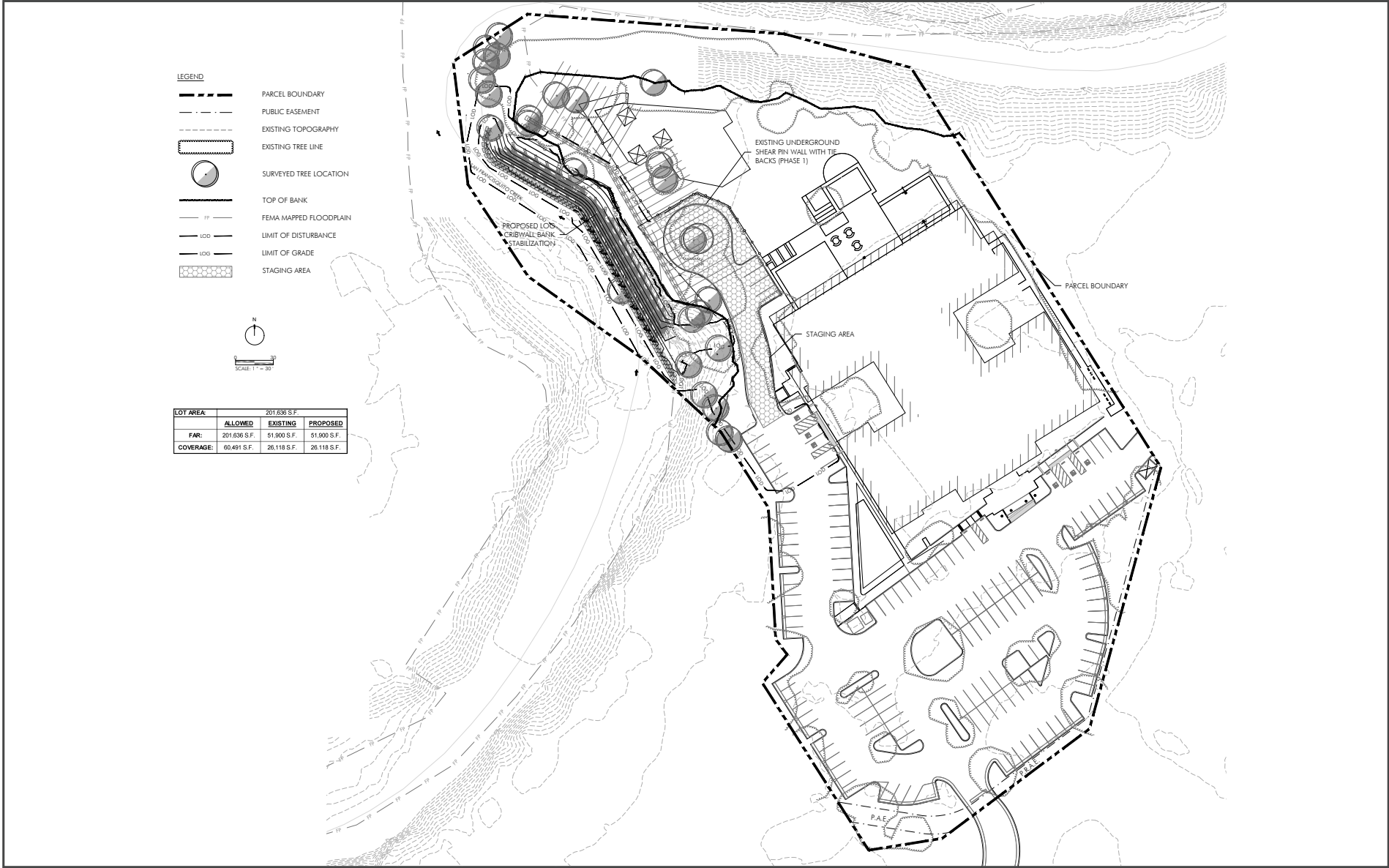
- The contact information for a designated representative who will assure compliance with any measures implemented for the project shall be submitted to the USFWS and NMFS at least 30 days prior to the start of work.
- California Department of Fish and Wildlife (CDFW), USFWS, and NMFS shall be allowed to inspect the site at any point during the project with a request for access.
- Non-native predators (e.g. bullfrogs) shall not be relocated.

3.2.4 Site Preparation and Grading

Prior to installing the crib wall and rock toe, site preparation activities would be completed on the site. This would include vegetation removal, construction of a temporary access route, fish salvage (if necessary), and installing a water diversion structure to dewater the work area (if necessary). A temporary access pathway would be constructed to allow construction equipment and construction personnel ingress and egress from the work area, which is discussed further under Section 3.2.5, Site Access, Parking, and Staging.

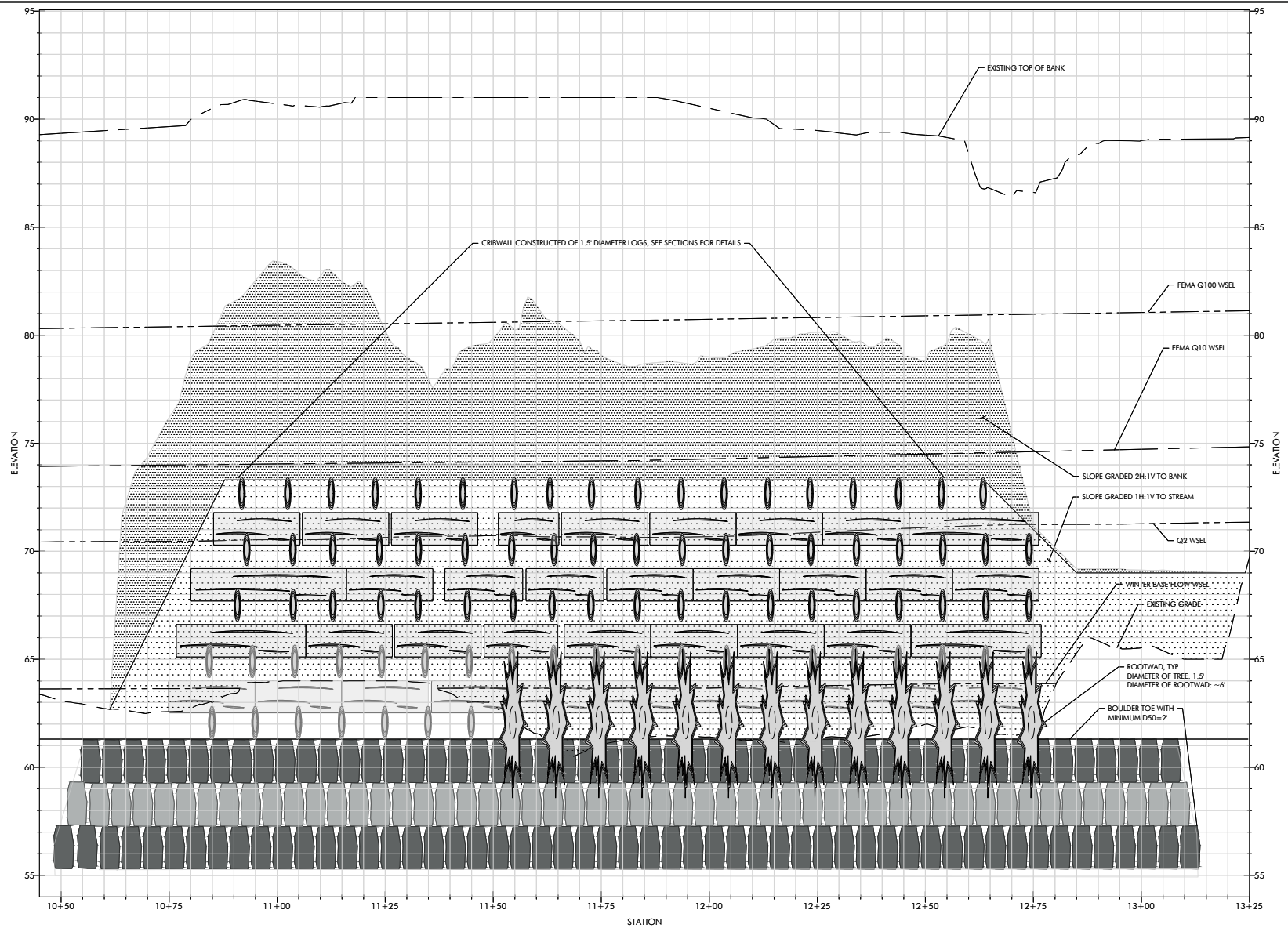
Because the work would not span the entire creek channel, water would be diverted around the work area without the need for bypass pumps; rather, the area would be dewatered by building a sand bag diversion to isolate the work area from flow if necessary. Water accumulating within the work area would also be dewatered following fish salvaging activities.

Grading of the project site would require the excavation of approximately 1,450 cubic yards of soil, consisting mostly of native sediment with some amounts of eroded brick and artificial fill, by heavy-duty drilling equipment. All artificial debris removed would be off-hauled to an appropriate disposal site. Excavated native sediment would be removed from the work area and evaluated for reuse. If reuse is not appropriate, the native material would be off-hauled to an appropriate disposal site. Approximately 2,330 cubic yards of clean boulders, cobble, and engineered fill material would be imported to serve as the foundation of the crib wall. An additional 170 cubic yards of woody debris fill would be imported, consisting of rootwads and crib logs.



SITE PLAN

FIGURE 3.2-1



CRIB WALL AND ROCK TOE DESIGN

FIGURE 3.2-2

3.2.5 Landscaping

Construction of the access route connecting the CHC parking lot and the work area, described below under Section 3.2.5 Site Access, Parking, and Staging, would require vegetation trimming and the removal of understory vegetation, shrubs, and five trees, including two protected trees.

Following completion of final grading and work on the lower and upper channel embankments, riparian areas within the limit of grading would be replanted with native woody and herbaceous vegetation.

The lower channel embankment would be planted with arroyo willow and sandbar willow stakes placed within the lower crib wall cavities. Live willow cuttings would be inserted in the voids between crib wall logs to provide riparian habitat, reduce water velocities along the crib wall, and grow complex root structures around the crib wall to provide additional stability. Willow cuttings would be long enough to have their cut end inserted into the native soil behind the crib wall, at least three feet into the structure. The upper channel embankment above would be planted with native shrub and tree species and hydroseeded with a native riparian seed mix. Native riparian plantings would be installed and established to provide additional habitat value and soil stability in this area.

3.2.6 Site Access, Circulation, Parking, and Staging

Access to the project site is proposed via Sand Hill Road (to the east of the CHC property) and Clark Way (leading up to the project site). Parking is available at the project site adjacent to the CHC school building, approximately 150 feet southeast of the work area. An access route would be constructed to connect the CHC parking lot and the work area using temporary fill, which would be removed upon completion of the project.

A designated staging area would be located within the boundaries of the CHC property along the terminus of Clark Way, north of the CHC school parking lot. All material excavated from the stream bank would be stockpiled above the embankment in the designated staging area or hauled off-site.

3.2.7 Construction

The construction phase of the proposed project would require three to four months (12 to 16 weeks) to complete, taking place in a single dry season (Summer 2021). Construction work would occur between 8:00 AM and 6:00 PM Monday through Friday and between 9:00 AM and 6:00 PM on Saturdays. Since construction would be limited to daylight hours only, no lighting infrastructure is proposed. Construction is anticipated to follow the sequence shown below in Table 3.2-1.

Table 3.2-1: Anticipated Construction Sequence	
Phase	Duration
Mobilization	10 days
Channel Excavation and Grading	10 days
Installation of Rock Toe Protection Foundation	20 days
Installation of Rootwad Habitat Structures	10 days
Installation of Log Crib Wall Structure, Soil Anchors, and Backfill	40 days
Other Temporary or Permanent Erosion Control Measures	5 days
Revegetation	10 days
Demobilization and Site Clean-Up	10 days

Construction equipment would include two excavators, an off-road hauler, a dump truck, a front-end loader, dewatering equipment (i.e., pumps, generators, piping), trailers, and assorted power or hand tools. Materials (i.e., logs, boulders, etc.) would be stockpiled in the CHC parking area, above the top of bank and outside the limit of grading, and would be shuttled to the project site with a loader or rubber track off-road dump truck.

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 *Regulatory Framework*

State

Streets and Highway Code Sections 260 through 263

The California Scenic Highway Program (Streets and Highway Code, Sections 260 through 263) is managed by the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. There are no state-designated scenic highways in Palo Alto. Interstate 280 from the San Mateo County line to State Route (SR) 17, which includes segments in Palo Alto, is an eligible, but not officially designated, State Scenic Highway.⁶

Local

City of Palo Alto 2030 Comprehensive Plan

Scenic routes are defined in the City of Palo Alto's 2030 Comprehensive Plan as a "highway, road or drive that, in addition to its transportation function, provides opportunities for the enjoyment of scenic resources, views, and access to areas of exceptional beauty or historical interest." Scenic routes in Palo Alto are University Avenue, Embarcadero Road, Oregon Expressway/Page Mill Road, Sand Hill Road, Foothill Expressway, Interstate 280, Junipero Serra Boulevard and portions of Arastradero Road.

Various policies in the 2030 Comprehensive Plan have been adopted for the purpose of avoiding or mitigating aesthetic impacts resulting from planned development with the City of Palo Alto, including:

Policies	Description
Policy L-2.11	Encourage new development and redevelopment to incorporate greenery and natural features such as green rooftops, pocket parks, plazas and rain gardens.
Policy L-9.1	Recognize Sand Hill Road, University Avenue between Middlefield Road and San Francisquito Creek, Embarcadero Road, Page Mill Road, Oregon Expressway, Interstate 280, Arastradero Road (west of Foothill Expressway), Junipero Serra Boulevard/Foothill Expressway and Skyline Boulevard as scenic routes and preserve their scenic qualities.
Policy L-9.8	Incorporate the goals of the Urban Forest Master Plan, as periodically amended, into the Comprehensive Plan by reference in order to assure that new land uses recognize the many benefits of trees in the urban context and foster a healthy and robust tree canopy throughout the City.

⁶ California Department of Transportation. "Scenic Highways." September 4, 2020.

<https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>.

City of Palo Alto Architectural Review Board

The ARB under Chapter 2.21 of the Palo Alto Municipal Code is charged with design review of all new construction, and changes and additions to commercial, industrial, and multi-family projects. The ARB's goals and purposes are to:

1. Promote orderly and harmonious development of the City.
2. Enhance the desirability of residence or investment in the City.
3. Encourage the attainment of the most desirable use of land and improvements.
4. Enhance the desirability of living conditions upon the immediate site or in adjacent areas.
5. Promote visual environments which are of high aesthetic quality and variety and which, at the same time, are considerate of each other.

The ARB reviews projects for consistency with the City of Palo Alto Municipal Code, Zoning Ordinance, Architectural Review Board Ordinance, and other regulations and guidelines, and makes a recommendation to the Director of Planning and Community Development and City Council for their final approval.

City of Palo Alto Municipal Code

The City of Palo Alto Municipal Code contains regulations governing trees and vegetation, including Protected Trees (Chapter 8 of the Municipal Code) and landscaping regulations and performance criteria that apply to all development within City limits.

4.1.1.2 *Existing Conditions*

Project Site

The project site, located at 650 Clark Way in the City of Palo Alto, is developed with two on-site schools, a therapy center, clinics for underserved families, a community education center, and an outdoor learning area/playground that collectively form the CHC campus. Project activities would be limited to a 275-foot-long, 50-foot-wide linear work area (approximately 0.69-acre) within the channel banks of the San Francisquito Creek that forms the northwestern border of the CHC campus.

The work site is within a narrow semi-natural riparian corridor that runs along the San Francisquito Creek. Channel banks within this portion of San Francisquito Creek are approximately 30 feet high, and are actively being eroded. Native and non-native trees with herbaceous understories are present throughout the work area. An approximately 100-foot section of the creek bank exposed by erosion events is partially vegetated primarily with non-native upland species. Scattered willows and shrubs are present along the creek bed.

Surrounding Area

The local character of the development surrounding the work site and riparian corridor is predominantly suburban, and the immediate surrounding area consists of single-family and multi-family residential, commercial, and academic institutional land uses. There are single-family homes located to the north and west across San Francisquito Creek in Menlo Park and to the south and east in Palo Alto, commercial businesses and the Stanford Shopping Center to the northeast, and open space surrounded by apartment buildings to the south.

Development within the project vicinity is developed with a mix of land uses and architectural styles. As a result, there is no dominant design aesthetic.

Scenic Views and Resources

The work site, which is within a riparian corridor that is designated as Streamside Open Space in the 2030 Comprehensive Plan, qualifies as Passive Open Space, which is open space set aside for the purpose of resource conservation, protection of public safety, and visual enjoyment, and is not intended to be used for active recreation. As part of Palo Alto's urban forest, the site provides aesthetic value in the form of riparian habitat for vegetation and wildlife as well as San Francisquito Creek itself.

Scenic Corridors

As previously noted, the City of Palo Alto has identified Sand Hill Road as a scenic route. Sand Hill Road is approximately 1,100 feet from the work area.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? ⁷ If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

⁷ Public views are those that are experienced from publicly accessible vantage points.

	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:				
4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact AES-1: The project would not have a substantial adverse effect on a scenic vista. **(No Impact)**

As mentioned under Section 4.1.1.2 Existing Conditions, the work site is within 1,100 feet of a locally-designated scenic route (Sand Hill Road). Due to the height of the channel banks and intervening development, however, the proposed log crib wall and rock toe foundation would not be visible from this scenic route and therefore could not adversely affect views from Sand Hill Road. The site is also within 475 feet of a pedestrian/bicycle overcrossing upstream of the project site; due to the curve of the creek and intervening development and trees, however, the proposed project would not be visible from the overcrossing.

Additionally, as Passive Open Space, the site is not intended to be used for active recreation, and therefore the site itself does not provide a scenic vista. Due to the aforementioned height of the channel banks and intervening development, the project could not adversely affect any scenic vistas or views from the surrounding area. Accordingly, the project would not have a substantial adverse effect on a scenic vista. **(No Impact)**

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 site and work area is not located along or visible from a state scenic highway; accordingly, the project would not substantially damage scenic resources within 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 would not conflict with applicable zoning and other regulations governing scenic quality. **(Less than Significant Impact)**

Phase II of the CHC San Francisquito Creek Stabilization project proposes to construct a log crib wall and rock toe foundation. Construction of the project would require excavation of artificial and native fill material and the removal of riparian vegetation and six trees, including three coast live oak, two California buckeyes, and one red willow. In addition, understory poison oak patches and herbaceous cover will be cleared and grubbed.

Following final grading activities, the riparian areas within the work site would be replanted with native woody and herbaceous species, including arroyo willow, sandbar willow, and native shrubs. All disturbed riparian habitat would be restored, resulting in a higher quality riparian corridor with a more diverse tree composition and healthier urban canopy. Furthermore, construction of the proposed log crib wall and rock toe foundation would stabilize the channel banks and prevent the further erosion and degradation of channel banks and exposure of the sheer pin wall installed during CHC's Phase I stabilization project.

Two of the five trees to be removed, both coast live oak, are protected trees under Chapter 8 of the City of Palo Alto Municipal Code. The project would be required to obtain a Tree Removal Permit for these two protected trees and to comply with the conditions of said permit. Trees would be replanted to replace the canopy of all five trees removed, or at a minimum of a 3:1 ratio, whichever is greater, with new native tree species that, as previously noted, would increase diversity and riparian cover within the work site.

As the project would result in an enhanced riparian corridor thereby preserving the site's aesthetic value, the project is consistent with the 2030 Comprehensive Plan regulations governing scenic quality. As noted, there would be no conflict with City zoning regulation designed to protect the City's trees and urban forest. Accordingly, the project would not substantially degrade the existing visual character or quality of views of the site and its surroundings, nor would it conflict with applicable zoning and other regulations governing scenic quality. **(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)**

Construction of the proposed project would occur during the dry summer months when days are longest between 8:00 AM and 6:00 PM Monday through Friday, and 9:00 AM and 6:00 PM on Saturday, and therefore would not require lighting that could adversely affect nighttime views in the area. The proposed project does not involve the installation of any new sources of light or reflective materials, and therefore would not create any new sources of substantial light or glare. **(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 called 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.⁸

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.⁹

Fire and Resource Assessment Program

The California Department of Forestry and Fire Protection (CAL FIRE) identifies forest land, timberland, and lands zoned for timberland production that can (or do) support forestry resources.¹⁰ Programs such as CAL FIRE's Fire and Resource Assessment Program and are used to identify whether forest land, timberland, or timberland production areas that could be affected are located on or adjacent to a project site.¹¹

4.2.1.2 *Existing Conditions*

The Santa Clara County Important Farmlands 2018 Map designates the project site as "Urban and Built-Up Land," defined as land with at least six structures per 10 acres. Common examples of Urban and Built-Up Land are residential, institutional, industrial, commercial, landfill, golf course, airports,

⁸ California Department of Conservation. "Farmland Mapping and Monitoring Program." Accessed September 4, 2020. <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>.

⁹ California Department of Conservation. "Williamson Act." Accessed September 4, 2020. <http://www.conservation.ca.gov/dlrp/lca>.

¹⁰ Forest Land is land that can support 10 percent native tree cover and allows for management of forest resources (California Public Resources Code Section 12220(g)); Timberland is land not owned by the federal government or designated as experimental forest land that is available for, and capable of, growing trees to produce lumber and other products, including Christmas trees (California Public Resources Code Section 4526); and Timberland Production is land used for growing and harvesting timber and compatible uses (Government Code Section 51104(g)).

¹¹ California Department of Forestry and Fire Protection. "Fire and Resource Assessment Program." Accessed September 4, 2020. <http://frap.fire.ca.gov/>.

and other utility uses. The site is not under a Williamson Act contract and there are no existing agricultural or forestry resources on or in the vicinity of the site.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4) Result in a loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

According to the Santa Clara County Important Farmland 2018 map, the project site is designated as Urban and Built-Up Land, meaning that the land contains a building density of at least six units per 10-acre parcel or is used for industrial or commercial purposes, golf courses, landfills, airports, or other utilities.¹² The site is not used for farming purposes. Therefore, the proposed project would not convert farmland to a non-agricultural use. **(No Impact)**

¹² California Department of Conservation. "Farmland Mapping and Monitoring Program." Accessed September 4, 2020. <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>.

Impact AG-2: The project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. **(No Impact)**

The project site is not designated as farmland or zoned for agricultural use and is not the subject of a Williamson Act contract. The surrounding area is urbanized and not zoned for agricultural use or considered farmland. Accordingly, there is no conflict with existing zoning for agricultural use or a Williamson Act contract. **(No 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)**

“Forest land” is defined as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. “Timberland” means land, other than land owned by the federal government and land designated experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.

The project site and surrounding area are not used or zoned for timberland or forest land. Therefore, the project would not impact timberland or forest land. **(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)**

As covered in the Impact AG-3 discussion above, the project site and surrounding area are not used or zoned for timberland or forest land. Since the site is designated as Urban and Built-Up Land and is surrounded by similarly urbanized areas, it could not support forest land or timberland. As the site is absent of forestry resources, the proposed development would not result in the loss of forest land or conversion of forest land to non-forest use. **(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. **(No Impact)**

Both the project site and surrounding area are urbanized with no presence of designated farmland or forest land, and are not used or zoned for agriculture. As a result, the implementation of the proposed project would not result in the conversion of farmland to non-agricultural use or forest land to non-forest use. **(No Impact)**

4.3 AIR QUALITY

The following discussion is based, in part, on an Air Quality Assessment prepared by Illingworth & Rodkin, Inc. in September 2020. A copy of this report is attached as Appendix C to this Initial Study.

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 (O₃), nitrogen oxides (NO_x), particulate matter (PM), carbon monoxide (CO), sulfur oxides (SO_x), and lead.¹³ Criteria pollutants are regulated because they result in health effects. An overview of the sources of criteria pollutants and their associated health 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Cancer• Chronic eye, lung, or skin irritation• Neurological and reproductive disorders

High O₃ 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 O₃ levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce O₃ levels. The highest O₃ levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources.

¹³ 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 (PM₁₀) and fine particulate matter where particles have a diameter of 2.5 micrometers or less (PM_{2.5}). Elevated concentrations of PM₁₀ 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).¹⁴ 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, O₃, 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.

¹⁴ California Air Resources Board. "Overview: Diesel Exhaust and Health." Accessed October 12, 2020. <https://www.arb.ca.gov/research/diesel/diesel-health.htm>.

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 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 DPM (in addition 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.¹⁵

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.

¹⁵ BAAQMD. *Final 2017 Clean Air Plan*. April 19, 2017. <http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans>.

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the City's Comprehensive Plan have been adopted for the purpose of avoiding or mitigating air quality impacts resulting from planned development within the City, including the following:

Policies	Description
Policy L-2.12	Ensure that future development addresses potential risks from climate change and sea level rise.
Policy N-2.4	Protect soils in both urban and natural areas as the foundation of a healthy urban forest. Recognize that healthy soils are necessary to filter air and water, sustain plants and animals and support buildings and infrastructure.
Policy N-5.1	Support regional, State, and federal programs that improve air quality in the Bay Area because of its critical importance to a healthy Palo Alto.
Policy N-5.3	Reduce emissions of particulates from, manufacturing, dry cleaning, construction activity, grading, wood burning, landscape maintenance, including leaf blowers and other sources.
Policy N-5.4	All potential sources of odor and/or toxic air contaminants shall be adequately buffered, or mechanically or otherwise mitigated to avoid odor and toxic impacts that violate relevant human health standards.
Policy N-5.5	Support the BAAQMD in its efforts to achieve compliance with existing air quality regulations by continuing to require development applicants to comply with BAAQMD construction emissions control measures and health risk assessment requirements.
Policy N-5.6	Mitigate potential sources of toxic air contaminants through siting or other means to reduce human health risks and meet the BAAQMD's applicable threshold of significance. When siting new sensitive receptors such as schools, day care facilities, parks or playgrounds, medical facilities and residences within 1,000 feet of stationary sources of toxic air contaminants or roadways used by more than 10,000 vehicles per day, require projects to consider potential health risks and incorporate adequate precautions such as high-efficiency air filtration into project design.

4.3.1.3 *Existing Conditions*

The Bay Area is considered a non-attainment area for ground-level O₃ and PM_{2.5} under both the federal Clean Air Act and state Clean Air Act. The area is also considered nonattainment for PM₁₀ 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 O₃ and PM₁₀, BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O₃ precursor pollutants (ROG and NO_x), PM₁₀, and PM_{2.5}, and apply to both construction period and operational period impacts.

In addition to receptors present on the CHC campus, sensitive receptors in the vicinity of the project site include single-family residences to the north and west across San Francisquito Creek and multi-family residences to the south and east.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.3.2.1 ***Thresholds of Significance***

Impacts from the Project

As discussed in CEQA Guidelines Section 15064(b), the determination of whether a project may have a significant effect on the environment calls for judgment on the part of the lead agency and must be based to the extent possible on scientific and factual data. The City of Palo Alto has considered the air quality thresholds updated by BAAQMD in May 2017 and regards these thresholds to be based on the best information available for the San Francisco Bay Area Air Basin and conservative in terms of the assessment of health effects associated with TACs and PM_{2.5}. The BAAQMD CEQA Air Quality thresholds used in this analysis are identified in Table 4.3-2 below.

Table 4.3-2: BAAQMD Air Quality Significance Thresholds ¹⁶			
Pollutant	Construction Thresholds	Operation Thresholds	
	Average Daily Emissions (pounds/day)	Annual Daily Emissions (pounds/year)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG, NO _x	54	54	10
PM ₁₀	82 (exhaust)	82	15
PM _{2.5}	54 (exhaust)	54	10
CO	Not Applicable	9.0 ppm (eight-hour) or 20.0 ppm (one-hour)	
Fugitive Dust	Dust Control Measures/Best Management Practices	Not Applicable	
Health Risks and Hazards for New Sources (within a 1,000-foot Zone of Influence)			
Health Hazard	Single Source	Combined Cumulative Sources	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental Annual PM _{2.5}	0.3 µg/m ³	0.8 µg/m ³ (average)	

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

The BAAQMD's 2017 CAP prepared for the Bay Area air basin defines an integrated, multi-pollutant control strategy to reduce emissions of particulate matter, TACs, ozone precursors, and GHGs. The proposed control strategy is designed to complement efforts to improve air quality and protect the climate that are being implemented by partner agencies at the state, regional, and local scale. The control strategy encompasses 85 individual control measures. The control measures describe specific actions to reduce emissions of air and climate pollutants from the full range of emission sources and are based on the following four key priorities:

- Reduce emissions of criteria air pollutants and TACs from all key sources.
- Reduce emissions of “super-GHGs” such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
- Decarbonize our energy system.

¹⁶ Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017.

A project is considered consistent with the 2017 CAP if it: (a) supports the primary goals of the 2017 CAP; (b) includes relevant control measures; and c) does not interfere with implementation of the 2017 CAP control measures.¹⁷

The proposed project supports the primary goals of the 2017 CAP in that it does not exceed the BAAQMD thresholds for construction and operational air pollutant emissions (as discussed in Impact AIR-2 below). Additionally, as the proposed stabilization measures are outside of the public right-of-way and transportation network, would not generate any vehicle trips, and would not consume fossil fuels or electricity, the project would not preclude implementation of the 2017 CAP control measures and would not conflict with or obstruct implementation of the 2017 CAP. The project, therefore, would not result in a significant impact related to consistency with an applicable air quality plan. **(Less Than Significant Impact)**

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)**

As part of an effort to attain and maintain ambient air quality standards for ozone and PM₁₀, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_x), PM₁₀, and PM_{2.5} and apply to both construction period and operational period impacts.

As described in Appendix A, the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the project assuming full build-out conditions. The project land use types and size, and anticipated construction schedule were input to CalEEMod.

Project Construction

Construction activities would occur, at minimum, over 55 working days and primarily involve site preparation and grading, as well as the use of Tier 4 construction equipment including two excavators, one loader, one truck, and one generator. Project-related construction emissions were estimated using CalEEMod. Total and average daily emissions of reactive organic gases (ROG), NO_x, PM₁₀ and PM_{2.5} exhaust associated with construction and significance thresholds are shown in Table 4.3-3.

¹⁷ Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2017. Pages 9-2 and 9-3.

Table 4.3-3: Construction Emissions and BAAQMD Significance Thresholds				
	ROG	NO_x	PM₁₀ Exhaust	PM_{2.5}
Uncontrolled Construction Emissions Per Year (tons)	0.01	0.11	0.01	0.01
Average Daily Construction Emissions Per Year (pounds/day) ¹	0.5	3.9	0.1	0.1
<i>BAAQMD Thresholds (pounds per day)</i>	<i>54</i>	<i>54</i>	<i>82</i>	<i>54</i>
<i>Exceed Threshold?</i>	No	No	No	No
¹ Assumes 55 construction workdays				

As indicated in Table 4.3-3, the predicted construction period emissions would not exceed the BAAQMD significance thresholds, and, therefore, would not result in a significant impact resulting from a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment. **(Less than Significant Impact)**

Project Operation

After construction, the project, i.e. the stabilized creek bank, would not generate any vehicle trips or consume fossil fuels or electricity resulting in operational emissions. Therefore, as there are no operational emissions associated with the project, operation of the proposed 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. **(No Impact)**

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

Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to PM_{2.5}. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A qualitative health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of diesel particulate matter (DPM) and PM_{2.5} (see analysis in Appendix A).

As discussed under Section 4.3.1.2 Existing Conditions, the closest sensitive receptors to the site are the single-family residences present along the western bank of San Francisquito Creek. It is anticipated that these residences will be exposed to construction emissions over the course of the 55-day construction period. These residences are assumed to include infants and small children who are

more sensitive to the effects of TACs, especially DPM. Given the close proximity of residential sensitive receptors to the project site, uncontrolled construction activities could result in potentially significant impacts in terms of excess cancer risk to any infants present or increased annual PM_{2.5} concentrations caused by construction equipment and traffic exhaust and fugitive dust.

Impact AIR-3.1: The proposed project would generate TACs and PM_{2.5} during construction that could adversely expose nearby sensitive residential receptors.
(Significant Impact)

Mitigation Measures: The project would implement the following mitigation measures to reduce exposure of nearby sensitive receptors to TACs and PM_{2.5}.

MM AIR-3.1: During any construction period ground disturbance, the project applicant shall ensure that the project contractor implements measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. The contractor shall implement the following Best Management Practices that are required of all projects:

- 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).
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized by either 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 City of Palo Alto regarding dust complaints. This person shall respond and take corrective action within 48 hours. The

BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

MM AIR-3.2: The project shall use equipment that has low DPM or zero emissions, and implement the following measures:

- All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days shall meet EPA particulate matter emissions standards for Tier 4 or use engines meeting the Tier 2 or 3 standards that include particulate matter emissions control equivalent to CARB Level 3 Verified Diesel Emission Control Strategy (VDEC) devices. Alternatively (or in combination), the use of alternatively-fueled or electric equipment (i.e., non-diesel) would be consistent with this requirement.
- Avoid staging of construction equipment near portions of the site that are adjacent to residences.

Implementation of MM AIR-3.1 would reduce fugitive emissions by approximately 10 percent. On-site diesel emissions would be reduced by 85 to 90 percent with implementation of MM AIR-3.2. This would reduce cancer risks proportionally, such that the mitigated risk would be effectively controlled. After implementation of these mitigation measures, the project would have a less-than-significant impact with respect to community risk caused by construction activities. **(Less than Significant Impact with Mitigation Incorporated)**

Project Operation

Major sources of stationary TACs typically include factories, refineries, power plants, etc. The creek stabilization project includes construction of a log crib wall and rock toe foundation, uses that would not generate TACs or PM_{2.5}. Accordingly, project operation would not expose sensitive receptors to substantial pollutant concentrations. **(No 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)**

Project Construction

Construction activities for the proposed project would generate localized emissions of diesel exhaust resulting from construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors; however, the odors would be localized and temporary and are not likely to affect people off-site. **(Less than Significant Impact)**

Project Operation

Odors are generally considered an annoyance rather than a health hazard. Land uses that have the potential to be sources of odors during operation include, but are not limited to, wastewater treatment

plants, landfills, composting operations, and food manufacturing facilities. The proposed creek bank stabilization project would not be expected to generate objectionable odors during the operational phase. **(No Impact)**

4.4 BIOLOGICAL RESOURCES

The following discussion is based in part on an Arborist Report and Biological Assessment completed by WRA Environmental Consultants, Inc. (WRA) in December 2019 and April 2020, respectively, as well as a peer review completed by H.T. Harvey & Associates in October 2020. Copies of these reports can be found in Appendices B, C and D, 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 USFWS and the 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. The taking and killing of birds resulting from an activity is not prohibited by the MBTA when the underlying purpose of that activity is not to take birds.¹⁸ Nesting birds are considered special-status species and are protected by the USFWS. 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.

¹⁸ United States Department of the Interior. “Memorandum M-37050. The Migratory Bird Treaty Act Does Not Prohibit Incidental Take.” Accessed October 12, 2020. <https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>.

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

City of Palo Alto 2030 Comprehensive Plan

Various policies in the 2030 Comprehensive Plan were adopted for the purpose of avoiding or mitigating impacts to biological resources resulting from planned development within the City, including the following:

Policies	Description
Policy L-9.8	Incorporate the goals of the Urban Forest Master Plan, as periodically amended, into the Comprehensive Plan by reference in order to assure that new land uses recognize the many benefits of trees in the urban context and foster a healthy and robust tree canopy throughout the City.
Policy N-1.1	Preserve, protect and enhance public and private open space and ecosystems of Palo Alto from the foothills to the baylands. Respect the role that natural and landscaped areas within the urbanized part of the city play in a resilient ecological continuum as illustrated in 2030 Comprehensive Plan Map N.1.
Policy N-1.4	Protect special-status species and plant communities, including those listed by State and federal agencies and recognized organizations from the impacts of development and incompatible activities.
Policy N-1.5	Preserve and protect the Bay, marshlands, salt ponds, sloughs, creeks, and other natural water or wetland areas as open space, functioning habitats, and elements of a larger, interconnected wildlife corridor, consistent with the Baylands Master Plan, as periodically amended, which is incorporated here by reference.
Policy N-1.7	Carefully manage access and recreational use of environmentally sensitive areas, including the baylands, foothills and riparian corridors, in order to protect habitats and wildlife from the impacts of humans and domesticated animals.
Policy N-2.2	Use the UFMP, as periodically amended, to guide City decisions related to all elements of Palo Alto's urban forest, from its understory habitat to canopy cover.

Policies	Description
Policy N-2.4	Protect soils in both urban and natural areas as the foundation of a healthy urban forest. Recognize that healthy soils are necessary to filter air and water, sustain plants and animals and support buildings and infrastructure.
Policy N-2.9	Minimize removal of, and damage to, trees due to construction-related activities such as trenching, excavation, soil compacting and release of toxins.
Policy N-2.10	Preserve and protect Regulated Trees, such as native oaks and other significant trees, on public and private property, including landscape trees approved as part of a development review process and consider strategies for expanding tree protection in Palo Alto.
Policy N-3.2	Prevent the further channelization and degradation of Palo Alto's creeks.
Policy N-3.3	Protect the city's creeks from the impacts of future buildings, structures, impervious surfaces and ornamental landscaping and preserve their function as habitat connectivity corridors by establishing a range of setback requirements that account for existing creek conditions, land use characteristics, property ownership and flood control potential.
Policy N-3.4	Recognize that riparian corridors are valued environmental resources whose integrity provides vital habitat for fish, birds, plants and other wildlife, and carefully monitor and preserve these corridors.
Policy N-3.5	Discourage bank instability, erosion, downstream sedimentation, and flooding by minimizing site disturbance and nearby native vegetation removal on or near creeks and by reviewing grading and drainage plans for development near creeks and elsewhere in their watersheds.
Policy N-3.7	Avoid fencing, piping and channelization of creeks when flood control and public safety can be achieved through measures that preserve the natural environment and habitat of the creek.
Policy N-4.4	Manage water supply and water quality to reflect not only human use but also the water needed to sustain plant and animal life.

City of Palo Alto Municipal Code

The City of Palo Alto Municipal Code, Title 8, Trees and Vegetation includes regulations relevant to biological resources on the project site. Chapter 8.10, Tree Preservation and Management Regulations, establishes regulations for the preservation of protected trees, defined as:

- Coast live oak, 11.5 inches in diameter or greater when measured 4.5 ft above natural grade
- Valley oak, 11.5 inches in diameter or greater when measured 4.5 ft above natural grade
- Coast redwood, 18 inches in diameter or greater when measured 4.5 ft above natural grade
- A heritage tree designated by the City Council

4.4.1.2 *Existing Conditions*

Phase II of the CHC San Francisquito Creek Stabilization project would occur within a 0.69-acre area on the northwest corner of the CHC campus. The primary biological feature is San Francisquito Creek and the surrounding semi-natural riparian corridor. Vegetation within the work area includes non-native grasses and herbs, and several tree species, including coast live oak, California bay, and California buckeye.

Natural Communities

Natural communities within the work area were documented by WRA during field surveys conducted between February 2018 and November 2019. Natural community acreages are summarized below in Table 4.4-1 and described in greater detail in Appendix C.

Table 4.4-1: Natural Community Acreages Within the Work Area	
Community Type	Acres
<i>Non-Sensitive Communities</i>	
Landscaped/Developed	0.32
Unvegetated/Ruderal	0.15
<i>Sensitive Communities</i>	
Intermittent Stream	0.14
Mixed Riparian Woodland	0.08
Total	0.69

Landscaped/Developed

Approximately 0.32 acre of the work area is landscaped or developed. This portion of the work area includes the existing outdoor learning area/playground, a paved parking lot turnaround, gravel access pathways, fencing, and landscaped areas. Landscaped areas contain a mixture of ornamental and native tree species including pear, coast redwood, and coast live oak.

Unvegetated/Ruderal

A 0.15-acre area of the San Francisquito Creek embankment is unvegetated/ruderal. A 0.01-acre unvegetated/ruderal area is above the high water mark but below the top of bank where the temporary access road would be constructed.

Intermittent Stream

A 275-foot linear portion of intermittent stream (San Francisquito Creek) is present within the work area. This portion of San Francisquito Creek has been designated by the NMFS as critical habitat for Central Coast California (CCC) Distinct Population Segment (DPS) steelhead.

A number of woody species were observed on the banks of San Francisquito Creek by WRA, including polished willow, coast live oak, tree of heaven, and California bay. Portions of the creek bank that previously slumped into the creek are primarily denuded of vegetation or contain sparse cover of tobacco tree, French broom, and native and non-native flowering plant species including Bermuda buttercup, stinging nettle, and poison hemlock.

Mixed-Riparian Woodland

A 0.08-acre portion of vegetated mixed-riparian woodland is present at the proposed location of the log crib wall, including a 0.06-acre area below the top of bank, requiring the removal of two coast live oak, two California buckeyes, and one red willow. All trees to be removed are located on the eastern bank of San Francisquito Creek.

Special-Status Species

Special-status species are plants and animals that are legally protected under the Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), or other regulations, and species that are considered sufficiently rare by the scientific community to qualify for such listing. For purposes of this analysis, special-status plant species include the following:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, rare, or a candidate species.
- Listed by the CNPS as California Rare Plant Rank (CRPR) 1A, 1B, 2, 3, or 4.

For purposes of this analysis, special-status wildlife species include the following:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by the CDFW as a California species of special concern.
- Listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

Potential occurrence of special-status species within the work area were evaluated during two biological surveys conducted by WRA on February 6, 2018 and November 1, 2019 (see Appendix C).

This evaluation is supplemented by H.T. Harvey's review (Appendix D) of aerial imagery of the project site, the CDFW's California Natural Diversity Database (CNDDDB), and the Stanford University Habitat Conservation Plan (HCP). For special-status plant species, the California Native Plant Society's (CNPS's) CRPR 1A, 1B, 2A, and 2B lists occurring in Palo Alto and surrounding areas were also reviewed. H.T. Harvey's review also included a search of the CNPS records for CRPR 3 and 4 species occurring in San Mateo County.

Special-Status Plants

No special-status plant species were observed in the work area during WRA's biological surveys. Based on existing site conditions, which include prolific disturbance from the eroding creek bank, abundance of non-native invasive species along the creek bank and riparian habitat, and absence of species observed during focused surveys, no special-status plant species occur or have the potential to occur within the work area.

Special-Status Wildlife

The San Francisco dusky-footed woodrat was observed during WRA's biological surveys; no other special-status wildlife species were observed in the work area. One special-status species, CCC DPS steelhead, is known to be present within San Francisquito Creek. WRA identified nine special-status wildlife species that are either known to be present or have been determined to have a moderate or high potential to occur in the work area, including:

- San Francisco dusky-footed woodrat
- Allen's hummingbird
- California thrasher
- White-tailed kite
- Nuttall's woodpecker
- Oak titmouse
- Californian (Brewster's) yellow warbler
- California red-legged frog
- CCC DPS steelhead

In addition to the nine special-status wildlife species listed above, H.T. Harvey biologists identified the southwestern pond turtle, a California species of special concern, as likely to occur within the work area.

General Wildlife

In addition to the special-status wildlife identified above, a number of other common animals (birds, mammals, amphibians, reptiles, and fish) are expected to occur on-site. These animals are listed below.

Birds

Mixed riparian woodland and landscaped areas on the site provide habitat for breeding and wintering birds, including:

- Bewick's wren
- Chestnut-backed chickadee
- Anna's hummingbird
- Dark-eyed junco

- California scrub-jay
- Stellar's jay
- Hutton's vireo
- American robin
- Hermit thrush
- Ruby-crowned kinglet
- Townsend's warbler

Mammals

Mixed riparian woodland and landscaped areas on the site also provide habitat for native and non-native mammals, including:

- Raccoon
- Eastern gray squirrel
- Eastern fox squirrel

Amphibians and Reptiles

Leaf litter and fallen logs present on-site provide cover and foraging habitat for amphibians and reptiles, including:

- California slender salamander
- Western fence lizard
- Northern alligator lizard

San Francisquito Creek provides habitat for a number of aquatic amphibians and reptiles, including:

- Sierran chorus frog
- Western toad
- Bullfrog
- Southwestern pond turtle

Fish

San Francisquito Creek provides habitat for a number of fish species, including:

- Threespine stickleback
- Western mosquitofish
- Prickly sculpin
- Pacific staghorn sculpin
- Rainwater killifish

Protected Trees

A total of 26 trees, including four protected trees (all coast live oak), were identified within the work site and surrounding area, as summarized in Table 4.4-2. Tree conditions and locations are described in Appendix B.

Table 4.4-2: Tree Survey Summary				
Tree ID #	Common Name	Multi-stem	Ordinance Protected Tree	Total DBH
742	Coast live oak	No	Yes	14.1
743	Blue gum	No	No	50
744	Coast live oak	No	No	4
745	Coast live oak	Yes	No	7.7
746	California buckeye	Yes	No	39.6
747	California bay	Yes	No	118.2
748	California bay	Yes	No	58.1
749	California bay	Yes	No	78.5
750	Blue gum	No	No	19.3
751	Coast live oak	Yes	Yes	42.1
752	Coast redwood	No	No	16.1
753	Coast redwood	No	No	14.8
754	Coast live oak	No	Yes	22.1
987	Red willow	Yes	No	6
988	Silver wattle	No	No	5.5
989	Silver wattle	Yes	No	8.5
990	Bigleaf maple	Yes	No	28.1
991	California buckeye	Yes	No	23.2
992	Tree of Heaven	No	No	6.1
993	Blue elderberry	Yes	No	11.1
994	Blue gum	Yes	No	65
995	Blue gum	No	No	51.5
996	Coast live oak	No	Yes	12.6
997	Coast live oak	No	No	4
998	Silver wattle	No	No	6.1
1000	Silver wattle	No	No	9.7
Bolded entries would be removed by project implementation				

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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 discussed under Section 4.4.1.2 Existing Conditions, there are 10 special-status species that are either present or have been determined to have a moderate or high potential to occur in the work area. As part of the project, the applicant is proposing to implement the following conservation measures and BMPs to avoid and minimize adverse effects on sensitive species and habitats.

Conservation Measures and Best Management Practices:

- The project shall be timed to occur during the dry season (May 1 to October 30).
- Construction disturbance or removal of vegetation shall be restricted to the minimum footprint necessary to complete the work. The work area will be delineated with high visibility fencing, markers, or silt fencing to minimize impacts to habitat beyond the work limit. Fencing will be maintained throughout project construction and removed upon completion.
- Any disturbed areas shall be restored with a combination of native seed mix, or appropriate plantings at the conclusion of the project.
- Staging, maintenance, and parking areas shall be located outside of stream channel banks. Any petroleum or similar substances shall be staged outside of the channel within a contained area.
- Prior to the start of construction, the contractor shall prepare a hazardous materials management/fuel spill containment plan. This plan shall include procedures to be used in the event of spills as well as information regarding the disposal of any spilled materials.
- Refueling or maintenance of equipment (stationary or otherwise) within the top of bank shall only occur when secondary containment sufficient to eliminate escape of all potential fluids is in place.
- Stationary equipment such as motors, pumps, and generators located adjacent to the creek shall be positioned over drip pans.
- All activities performed near aquatic features shall have spill kits available for use in the case of an accidental spill.
- Vehicles shall be decontaminated before and after working on the project (e.g. all soils and petroleum fluids shall be cleaned from the equipment).
- Any equipment or vehicles operated adjacent to aquatic features shall be checked and maintained daily to prevent leaks.
- Appropriate BMPs shall be installed around any stockpiles of soil or other materials which could be mobilized to prevent runoff from entering aquatic habitats.
- No construction debris or wastes shall be placed where they may be washed into the creek. All such debris and waste shall be picked up regularly and shall be disposed of at an appropriate facility.

- Any food waste that may attract scavengers shall be deposited in closed containers and removed from the work area daily.
- Upon completion of work, all temporary construction materials shall be removed from the work area, including any temporary ramps or temporary access points.
- All construction personnel shall participate in a worker environmental awareness program. Under this program, a NMFS- and USFWS-approved biologist (either in person or via a prerecorded presentation) will instruct all construction personnel about: (1) the description and status of the species found on-site; (2) the importance of their associated habitats; (3) a list of measures being taken to reduce impacts on these species during work, and (4) procedures to follow if a protected species is encountered. Once completed workers shall sign a list verifying the completion of training. The list of trained personnel shall be available on-site until completion of the project.
- The contact information for a designated representative who will assure compliance with any measures implemented for the project shall be submitted to the USFWS and NMFS at least 30 days prior to the start of work.
- CDFW, USFWS, and NMFS shall be allowed to inspect the site at any point during the project with a request for access.
- Non-native predators (e.g. bullfrogs) shall not be relocated.

Potential impacts specific to the special-status species with the potential to occur within the work area are discussed below.

CCC DPS Steelhead Trout

As previously noted, the portion of San Francisquito Creek within the work area is designated as critical habitat for CCC DPS steelhead trout, which are migratory fish known to pass through the area when flows are present, typically during wet winter months that support higher flows.

Direct Impacts

The project is scheduled to occur during the dry season when creek flows are at their lowest, and the creek bed is naturally dry. If flows are present, they would either be diverted to the opposite side of the creek channel outside of the work area, or a gravity fed bypass system would be installed to allow the free flow of water downstream for as long as water is naturally present, which would allow mature steelhead to continue downstream.

This dewatering process could, however, dry out pools within the work area, which could strand juvenile steelhead, if present.

Impact BIO-1.1: Dewatering of the work site could strand juvenile steelhead, if present.
(Significant Impact)

Mitigation Measure: If water is present at the time of construction, the following mitigation measures shall be implemented to minimize impacts to CCC DPS steelhead.

MM BIO-1.1:

If dewatering is required, a NMFS- and USFWS-approved biologist shall lead a fish rescue to capture and relocate any steelhead from within the work area prior to the start of work. The biologist shall be on-site during all activities that may result in take of steelhead or California red-legged frogs.

Additionally:

- If habitat is available, any captured steelhead shall be relocated immediately downstream of the work area. If suitable habitat is not available, any steelhead shall be released at the perennial pool below Searsville Dam.
- If a fish rescue is required, the NMFS- and USFWS-approved biologist shall lead the fish rescue to capture and relocate any steelhead from within the work area prior to the start of work.
- A bypass shall be installed to route flows around the work area either via diversion into another portion of the extant channel which is outside of the work area footprint, or via a pipe, hose, or similar structure.
- Any pumps used for the project shall be screened according to NMFS criteria for salmonid streams until the area has been cleared by a NMFS- and USFWS-approved biologist.
- Any water actively pumped out of the work area (e.g. removal of groundwater seepage) shall (at minimum) pass through a gravel bucket or filter sock to lower turbidity before waters are allowed to reenter the live stream.
- Any pumps used in areas not cleared of fish shall be screened according to the NMFS screening criteria for waters containing salmonids (NMFS 1997). Once an area has been cleared, no additional screening shall be required.

Implementation of MM BIO-1.1 would prevent the stranding of juvenile steelhead by capturing and relocating them to suitable habitats either downstream or at the Searsville Dam. Potential impacts to captured steelhead as a result of capture and relocation would be minimal, since the NMFS- and USFWS-approved biologist would be knowledgeable in capture methods and techniques to minimize stress on captured steelhead, thereby making the relocation process as minimally stressful to steelhead as possible while fulfilling the benefit of relocating fish to other sections of creek which are not subject to construction-related dewatering effects. Accordingly, the project would not have a substantial adverse effect on CCC DPS steelhead. **(Less than Significant Impact with Mitigation Incorporated)**

Indirect Impacts

As the portion of San Francisquito Creek within the work site is designated as CCC DPS critical habitat, the project has the potential to indirectly impact CCC DPS steelhead through habitat modifications.

Currently the creek banks are composed of largely unvegetated unconsolidated sediment which lacks structure to support cover or foraging resources for steelhead. Conversely, construction of the proposed crib wall would have several beneficial indirect effects to steelhead. The overall structure would be composed of root wads, topped by a timber or log crib wall which would increase habitat complexity and diversity. Steelhead individuals would likely benefit from interstitial spaces for cover, potentially decreasing predation risk. Steelhead may also use those spaces as refuge from high flow velocity, keeping individuals from washing out to the San Francisco Bay before acclimation to saltwater could occur. Natural elements such as stone and timber are also better for supporting invertebrates or other similar food sources. Additionally, riparian tree plantings would increase woody debris and detritus in the local system, further increasing the available foraging materials and potentially the growth and survival rate for individuals. The bank within the crib wall would be planted with numerous willow stakes while the higher elevations of the bank would be planted with oaks and buckeye trees. Once mature, these trees would provide shade to waters beneath, decreasing thermal exposure and reducing heat stress on steelhead within the crib wall.

After completion of the project, any items such as treated lumber and spills from construction equipment could potentially impact steelhead when flows return. The project proposes to only use non-treated lumber, and would have a spill prevention plan in place as described under Impact HYD-1 in order to prevent spills from construction equipment. Given these design elements, the project would not have any indirect adverse effect on steelhead through habitat modification. **(No Impact)**

California Red-Legged Frog

No California red-legged frogs (CRLF) or CRLF breeding habitat were observed during field surveys conducted by WRA. Therefore, the project would not directly affect CRFF eggs or larvae. There are, however, several occurrences of CRLF within three miles of the work area. It is possible that CRLF from areas upstream of the project site may disperse or be washed downstream during high creek flows and could relocate to the work area. If CRLF are present during construction, vegetation removal could result in take of CRLF by injury or harassment.

Impact BIO-1.2: Vegetation removal could have a substantially adverse effect on California red-legged frogs, if present on-site during construction. **(Significant Impact)**

Mitigation Measures:

MM BIO-1.2: To avoid take of the California red-legged frog, the following mitigation measures are proposed:

- Within 24 hours prior to the start of construction, a NMFS- and USFWS-approved biologist shall conduct a preconstruction survey for CRLF within the bounds of the work area.
- The NMFS- and USFWS-approved biologist shall have stop work authority for all project activities to protect CRLF and shall be given the authority to communicate with the USFWS if they exercise such authority.

- If CRLF are detected during preconstruction surveys, or during the course of work, any work in the vicinity that may threaten CRLF shall stop. The NMFS- and USFWS-approved biologist shall then determine the best course of action. If possible, the CRLF will be monitored and allowed to leave the area of its own volition. However, if the CRLF is unlikely to fully relocate out of the work area on their own in a reasonable timeframe, or if they cannot leave the area without exposure to other risks (e.g. predation); the individual(s) shall be captured and relocated.
- Any vegetation that is proposed for removal and could conceal CRLF shall be removed under the supervision of a NMFS- and USFWS-approved biologist. If vegetation is too dense to be adequately surveyed (e.g. tall grasses, or blackberry), the NMFS- and USFWS-approved biologist may request that vegetation is cut to a height of six to 12 inches (and cut vegetation removed) prior to conducting a survey. If no CRLF are found, the vegetation shall be cut to ground level before work with tracked or wheeled equipment is initiated.
- Project-related vehicles shall observe a 20-mile per hour speed limit within the work area. All construction activities shall cease one half hour before sunset and shall not begin prior to one half hour after sunrise.
- Construction activities shall not occur during rain events or within 24 hours of events which have delivered greater than 0.25 inches of rain, until a NMFS- and USFWS-approved biologist resurveys and clears the work site.
- Erosion control structures shall not include monofilament netting or similar materials that may entangle CRLF.
- Any open holes or trenches shall be covered or have escape ramps installed to prevent CRLF from becoming entrapped.
- Any pipes or similar materials required for the project shall be stored in upland areas, and elevated or covered to prevent entrance by CRLF.

Implementation of MM BIO-1.2 would prevent take of CRLF during vegetation removal through supervision of vegetation removal activities and/or relocation of any CRLF encountered during the vegetation removal process by a NMFS- and USFWS-approved biologist. Once all vegetation has been removed and any initial grading is complete, all potential habitat for California red-legged frogs will have been removed, leaving no place for CRLF to hide and eliminating any future potential to be impacted by project activities. Additionally, the project would occur during the dry season when rains are not likely to prompt CRLF to disperse into the work area, eliminating potential for further interaction with CRLF that may be in the vicinity. Therefore, the project would not have a substantial adverse effect on CRLF. **(Less than Significant Impact with Mitigation Incorporated)**

Southwestern Pond Turtle

Although no southwestern pond turtles were encountered during the biological surveys, southwestern pond turtles are known to occur upstream of the work area. Therefore it is possible that this species uses the San Francisquito Creek corridor for dispersal. If southwestern pond turtles are present during

construction, individuals could be injured or killed, and their habitat and movement could be disrupted. With application of MM BIO-1.1 and MM BIO-1.2, however, potential impacts to the southwestern pond turtle would be less than significant, since these measures, while focused on steelhead and red-legged frogs, would also minimize the potential for turtles to be present due to dewatering and vegetation removal of the project site. **(Less than Significant Impact with Mitigation Incorporated)**

San Francisco Dusky-Footed Woodrat

Woodland and scrub areas within the work site have the potential to support the San Francisco dusky-footed woodrat. The species was observed in the study area by WRA biologists during a February 6, 2018 site visit. If any active nests are present when project construction occurs, nests with young could be destroyed, and adults could potentially be injured, killed, or displaced into areas where they may suffer from predation or over-crowding.

Impact BIO-1.3: Construction of the proposed project could have a substantial adverse effect on San Francisco dusky-footed woodrat, if active nests are present during project construction. **(Significant Impact)**

Mitigation Measure:

MM BIO-1.3: Prior to the initiation of project work within the creek or banks of San Francisquito Creek, a qualified biologist shall conduct a preconstruction survey for dusky-footed woodrat nests. If a dusky-footed woodrat nest is found during survey, the qualified biologist shall relocate it outside of the work area, out of harm's way or allow it to move out of the area under its own power.

Implementation of MM BIO-1.3 would prevent the death and displacement of young and adult San Francisco dusky-footed woodrats by relocating them and/or their nests prior to construction activities. Accordingly, with implementation of MM BIO-1.3, impacts to the San Francisco dusky-footed woodrat would be less than significant. **(Less than Significant Impact with Mitigation Incorporated)**

Special-Status Birds

Six special-status bird species have the potential to be present within the work area, including Allen's hummingbird, the California thrasher, the white-tailed kite, Nuttall's woodpecker, the oak titmouse, and Brewster's yellow warbler. If any active nests are present when project activities occur, nests with eggs or young could be destroyed, and disturbance associated with project implementation could cause adults in adjacent areas to abandon active nests.

Impact BIO-1.4: Vegetation removal, ground disturbing activities, and other construction activities could result in the direct removal or destruction of active nests or may create audible, vibratory, and/or visual disturbances that cause birds to abandon active nests. **(Significant Impact)**

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

MM BIO-1.4: A qualified wildlife biologist shall conduct a nesting bird survey no more than 14 days prior to the start of project construction activities. During this survey, the ornithologist shall inspect all trees and other potential nesting habitats (e.g., trees, shrubs, ruderal grasslands, buildings) in and immediately adjacent to the impact areas for nests. If no active nests are identified during the surveys, no disturbances will occur to birds and work will progress without restriction. If active nests are identified, a no-disturbance buffer around the nest shall be implemented to avoid disturbances to nesting birds. Buffers will be determined by a qualified biologist, and typically range from 25 feet to 500 feet depending on the species and protection status of that species. Once an active nest is determined to no longer be active, because of young fledging or predation, the buffer around the nest shall be removed and work will progress without restriction.

With implementation of this measure, death and displacement of white-tailed kite, yellow warbler, and other nesting birds would be prevented by identifying the location of any active nests and, if found, protecting these nests with no-disturbance buffers. Accordingly, with implementation of MM BIO-1.4, impacts to special-status birds would be less than significant. **(Less than Significant Impact with Mitigation Incorporated)**

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)**

Construction of the proposed project would disturb 0.08 acre of vegetated riparian habitat through the placement of bioengineered bank stabilization materials, excavation of 101 cubic yards of soil, grading, and placement of 315 cubic yards of fill for the crib wall structure and backfill material.

Preparation of the temporary access road would partially extend into the riparian area as well, disturbing approximately 0.01 acre through the placement of an estimated 191 cubic yards of clean fill. The project would also remove riparian vegetation, including six trees: three coast live oaks, two California buckeyes, and one red willow. In addition, poison oak patches and herbaceous cover would be cleared and grubbed.

As discussed under Impact BIO-1, the project includes conservation measures and BMPs to minimize the impacts on riparian habitats and sensitive status species. Additionally, the project includes a Habitat Mitigation and Monitoring Plan (HMMP) component that outlines a habitat restoration, maintenance, and monitoring program intended to improve the existing riparian and vegetative communities in comparison with existing conditions (see Appendix G). Under the HMMP component of the proposed project, disturbed riparian habitat within the work area would be restored immediately following final grading activities. Riparian revegetation totals approximately 0.15 acre.

Tree replacement will occur at a minimum of a 3:1 ratio for the number of trees removed, with new native tree species planted to add greater diversity to the riparian cover within the work area.

Furthermore, the proposed project would result in the enhancement of riparian habitat quality in comparison with existing conditions. Restoration of the riparian habitat would further stabilize and enhance the ecological functions and values that the removed riparian trees currently provide to San Francisquito Creek. The enhanced riparian habitat would be of higher quality to the stream corridor, as the banks would be stabilized and the tree composition would be more native and diverse. Anticipated project outcomes include stream shading and other benefits for fish and aquatic life and riparian canopy for birds, and reduced input of fine sediment to San Francisquito Creek.

Therefore, with implementation of the conservation measures, BMPs, and the HMMP, impacts on riparian habitat would be less than significant. **(Less than Significant Impact)**

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 vegetated wetlands are present within the work area or would be impacted by the project. However, the project would impact San Francisquito Creek, which is considered to be jurisdictional waters of the U.S. and waters of the state.

Project construction would disturb approximately 0.14 acre of streambed above the ordinary high water mark within San Francisquito Creek through the excavation of 1,080 cubic yards of artificial and native alluvium, grading, and placement of approximately 1,450 cubic yards of boulder/cobble, woody material, and engineered fill in the streambed. All impacts to the streambed and aquatic habitat would be temporary and would not result in loss of stream area below the ordinary high water mark.

Furthermore, implementation of the HMMP component of the project would restore the work area's stream and riparian habitats immediately following final grading activities. Additionally, construction of the proposed rock toe protection and log crib wall is anticipated to result in a stabilized stream bank, enhanced stream and riparian habitat to provide flow refugia, and reduced input of fine sediment to San Francisquito Creek. As mentioned under Impact BIO-2, the project includes conservation measures and BMPs to minimize the impacts on natural communities within the work area. With implementation of the conservation measures, BMPs, and HMMP component, impacts on stream habitat within San Francisquito Creek would be less than significant. **(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)**

San Francisquito Creek functions as an important corridor for wildlife movement through the Palo Alto, Menlo Park, and East Palo Alto areas. The aquatic habitat within the creek allows numerous

species of fish, amphibians, and reptiles to move throughout this area, and between more urbanized regions at lower elevations and more natural regions at higher elevations. In addition, riparian areas along the creek provide breeding, non-breeding, and dispersal habitat.

Wildlife movement would be partially impeded on the eastern side of the creek for a temporary period during construction. Wildlife would still be able to move along the west side of the creek during construction. Post-construction, the stabilized east bank would provide more stable vegetation compared to existing conditions. The vegetation would provide cover and breeding/nonbreeding habitat for animals, and the stabilization of the creek would benefit aquatic species. Therefore, after the partial, temporary constraint on wildlife movement that may occur during project implementation, the project would result in a long-term benefit to wildlife movement. Therefore, impacts of the project on wildlife movement would be less than significant. **(Less than Significant Impact)**

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)**

City of Palo Alto Municipal Code Title 8 (Trees and Vegetation) includes regulations relevant to biological resources on the project site. Chapter 8.10, Tree Preservation and Management Regulations establishes regulations for the preservation of protected trees. Two of the four protected coast live oak trees identified within the project site and immediate vicinity would be removed by the project. The project would be required to obtain a tree removal permit for these two protected trees and comply with the conditions of said permit. The other four trees to be removed (one coast live oak, one red willow, and two California buckeye) are not protected by any Palo Alto policies or ordinances, and therefore the removal of these trees would not conflict any local policies or ordinances.

Construction-related ground disturbance can have negative impacts to tree health and longevity via mechanical injury to roots, trunks, or branches, soil compaction, and changes in existing grade. Since construction activity is proposed within the dripline of a protected tree, a Tree Protection and Preservation Plan has been prepared for the proposed project as required by the City of Palo Alto Tree Technical Manual. By obtaining a tree removal permit for the loss of two protected trees, and implementing the Tree Protection and Preservation Plan and the HMMP, the applicant would reduce impacts on trees protected by the City of Palo Alto to a less than significant level. **(Less than Significant Impact)**

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. **(No Impact)**

The project site is not located within an area covered by an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, the project would not conflict with any such plans. **(No Impact)**

4.5 CULTURAL RESOURCES

The following discussion is based in part on a Cultural Resources Study prepared by Basin Research Associates (Basin) in November 2020, and a peer review of the study prepared by Albion Environmental, Inc. in January 2021. These reports, which are confidentially withheld to protect the location of cultural resources, are on file with the City of Palo Alto Planning & Development Services Department.

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.¹⁹

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.

¹⁹ California Office of Historic Preservation. “CEQA Guidelines Section 15064.5(a)(3) and California Office of Historic Preservation Technical Assistance Series #6.” Accessed October 12, 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.

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the 2030 Comprehensive Plan were adopted for the purpose of avoiding or mitigating impacts to cultural resources resulting from planned development within the City, including the following:

Policies	Description
Policy L-7.15	Protect Palo Alto's archaeological resources, including natural land formations, sacred sites, the historical landscape, historic habitats and remains of settlements here before the founding of Palo Alto in the 19 th century.
Policy L-7.16	Continue to consult with tribes as required by California Government Code Section 65352.3. In doing so, use appropriate procedures to accommodate tribal concerns when a tribe has a religious prohibition against revealing precise information about the location or previous practice at a particular sacred site.
Policy L-7.18	Require project proponents to meet State codes and regulations regarding the identification and protection of archaeological and paleontological deposits, and unique geologic features.

4.5.1.2 *Existing Conditions*

According to the NHPA's Section 106 regulations, a project's Area of Potential Effect (APE) is the geographic area where a project may directly or indirectly cause changes to the character or use of cultural resources. The APE for CHC's Phase II of the San Francisquito Creek Stabilization project includes a 0.69-acre portion consisting of the project footprint as well as the staging area and temporary access route.

A prehistoric and historic records and literature search for the project's APE with a 0.25-mile radius was completed by the California Historical Resources Information System (CHRIS), Northwest Information Center in December 2019 on behalf of Basin Research Associates. An archaeological survey of the APE was conducted by Basin in February 2020.

Additionally, the NAHC was contacted for a review of the Sacred Lands Inventory. Letters and/or emails were sent to the six Native American individuals/organizations identified by the NAHC. Dr. Laura Jones, Stanford University Campus Archaeologist, was also contacted regarding the proposed archaeological study and provided additional information on the project area and archaeological resources.

Prehistoric Period

Native Americans historically resided in the Bay Area region for a 5,000- to 7,000-year period dating back from the 1800s. The aboriginal inhabitants of the region, the Costanoan (Ohlone), occupied the central California coast as far east as the Diablo Range.

The project site is within the Tamyen (Tamien) territory of the Ohlone, and was occupied by the Puyson (Puichon) people. Two Puichon villages, Capsup and Ssiputca, were located north of the project site. No Native American ethnographic settlements or contemporary Native American use areas have been identified on or adjacent to the project site. A number of Mission-era Native American trails likely used San Francisquito Creek and the general area surrounding the site, but none have been identified specifically through or adjacent to the project site.

The work area contains a portion of San Francisquito Creek, which is considered extremely sensitive for archaeological resources by the City of Palo Alto. Research by Stanford University over the past 30 years has interpreted the prehistoric resources present along the creek as part of a complex of overlapping, adjacent prehistoric sites that represent repeated, intensive, and long-term residential activities over 5,000 years.

The archaeological survey conducted in February 2020 found no evidence of prehistoric and/or combined prehistoric/historic features, isolated artifacts, sites, or cultural sediments within the creek channel or eroding from the creek bank. The records and literature search did identify two archaeological sites in close proximity to the work area, and a total of five prehistoric resources within 0.25 mile of the project site. The NRHP- and CRHR-eligible cultural resources within the project APE include CA-SCL-613/H (P-43-000608) and CA-SCL-591/H (P-43-000586). These resources are discussed further in the cultural resources report, which the City is confidentially withholding to protect the location of cultural resources. This report is on file with the City of Palo Alto Planning & Development Services Department.

Prior to Phase I of the San Francisquito Creek Bank Stabilization project, Basin extracted 20 soil cores along the top of the south bank of San Francisquito Creek at the rear of the CHC facility to determine the potential for the shear pin wall installation to affect buried cultural resources. No indications of buried cultural deposits were uncovered during this survey effort. The survey effort concluded that there was a low potential for subsurface cultural deposits within the shear pin alignments. Subsequent archaeological monitoring of ground disturbing construction associated with the installation of the shear pin wall and tieback resulted in the discovery of a historic period well (discussed below) but no indications of a prehistoric cultural deposit. Further evaluation of the well concluded that the resource was not significant.

Historic Period

The history of the project area can be divided into the Hispanic Period (Spanish Period 1769-1821 and Mexican Period 1822-1848) and the American Period (1848-onward).

Early Spanish expeditions in central California followed existing Native American trails. The Gaspar de Portola expedition party of 63 men established a base camp on San Francisquito Creek on November 6, 1769. The diary of Miguel de Costanso, a member of the Gaspar de Portola party, describes camping at/near the site of the historic Palo Alto (i.e. 'tall tree') in 1769. During the Mexican period, the project area was within the Rancho San Francisquito (Little St. Francis) granted by Governor Juan B. Alvarado to Antonio Buelna on May 1, 1839. As early as 1800, Rancho San Francisquito was significant as a sheep rancho affiliated with Mission Santa Clara. The three known dwelling locations associated with Rancho San Francisquito were located approximately one mile upstream of the project site. No Hispanic Period dwellings, structures, roads, or other features have been reported in or adjacent to the project site.

The project site is within the former estate of Leland Stanford, which was established during the American period in 1850 and is a NRHP-eligible resource. The project site is also within the outbuilding area associated with the Stanford family, and the Stanford Residence was located north of the site. Archaeological construction monitoring of Phase I of the San Francisquito Creek Stabilization project identified a brick well and brick landscaping remnants within the APE of the proposed project, which were determined to not contribute to the historical significance of the former Stanford estate.²⁰

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

²⁰ Basin Research Associates. *Historic Property Survey Report/Finding of Effect for San Francisquito Creek Bank Stabilization Project*. March 2020.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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. **(Less than Significant Impact)**

As discussed under Section 4.5.1.2 Existing Conditions, no Hispanic Period dwellings, structures, roads, or other features have been reported in or adjacent to the project site. An American period brick well and brick landscaping fragments associated with the NRHP- and CRHR-eligible Stanford estate are present within the proposed project's APE; however these resources have previously been determined not to contribute to the historic significance of the Stanford estate.

The project would excavate 1,450 cubic yards of soil, consisting mostly of native sediment with some amounts of artificial fill and eroded brick. As these eroded brick fragments do not contribute to the historic significance of the Stanford estate pursuant to CEQA Guidelines Section 15064.5, the project would not cause a substantial adverse change in the significance of a historic resource. **(Less than Significant 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)**

Regulations implementing Section 106 of the NHPA define an effect as any action that would alter the characteristics of the resource that may qualify the resource for inclusion in the NRHP and diminish the integrity of the resource's location, setting, design, materials, workmanship, feeling, or association.

Areas within 0.25 mile of San Francisquito Creek, especially the alluvial terraces bordering the creek, have a high density of recorded prehistoric occupation and short-term use areas, indicating a high to extreme sensitivity for archaeological resources. Additionally, two archaeological resources with buried cultural deposits have been recorded within close proximity to the work area.

Subsurface investigations conducted by Basin prior to Phase I found no indication of subsurface cultural resources within the project's work area. Archaeological monitoring of ground disturbing activities during Phase I also found no indication of prehistoric cultural deposits. These results indicate that any subsurface cultural deposits associated with CA-SCL-613/H present in the project vicinity are, outside the area proposed for disturbance. This conclusion is supported by excavations

completed in 1997 by Stanford University.²¹ Prehistoric deposits associated with CA SCL-591 are also outside the direct impact area.

The project has been designed to avoid cutting into the native soils with the potential to hold known subsurface archaeological resources. Project-related grading and excavation during construction could however impact unknown culturally significant archaeological resources if they are found during construction within the area of disturbance. To protect unknown resources, if uncovered during construction, MM CUL-2.1 requires that a monitor be present during earthmoving activities, MM CUL-2.2 identifies standards for evaluation and treating these resources, and MM CUL-2.3 requires cultural resources training for workers on the site.

Impact CUL-2.1: Construction of the proposed project could result in significant impacts to unknown archaeological resources if present on-site. **(Significant Impact)**

Mitigation Measures: Implementation of the following mitigation measures would ensure that potential impacts to buried archaeological resources remain at a less than significant level.

MM CUL-2.1: The property owner or its designee shall hire an Archaeological Monitor to provide spot check monitoring during ground-disturbing activities and to provide on-call support in the event of an unanticipated discovery. The Archaeological Monitor must have a degree in Archaeology or a related field and must have at least one year of demonstrated field experience. The Archaeological Monitor shall work under the supervision of a Professional Archaeologist meeting the minimum requirements of the Secretary of the Interior's Standards for Prehistoric and Historic Archaeology. The qualifications of the Archaeological Monitor and the Professional Archaeologist shall be provided to the City Planning & Development Services (PDS) Department for review and approval prior to construction. If, in the course of construction, a resource is uncovered that is determined to be Native American in nature, the appropriate tribe shall be contacted and offered the opportunity to provide monitoring of ground-disturbing activities. If Native American monitoring is requested, the Native American Monitor may determine at any point during the course of construction that ground-disturbing activities are not anticipated to result in impacts to a tribal cultural resource and that Native American Monitoring may cease. Documentation of this determination shall be provided to the City PDS Department in writing.

MM CUL-2.2: If prehistoric or historic resources are encountered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped, the City of Palo Alto Planning & Development Services Department and USACE shall be notified, and a qualified archaeologist shall examine the find. The archaeologist shall 1) evaluate the find(s) to determine if they meet the definition of a historical or archaeological resource; and 2) make appropriate recommendations regarding the disposition of such finds prior to

²¹ Basin Research Associates. *Historic Property Survey Report/Finding of Effect for San Francisquito Creek Bank Stabilization Project*. March 2020.

issuance of building permits. Recommendations could include collection, recordation, and analysis of any significant cultural materials. A report of findings documenting any data recovery shall be submitted to the Planning & Development Services Department and the Northwest Information Center (if applicable). Project personnel shall not collect or move any cultural materials. The project applicant shall implement the recommendations of the qualified archaeologist.

MM CUL-2.3: Prior to construction, the archaeological monitor shall provide a worker environmental awareness training to all site personnel. The training shall discuss the appearance of resources that may be encountered during construction and the procedures and notification process in the event of a discovery.

With implementation of MM CUL-2.1, MM CUL-2.2, and MM-CUL-2.3, as well as state regulations, any unknown culturally significant archaeological resources encountered during construction would be evaluated and appropriately treated in accordance with the recommendations of a qualified archaeologist. Accordingly, the project would not cause a substantial adverse change in the significance of an archaeological resource. **(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)**

The work area contains a portion of San Francisquito Creek, which was occupied by the Puichon people and experienced repeated, intensive, and long-term residential activities over 5,000 years.

Due to the project area's history of prehistoric residential activities, human remains have the potential to be discovered during construction. If human remains are unearthed during project construction, damage to or destruction of culturally significant human remains would be a potentially significant impact.

Impact CUL-3.1: Construction of the proposed project could result in significant impacts to undiscovered human remains, if present on-site. **(Significant Impact)**

Mitigation Measure: Implementation of the following mitigation measures would reduce potential impacts to undiscovered human remains to a less than significant level.

MM CUL-3.1: If any human remains are found during any field investigations, grading, or other construction activities, all provisions of California Health and Safety Code Sections 7054 and 7050.5 and Public Resources Code Sections 5097.9 through 5097.99, as amended per Assembly Bill 2641, shall be followed. If human remains are discovered during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected

to overlie adjacent remains. The project applicant shall immediately notify the City of Palo Alto Planning & Development Services Department and a qualified archaeologist, who shall then notify the Santa Clara County Coroner. The Coroner will make a determination as to whether the remains are Native American. If the remains are believed to be Native American, the Coroner will contact the NAHC within 24 hours. The NAHC will then designate a Most Likely Descendant (MLD). The MLD will inspect the remains and make a recommendation on the treatment of the remains and associated artifacts. If one of the following conditions occurs, the landowner or his authorized representative shall work with the Coroner to reinter the Native American human remains and associated grave goods with appropriate dignity in a location not subject to further subsurface disturbance:

- The NAHC is unable to identify an MLD or the MLD failed to make a recommendation within 48 hours after being given access to the site;
- The MLD identified fails to make a recommendation; or
- The landowner or his authorized representative rejects the recommendation of the MLD, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

By applying this measure, potentially significant impacts related to the destruction of human remains would be mitigated to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

4.6 ENERGY

4.6.1 Environmental Setting

4.6.1.1 *Existing Conditions*

Total energy usage in California was approximately 7,987.7 trillion British thermal units (Btu) in the year 2018, the most recent year for which this data was available.²² Out of the 50 states, California is ranked second in total energy consumption and 48th in energy consumption per capita. The breakdown by sector was approximately 18 percent (1,416 trillion Btu) for residential uses, 19 percent (1,473 trillion Btu) for commercial uses, 23 percent (1,818 trillion Btu) for industrial uses, and 40 percent (3,175 trillion Btu) for transportation.²³ This energy is primarily supplied in the form of natural gas, petroleum, nuclear electric power, and hydroelectric power.

Electricity in Santa Clara County in 2018 was consumed primarily by the commercial sector (77 percent), followed by the residential sector consuming 23 percent. In 2018, a total of approximately 16,708 gigawatt hours (GWh) of electricity was consumed in Santa Clara County.²⁴

In Palo Alto, electricity and natural gas is provided throughout the City by the City of Palo Alto Utilities (CPAU), a city-owned utility. The City's electric utility receives electricity at a single connection point with Pacific Gas & Electric's (PG&E's) transmission system. Natural gas is delivered via 210 miles of City-owned gas mains.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

²² United States Energy Information Administration. "State Profile and Energy Estimates, 2018." Accessed September 4, 2020. <https://www.eia.gov/state/?sid=CA#tabs-2>.

²³ United States Energy Information Administration. "State Profile and Energy Estimates, 2018." Accessed September 4, 2020. <https://www.eia.gov/state/?sid=CA#tabs-2>.

²⁴ California Energy Commission. Energy Consumption Data Management System. "Electricity Consumption by County." Accessed September 4, 2020. <http://ecdms.energy.ca.gov/elecbycounty.aspx>.

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)**

Construction of the proposed project would consume a relatively small amount of energy in relation to regional and local energy consumption. Construction would require energy only insofar as would be necessary for the manufacture and transportation of building materials, site preparation, and construction of the crib wall and rock toe protection. If constructed, there are no elements of the proposed project that would consume energy during operation. For these reasons, construction and operation of the proposed trail would not result in a significant environmental impact due to the wasteful, inefficient, or unnecessary consumption of energy. **(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. **(No Impact)**

As discussed under Impact EN-1, the project would consume only the energy required for the manufacture and transportation of building materials, site preparation, and construction of the crib wall and rock toe protection. If constructed, there are no elements of the proposed project that would consume energy during operation. Therefore, the project would not conflict with a state or local plan for renewable energy or energy efficiency. **(No Impact)**

4.7 GEOLOGY AND SOILS

The following discussion is based in part on a Geotechnical Investigation prepared by Cotton, Shires and Associates, Inc. A copy of this report, dated November 21, 2017, is included in Appendix E of this Initial Study.

4.7.1 Environmental Setting

4.7.1.1 *Regulatory Framework*

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed following the 1971 San Fernando earthquake. The act regulates development in California near known active faults due to hazards associated with surface fault ruptures. Alquist-Priolo maps are distributed to affected cities, counties, and state agencies for their use in planning and controlling new construction. Areas within an Alquist-Priolo Earthquake Fault Zone require special studies to evaluate the potential for surface rupture to ensure that no structures intended for human occupancy are constructed across an active fault.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) was passed in 1990 following the 1989 Loma Prieta earthquake. The SHMA directs the California Geological Survey (CGS) to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. CGS has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, landslides, and ground shaking, including the central San Francisco Bay Area. The SHMA requires that agencies only approve projects in seismic hazard zones following site-specific geotechnical investigations to determine if the seismic hazard is present and identify measures to reduce earthquake-related hazards.

California Building Standards Code

The California Building Standards Code (CBC) prescribes standards for constructing safe buildings. The CBC contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, ground strength, and distance to seismic sources. The CBC requires that a site-specific geotechnical investigation report be prepared for most development projects to evaluate seismic and geologic conditions such as surface fault ruptures, ground shaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. The CBC is updated every three years.

California Division of Occupational Safety and Health Regulations

Excavation, shoring, and trenching activities during construction are subject to occupational safety standards for stabilization by the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) under Title 8 of the California Code of Regulations and Excavation Rules. These regulations minimize the potential for instability and collapse that could injure construction workers on the site.

Public Resources Code Section 5097.5

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. They range from mammoth and dinosaur bones to impressions of ancient animals and plants, trace remains, and microfossils. These materials are valued for the information they yield about the history of the earth and its past ecological settings. California Public Resources Code Section 5097.5 specifies that unauthorized removal of a paleontological resource is a misdemeanor. Under the CEQA Guidelines, a project would have a significant impact on paleontological resources if it would disturb or destroy a unique paleontological resource or site or unique geologic feature.

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies and actions of the City of Palo Alto 2030 Comprehensive Plan have been adopted for the purpose of avoiding or mitigating geology and soils impacts resulting from planned development within the City, including the following:

Policies	Description
Policy N-3.5	Discourage bank instability, erosion, downstream sedimentation, and flooding by minimizing site disturbance and nearby native vegetation removal on or near creeks and by reviewing grading and drainage plans for development near creeks and elsewhere in their watersheds.
Policy S-2.5	Minimize exposure of people and structures to geologic hazards, including slope stability, subsidence and expansive soils, and to seismic hazards including groundshaking, fault rupture, liquefaction and landslides.

City of Palo Alto Municipal Code

Chapter 16.28 of the City's Municipal Code includes regulations governing construction-related grading as well as erosion and sedimentation controls. This chapter includes general provisions, permitting requirements, grading regulations, and specific elements required in grading permit applications. These specific elements include site maps, grading plans, interim and final erosion and sediment controls, soil and geology engineering reports, and a Stormwater Pollution Prevention Plan (SWPPP).

Under Chapter 18.40.120, Hazardous Conditions, projects within high risk geologic hazard areas identified in the 2030 Comprehensive Plan may be required, prior to issuance of a building permit or other permit authorizing any new construction, to submit detailed geologic, soils, and engineering

reports sufficient to define the extent of any potential hazard and to demonstrate that the proposed construction shall, to the maximum extent feasible, mitigate such hazard.

4.7.1.2 Existing Conditions

Regional Geology

Palo Alto is located within the Coast Ranges geomorphic province formed by the Franciscan, Merced, and Colma assemblages, an area characterized by a series of northwest-trending mountain ranges that have been folded and faulted by tectonic activity. The project site is located in the broad, north-south trending, alluvial-filled Santa Clara Valley. The Santa Clara Valley was formed when sediments derived from the surrounding mountain ranges were exposed by tectonic uplift and regression of the inland seas which previously inundated the area.

Seismicity and Seismic Hazards

As the San Francisco Bay Area contains numerous active and potentially active faults, there is a high potential for seismic events such as fault surface ruptures and ground shaking, which can cause ground failure (landslides), settlement, erosion, liquefaction, lateral spreading, and soil expansion.

Palo Alto historically has been subjected to very strong to violent ground shaking from major earthquakes and the site will continue to experience very strong ground shaking in the future. The significant active faults located closest to the site are the San Andreas fault (approximately 4.6 miles southwest), the Hayward fault (approximately 13.7 miles northeast), and the San Gregorio fault (approximately 14.0 miles southwest).

The project site and work area are not within an Alquist-Priolo Earthquake Fault Zone.²⁵ The nearest active fault, the San Andreas, is approximately 4.6 miles southwest of the site. Since no known active faults intersect the property, fault rupture is not anticipated to occur at the site. According to Earthquake Zones of Required Investigation (EZRI) maps prepared by CGS, the project site is within a Liquefaction Hazard Zone. While the EZRI maps do not map the site within a Landslide Hazard Zone, the geotechnical report (see Appendix E) identified a high risk of seismically-induced landsliding occurring at the project site and work area without installation of the proposed shear pin wall.

Soils

Phase II of the San Francisquito Creek Stabilization project would occur within a 275-foot-long, 50-foot-wide linear portion of the CHC campus that borders San Francisquito Creek. During the 2016-2017 rainy season, active erosion of the eastern embankment accelerated, resulting in the loss of approximately 20 horizontal feet of the creek bank and 7,500 square feet of the CHC outdoor learning area.

Channel banks within this portion of San Francisquito Creek are approximately 30 feet high, and bank soils behind the existing shear pin wall are cracking and near failure. The eastern embankment

²⁵ California Geological Survey. *California Earthquake Hazards Zone Application (EQ ZAPP)*. Date accessed September 8, 2020. <https://maps.conservation.ca.gov/cgs/EQZApp/app/>

is comprised of a mixture of unconsolidated sandy gravel alluvium and sand, and is sparsely vegetated. This embankment is at high risk of erosion, sedimentation, and collapse due to the combination of the height and steepness of the bank, sparse vegetation, impingement by creek flows, ongoing toe scour, and the unconsolidated nature of the bank material.

The eastern embankment of the San Francisquito Creek is mapped as being underlain by coarse-grained alluvium consisting of gravels, silts, and sands with a low to medium expansion potential. Exposures of earth materials along the creek indicate that the site is underlain by fill material and alluvial floodplain deposits (i.e., semi-consolidated to unconsolidated cobbles, gravel, sand, silt, and clay).

Subsurface borings of the work area collected in 2017 (refer to Appendix E) encountered fill and alluvium to the maximum depths explored of 61.5 feet. Artificial fill was encountered by all three borings down to a maximum depth of seven feet, followed by an alluvium layer that extended down to the maximum depth of drilling. Silty sandy soil was encountered between depths of four to seven feet and 19 to 24 feet that were classified as being loose to medium dense. Below the silty sand layer, the alluvium appeared to be denser. All three borings encountered a very dense/stiff layer at roughly 30 feet.

Groundwater

Two subsurface borings completed by Cotton, Shires, & Associates encountered groundwater at a depth of approximately 45 feet. During the winter months, groundwater is anticipated to rise to at least the level of the creek, but will vary with time and location depending the rainfall and runoff levels.

Paleontological Resources

Paleontological resources or fossils are the remains of prehistoric plant and animal life. Paleontological resources do not include human remains or artifacts. Fossil remains such as bones, teeth, shells, and wood are found in geologic formations. Paleontological resources are limited, non-renewable, sensitive scientific and educational resources. The potential for fossil remains at a location can be predicted based on whether or not previous fossil finds have been made in the vicinity, as well as based on the age of the geologic formations.

Most of the paleontological remains in the Palo Alto area are small marine fossils such as clams and snails. Various other fossil discoveries have been made in the Palo Alto area including a large mastodon tusk found in the bank of San Francisquito Creek, fragments of petrified mastodon and/or dinosaur bone along Foothill Expressway, and isolated fragments of fossil ribs and lower limbs from late Pleistocene mammals.²⁶ Fossils have been discovered at the intersection of Quarry Road and Arboretum Road, approximately 0.5 mile west of the project site.²⁷

²⁶ City of Palo Alto. *Comprehensive Plan Update Environmental Impact Report Volume 1: Draft EIR*. February 2016.

²⁷ K. C. Maguire and P. A. Holroyd. *Pleistocene Vertebrates of Silicon Valley (Santa Clara County, California)*. 2016.

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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
– Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
– Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
– Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) Be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 with Mitigation Incorporated)**

Fault Rupture

The project site is not located within an Alquist-Priolo Earthquake Fault Zone and no active faults are known to cross the site, making fault rupture at the site unlikely. As no new structures or facilities designed for human occupancy are included in the project, in the unlikely event that fault rupture occurs, no loss, injury, or death would occur. **(No Impact)**

Seismic Ground Shaking

In the event of a major earthquake on one of the region's active faults, strong ground shaking at the project site would likely occur, but as previously mentioned, no new structures or facilities designed for human occupancy are included in the project. Construction of the proposed crib wall and rock toe foundation would be required to adhere to standard engineering design and seismic safety techniques specified in the CBC, and the recommendations of a design-level geotechnical report to be prepared for the project as required by law. Additionally, construction of the proposed project would serve to further stabilize the site and prevent future creek bank failure. **(Less than Significant Impact)**

Ground Failure

Liquefaction and Lateral Spreading

As discussed under Section 4.7.1.2 Existing Conditions, the project site is within a Liquefaction Hazard Zone according to maps prepared by CGS. Soil liquefaction can be defined as ground failure or loss of strength that causes otherwise solid soil to take on the characteristics of a liquid. This phenomenon is triggered by earthquake or ground shaking that causes saturated or partially saturated soils to lose strength, potentially resulting in the soil's inability to support structures. This can lead to lateral spreading, where flat-lying alluvial material is horizontally displaced toward an open area.

Due to the depth of groundwater (measured at 45 feet below top of bank), the potential for liquefaction (and lateral spreading) is considered to be low, except after periods of high precipitation when the risk of liquefaction becomes moderate. The geotechnical report (see Appendix E) found that there was a high potential for dry densification resulting in the settlement of the alluvial soils present on-site. These risks were addressed during Phase I of the San Francisquito Creek Bank Stabilization project through grading, compaction, and erosion control measures.

While the potential for liquefaction and lateral spreading is generally considered low, seismically induced liquefaction could be exacerbated by placement of the crib wall weight on the potentially liquefiable soils on-site. As previously noted, no human dwellings are proposed that would increase risk of loss, injury, or death. Additionally, with adherence to the standard engineering design and seismic safety techniques specified in the CBC and the recommendations of a design-level

geotechnical report, the project would ensure that risk of exposure to liquefaction, lateral spreading, and settlement as a result of liquefaction would be minimized. **(Less than Significant Impact)**

Landsliding

The project site is not mapped within a Landslide Hazard Zone on maps prepared by CGS; however, the geotechnical report identified a high risk of seismically-induced landsliding occurring at the project site and work area due to the 30-foot-high creek bank on the site (see Appendix E). Phase I of the San Francisquito Creek Bank Stabilization project addressed creek bank failure and landsliding risks through the installation of a 200-foot long shear pin wall, set back five to 15 feet from the edge of the creek bank and consisting of 19 concrete shear pin piers drilled approximately 20 feet into the creek bank.

Phase II of the San Francisquito Creek Stabilization project proposes to construct a log crib wall with a rock toe foundation to stabilize the eroding eastern embankment of San Francisquito Creek. The log crib wall would be constructed with stacked layers of 1.5-foot-diameter logs and rootwads, and helical anchors would be driven into the soil and connected to the crib wall, thus preventing lateral movement. The proposed rock toe foundation would inhibit movement of the channel bottom and prevent channel flows from undercutting the crib wall. Construction of these improvements, which would adhere to the CBC standard engineering design and seismic safety techniques and the design-level geotechnical report recommendations, would further stabilize the creek bank, thus reducing the potential for seismically-induced landsliding. Additionally, as discussed under Impact HYD-3, one- and two-dimensional modeling of the proposed stabilization measures determined that the project would not result in an increased risk of erosion and sedimentation and associated bank failures at neighboring properties (see analysis in Appendix F). Furthermore, as required by MM HYD-3.1, hydrodynamic modeling of the final design would be completed to ensure that the project would not affect bank stability at neighboring properties. Therefore, the project would not result in substantial adverse effects due to seismically-induced landsliding. **(Less than Significant Impact with Mitigation Incorporated)**

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

Construction of the project would disturb the ground and expose soils, thereby increasing the potential for wind- and water-related erosion and sedimentation at the site until the completion of construction and ground disturbance is stabilized. Development within the work area could result in significant amounts of soil erosion if managed improperly, particularly due to the steep gradient of the creek bank. Additionally, the shear pin wall constructed during Phase I of the San Francisquito Creek Stabilization project is at risk of future exposure due to active water-related erosion caused by high energy flows.

Prior to construction, the project would be required to submit an interim erosion and sediment control and stormwater pollution prevention plan to the City Engineer. During construction, the project would be required to comply with City's Grading and Erosion and Sediment Control Ordinance, which requires projects to implement surface runoff and erosion control measures (outlined under Impact HYD-1). Furthermore, as discussed under Impact GEO-1, the rock toe foundation would

prevent channel flows from undercutting the log crib wall, and would be designed to compensate for the shear of San Francisquito Creek.²⁸ The log crib wall would protect and support the eastern embankment while restoring stream function and sediment transport. Together, the proposed log crib wall and rock toe foundation would protect the base and exterior of the eastern embankment from high velocity creek flows, thus reducing flow-induced erosion while improving stream function and sedimentation within the work area. Additionally, as discussed under Impact HYD-3, the redirection of creek flows by the proposed stabilization measures would not result in increased erosion and sedimentation at neighboring properties with implementation of MM HYD-3.1 (see analysis in Appendix F). Based on the above, the project would not result in substantial soil erosion or 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 with Mitigation Incorporated)**

As discussed under Section 4.7.1.2 Existing Conditions and Impact GEO-1, while the work area is located on a geologic unit and soil with a low to moderate potential for liquefaction and lateral spreading and a high potential for dry densification, these risks were previously addressed through grading, compaction, and erosion control measures implemented during Phase I of the San Francisquito Creek Bank Stabilization project. Similarly, the shear pin wall constructed during Phase I reduced the potential for future creek bank failure and landsliding.

As discussed under Impact GEO-2, Phase II of the San Francisquito Creek Bank Stabilization project would further stabilize the project site by protecting and supporting the exterior of the eastern embankment while restoring stream function and sediment transport, which would minimize the risk of erosion exposing the shear pin wall and destabilizing the embankment. Additionally, as discussed under Impact HYD-3, one- and two-dimensional modeling of the proposed stabilization measures determined that the project would not result in an increased risk of erosion and sedimentation and associated bank failures at neighboring properties. Furthermore, as required by MM HYD-3.1, hydrodynamic modeling of the final design would be completed to ensure that the project would not affect bank stability at neighboring properties. With adherence to the CBC standard engineering design and seismic safety techniques and the design-level geotechnical report recommendations, the project would increase stability of the project site, and would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. **(Less than Significant Impact with Mitigation Incorporated)**

²⁸ Shear or shear stress is the measure of the force of friction a fluid exerts on a stationary object in the path of that fluid. In the case of open channel flow, it is the force of moving water against the bed of the channel.

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 mapped as being underlain by coarse-grained alluvium consisting of silts, sands, and gravels with a low to medium expansion potential. Subsurface borings encountered loose to medium dense silty sandy alluvium layers between four to seven feet and 19 to 24 feet.

Expansive soils possess a “shrink-swell” characteristic. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may result over a long period of time, usually the result of inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Although expansive soil can be a hazard, it is generally mitigated through adherence with the standard engineering and building practices and techniques specified in the CBC and through implementation of design-level geotechnical report recommendations. As discussed under Impact GEO-3, the project would conform with the CBC and the design-level geotechnical report in addition to improving site stability, thereby ensuring significant impacts resulting from expansive soils are reduced to a less than significant level. **(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 site is located within an urbanized area of Palo Alto where sewers are available to dispose of wastewater from the project site. The project would not generate additional wastewater. The site would not need to support septic tanks or alternative wastewater disposal 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)**

Per United States Geological Survey (USGS) records, there are no known paleontological resources or unique geological features present at the project site. Paleontological resources have, however, previously been discovered in the banks of San Francisquito Creek and within the project vicinity. Therefore, project-related grading and excavation during construction could result in significant impacts, if any unknown subsurface paleontological resources were discovered.

Impact GEO-6.1: Construction of the proposed project could result in significant impacts to unique paleontological resources and geological features if present on-site. **(Significant Impact)**

Mitigation Measure: Implementation of the following mitigation measures would ensure that potential impacts to unknown buried paleontological resources or geological features remain at a less than significant level.

MM GEO-6.1: *Worker Training.* A qualified paleontologist will develop a Worker's Environmental Awareness Program (WEAP) to train the construction crew on the legal requirements for preserving fossil resources as well as procedures to follow in the event of a fossil discovery. This training program will be given to the crew before ground-disturbing work commences and will include handouts to be given to new workers as needed.

MM GEO-6.2: *Unique Paleontological and/or Geologic Features and Reporting.* 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 City's Planning Manager notified immediately. A qualified paleontologist shall evaluate the find and prescribe mitigation measures to reduce impacts to a less than significant level. Upon completion of the paleontological assessment, a report shall be submitted to the City and, if paleontological materials are recovered, a paleontological repository such as the University of California Museum of Paleontology shall also be submitted to the City.

With the implementation of the above mitigation measures, impacts to unknown unique paleontological resources or geological features would be less than significant. **(Less Than Significant Impact with Mitigation Incorporated)**

4.8 GREENHOUSE GAS EMISSIONS

The following discussion is based, in part, on an Air Quality Assessment prepared by Illingworth & Rodkin, Inc. in September 2020. A copy of this report is attached as Appendix D to this Initial Study.

4.8.1 Environmental Setting

4.8.1.1 *Background Information*

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. In GHG emission inventories, the weight of each gas is multiplied by its global warming potential (GWP) and is measured in units of CO₂ equivalents (CO₂e). The most common GHGs are carbon dioxide (CO₂) and water vapor but there are also several others, most importantly methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO₂ and N₂O are byproducts of fossil fuel combustion.
- N₂O is associated with agricultural operations such as fertilization of crops.
- CH₄ is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents, but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and SF₆ emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

An expanding body of scientific research supports the theory that global climate change is currently causing changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

4.8.1.2 *Regulatory Framework*

State

Assembly Bill 32

Under the California Global Warming Solutions Act, also known as AB 32, CARB established a statewide GHG emissions cap for 2020, adopted mandatory reporting rules for significant sources of GHGs, and adopted a comprehensive plan, known as the Climate Change Scoping Plan, identifying how emission reductions would be achieved from significant GHG sources.

In 2016, SB 32 was signed into law, amending the California Global Warming Solution Act. SB 32, and accompanying Executive Order B-30-15, require CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. CARB updated its Climate Change Scoping Plan in December of 2017 to express the 2030 statewide target in terms of million metric tons of CO₂E (MMTCO₂e). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 MMTCO₂e.

Senate Bill 375

SB 375, known as the Sustainable Communities Strategy and Climate Protection Act, was signed into law in September 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GHG reduction targets for automobile and light truck sectors for 2020 and 2035. The per-capita GHG emissions reduction targets for passenger vehicles in the San Francisco Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.

Consistent with the requirements of SB 375, the Metropolitan Transportation Commission (MTC) partnered with the Association of Bay Area Governments (ABAG), BAAQMD, and the Bay Conservation and Development Commission to prepare the region's Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan process. The SCS is referred to as Plan Bay Area 2040. Plan Bay Area 2040 establishes a course for reducing per-capita GHG emissions through the promotion of compact, high-density, mixed-use neighborhoods near transit, particularly within identified Priority Development Areas (PDAs).

Regional and Local

2017 Clean Air Plan

To protect the climate, the 2017 CAP (prepared by BAAQMD) includes control measures designed to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

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. The jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing GHG impacts developed by BAAQMD within the CEQA Air Quality Guidelines. The

guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the City’s Comprehensive Plan have been adopted for the purpose of avoiding or mitigating greenhouse gas emissions impacts resulting from planned development within the City including the following:

Policies	Description
Policy L-2.12	Ensure that future development addresses potential risks from climate change and sea level rise.
Policy N-5.1	Support regional, State, and federal programs that improve air quality in the Bay Area because of its critical importance to a healthy Palo Alto.
Policy N-5.3	Reduce emissions of particulates from, manufacturing, dry cleaning, construction activity, grading, wood burning, landscape maintenance, including leaf blowers and other sources.
Policy N-5.4	All potential sources of odor and/or toxic air contaminants shall be adequately buffered, or mechanically or otherwise mitigated to avoid odor and toxic impacts that violate relevant human health standards.
Policy N-5.5	Support the BAAQMD in its efforts to achieve compliance with existing air quality regulations by continuing to require development applicants to comply with BAAQMD construction emissions control measures and health risk assessment requirements.
Policy N-5.6	Mitigate potential sources of toxic air contaminants through siting or other means to reduce human health risks and meet the BAAQMD’s applicable threshold of significance. When siting new sensitive receptors such as schools, day care facilities, parks or playgrounds, medical facilities and residences within 1,000 feet of stationary sources of toxic air contaminants or roadways used by more than 10,000 vehicles per day, require projects to consider potential health risks and incorporate adequate precautions such as high-efficiency air filtration into project design.

4.8.1.3 *Existing Conditions*

Unlike emissions of criteria and toxic air pollutants, which have regional and local impacts, emissions of GHGs have a broader, global impact. Global warming is a process whereby GHGs accumulating in the upper atmosphere contribute to an increase in the temperature of the earth and changes in weather patterns.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<hr/>				
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

There are no established thresholds of significance for construction GHG emissions. BAAQMD does, however, encourage the analysis of GHG construction emissions when possible. As described under Appendix A, CalEEMod was used to estimate emissions from construction and operation of the project assuming full build-out conditions. Construction of the proposed project would generate approximately 91 metric tons of GHG emissions due to the operation of construction equipment and worker trips to and from the project site. By way of comparison, California GHG emissions in 2017 totaled 424.1 million metric tons of CO₂e.²⁹ Accordingly, the negligible GHG emissions associated with construction of the proposed project would not have a significant impact on the environment. **(Less Than Significant Impact)**

Operational Emissions

As discussed under Section 4.3 Air Quality, the project, once constructed, would only generate infrequent trips and emissions associated with project maintenance such as irrigation or re-planting, or possible removal of debris collected during large storm events. Accordingly, the GHG emissions generated by the proposed project, either directly or indirectly, would be less than significant. **(Less than Significant 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. (No Impact)
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As discussed under GHG-1 above, project construction and maintenance would generate an insignificant amount of GHG emissions, and project operation would not consume fossil fuels or electricity. For these reasons, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. **(No Impact)**

²⁹ California Air Resources Board. "GHG Emissions Inventory Graphs." Accessed October 13, 2020. <https://ww2.arb.ca.gov/ghg-inventory-graphs>

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

Federal Aviation Regulations Part 77

Federal Aviation Regulations, Part 77 Objects Affecting Navigable Airspace (FAR Part 77) sets forth standards and review requirements for protecting the airspace for safe aircraft operation, particularly by restricting the height of potential structures and minimizing other potential hazards (such as reflective surfaces, flashing lights, and electronic interference) to aircraft in flight. These regulations require that the Federal Aviation Administration (FAA) be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet in height above the ground.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, \$1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA accomplished the following objectives:

- Established prohibitions and requirements concerning closed and abandoned hazardous waste sites;

- Provided for liability of persons responsible for releases of hazardous waste at these sites; and
- Established a trust fund to provide for cleanup when no responsible party could be identified.

The law authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response; and
- Long-term remedial response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life-threatening. These actions can be completed only at sites listed on the EPA's National Priorities List.

CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.³⁰

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.³¹

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

³⁰ United States Environmental Protection Agency. "Superfund: CERCLA Overview." Accessed October 12, 2020. <https://www.epa.gov/superfund/superfund-cercla-overview>.

³¹ United States Environmental Protection Agency. "Summary of the Resource Conservation and Recovery Act." Accessed October 12, 2020. <https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act>.

substance release sites identified by the Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB).³²

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 Santa Clara County Department of Environmental Health's Hazardous Materials Compliance Division (HMCD) reviews CalARP risk management plans as the CUPA.

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.

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the City's Comprehensive Plan have been adopted for the purpose of avoiding or mitigating impacts of hazards and hazardous materials resulting from planned development within the City including the following:

Policies	Description
Policy N-2.9	Minimize removal of, and damage to, trees due to construction-related activities such as trenching, excavation, soil compacting and release of toxins.
Policy N-4.12	Promote sustainable low water and pesticide landscaping practices on both public and private property.

³² California Environmental Protection Agency. "Cortese List Data Resources." Accessed October 12, 2020. <https://calepa.ca.gov/sitecleanup/corteselist/>.

Policies	Description
Policy S-3.1	Minimize the use of toxic and hazardous materials in Palo Alto. Promote the use of alternative materials and practices that are environmentally benign.

4.9.1.2 *Existing Conditions*

Project Site

The project site was previously undeveloped until the construction of the existing facilities in 1998, which are currently occupied by the CHC campus. Based on aerials of the project site dating back to 1948, the project site does not have a recent history of agricultural use.³³ The project site is developed with two on-site schools, a therapy center, clinics for underserved families, a community education center, an outdoor learning area/playground, and serves approximately 150 students daily.

The proposed work area, located at the northwestern portion of the CHC campus, remains undeveloped with the exception of the shear pin wall that was installed during Phase I of the creek bank stabilization project.

Surrounding Uses

The project site and work area are surrounded by low-density and multi-family residential, commercial, and academic institutional land uses. The area across San Francisquito Creek has been developed since at least 1948; surrounding lands within Palo Alto were previously dedicated to agricultural uses until the 1960s. There are single-family homes located to the north and west across San Francisquito Creek in Menlo Park, and in Palo Alto, commercial businesses and the Stanford Shopping Center to the northeast and open space surrounded by apartment buildings to the south. A search of the State Water Resource Control Board's Geotracker regulatory database indicated a history of hazardous materials contamination at the following address within 0.25 mile of the work area:

- Hyatt Classic Residence (620 Sand Hill Road, Palo Alto, CA 94304) leaking underground storage tank (LUST) Cleanup Site : During construction of the Hyatt building in 2003, two 1,500-gallon underground storage tanks (USTs) were encountered and observed to contain fuel-related products. The tanks and associated piping were removed, and samples were collected from the surrounding soils and groundwater. Based on the sampling results, additional excavation was completed and verification samples collected. The LUST case was closed in July 2004.

No other recognized environmental conditions are present at the site or in the surrounding area.

³³ Nationwide Environmental Title Research, LLC. "Historic Aerials Viewer". Accessed September 15, 2020. <https://www.historicaerials.com/viewer>

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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)**

Construction

Construction of the proposed project is not anticipated to involve the routine transport, use, or disposal of reportable quantities of hazardous materials with the exception of gas and diesel fuel used by construction vehicles. As described under Impact HYD-1 in the following section, 4.10 Hydrology and Water Quality, the project would prepare a hazardous materials management/fuel spill containment plan prior to the start of construction consistent with the requirements of the USACE. The plan would include procedures to be used in the event of spills as well as information

regarding the disposal of any spilled materials. During construction, no materials or wastes would be allowed to enter into San Francisquito Creek or be placed where they may be washed by rainfall or runoff into the creek. **(Less than Significant Impact)**

Operation

The design life of the proposed project is expected to be 50 years or more, and would only require minimal maintenance, such as irrigation or replanting, or possible removal of debris collected during large storm events. Maintenance of the proposed improvements therefore would not require the use of hazardous materials, and accordingly would not pose a significant risk to the public or environment. **(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)**

Construction

Project construction would use hazardous materials, including fuels, oils, solvents, and other construction materials. These materials would be stored and used in relatively small quantities, in compliance with local and state safety requirements. As discussed under Impact HAZ-1, the project would prepare a hazardous materials management/fuel spill containment plan that includes procedures to be used in the event of spills as well as information regarding the disposal of any spilled materials. During construction, no materials or wastes would be allowed to enter into or be placed where they may be washed by rainfall or runoff into the aquatic features. Therefore, project construction 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)**

Operation

As discussed under Impact HAZ-1, maintenance of the proposed project would not require the use or storage of hazardous materials. Accordingly, the project would not cause a 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)**

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. **(Less than Significant Impact with Mitigation Incorporated)**

The only educational facility within one-quarter mile of the proposed work site is the CHC campus. As discussed under Impact AIR-3, with implementation of MM AIR-3.1 and AIR-3.2, hazardous emissions generated during construction would have a less than significant impact on sensitive receptors. The proposed crib wall and rock toe protection, if completed, would not emit or require the handling of acutely hazardous materials, substances, or waste that could affect the CHC campus or

other schools within 0.25 mile of the work area. **(Less than Significant Impact with Mitigation Incorporated)**

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 on the California Environmental Protection Agency Cortese List, compiled pursuant to Government Code Section 65962.5. **(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)**

The nearest airport to the project site and work area is the Palo Alto Airport, which is located approximately 3.75 miles northeast of the site. The project site is not located within the Palo Alto Airport Influence Area. Therefore, implementation of the proposed project would not result in safety hazard impacts related to airport activities. **(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)**

During construction of the proposed project, construction equipment and vehicles would access the project site via Sand Hill Road and Clark Way, and would park in the CHC campus parking lot. None of the streets and thoroughfares in the surrounding area would be permanently blocked such that emergency vehicles would be unable to access the project site or surrounding areas. The project itself would have no users and would reduce the probability of future flooding or site destabilization that might require emergency services. Accordingly, development of the proposed project would not physically interfere with an adopted emergency response or evacuation plan. **(Less than Significant Impact)**

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. **(Less than Significant Impact)**

As discussed under Section 4.20 Wildfire, the project site and work area is not mapped within or near state or local responsibility areas classified as very high fire hazard severity zones. Per Map S-8 Wildfire Hazard Zones in the Palo Alto 2030 Comprehensive Plan, the project site and work area have a low risk of wildfires occurring. Additionally, the project would not introduce any people or occupied structures to the work area. Therefore the project would not result in the exposure of people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. **(Less than Significant Impact)**

4.10 HYDROLOGY AND WATER QUALITY

The following discussion is based in part on a Hydrology Study prepared by WRA. A copy of this report, dated March 3, 2020, is included in Appendix F of this Initial Study.

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 EPA and the 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.

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 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 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.

Regional

San Francisco Bay Basin Plan

The San Francisco Bay RWQCB regulates water quality in accordance with the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan lists the beneficial uses that the San Francisco Bay RWQCB has identified for local aquifers, streams, marshes, rivers, and the San Francisco Bay, as well as the water quality objectives and criteria that must be met to protect these uses. The San Francisco Bay RWQCB implements the Basin Plan by issuing and enforcing

waste discharge requirements, including permits for nonpoint sources such as the urban runoff discharged by a City's stormwater drainage system. The Basin Plan also describes watershed management programs and water quality attainment strategies.

Municipal Regional Permit Provision C.3.

The San Francisco Bay RWQCB re-issued the Municipal Regional Stormwater NPDES Permit (MRP) in 2015 to regulate stormwater discharges from municipalities and local agencies (co-permittees) in Alameda, Contra Costa, San Mateo, and Santa Clara Counties, and the cities of Fairfield, Suisun City, and Vallejo.³⁴ Under Provision C.3 of the MRP, new and redevelopment projects that create or replace 10,000 square feet or more of impervious surface area are required to implement site design, source control, and Low Impact Development (LID)-based stormwater treatment controls to treat post-construction stormwater runoff. LID-based treatment controls are intended to maintain or restore the site's natural hydrologic functions, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource (e.g. rainwater harvesting for non-potable uses). The MRP also requires that stormwater treatment measures are properly installed, operated, and maintained.

In addition to water quality controls, the MRP requires new development and redevelopment projects that create or replace one acre or more of impervious surface to manage development-related increases in peak runoff flow, volume, and duration, where such hydromodification is likely to cause increased erosion, silt pollutant generation, or other impacts to local rivers, streams, and creeks. Projects may be deemed exempt from these requirements if they do not meet the minimized size threshold, drain into tidally influenced areas or directly into the Bay, or drain into hardened channels, or if they are infill projects in subwatersheds or catchment areas that are greater than or equal to 65 percent impervious.

Water Resources Protection Ordinance and District Well Ordinance

Valley Water operates as the flood control agency for Santa Clara County. Their stewardship also includes creek restoration, pollution prevention efforts, and groundwater recharge. Permits for well construction and destruction work, most exploratory boring for groundwater exploration, and projects within Valley Water property or easements are required under Valley Water's Water Resources Protection Ordinance and District Well Ordinance.

Dam Safety

Since August 14, 1929, the State of California has regulated dams to prevent failure, safeguard life, and protect property. The California Water Code entrusts dam safety regulatory power to the California Department of Water Resources, Division of Safety of Dams (DSOD). The DSOD provides oversight to the design, construction, and maintenance of over 1,200 jurisdictional sized dams in California.³⁵

³⁴ MRP Number CAS612008

³⁵ California Department of Water Resources, Division of Safety of Dams. [https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams#:~:text=Since%20August%2014%2C%201929%2C%20the,Safety%20of%20Dams%20\(DSOD\).](https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams#:~:text=Since%20August%2014%2C%201929%2C%20the,Safety%20of%20Dams%20(DSOD).) Accessed October 12, 2020.

As part of its comprehensive dam safety program, Valley Water routinely monitors and studies the condition of each of its 10 dams. Valley Water also has its own Emergency Operations Center and a response team that inspects dams after significant earthquakes. These regulatory inspection programs reduce the potential for dam failure.

Construction Dewatering Waste Discharge Requirements

Each of the RWQCBs regulate construction dewatering discharges to storm drains or surface waters within its region under the NPDES program and Waste Discharge Requirements.

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the City’s Comprehensive Plan have been adopted for the purpose of avoiding or mitigating hydrology and water quality impacts resulting from planned development within the City including the following:

Policies	Description
Policy L-2.12	Ensure that future development addresses potential risks from climate change and sea level rise.
Policy N-1.5	Preserve and protect the Bay, marshlands, salt ponds, sloughs, creeks, and other natural water or wetland areas as open space, functioning habitats, and elements of a larger, interconnected wildlife corridor, consistent with the Baylands Master Plan, as periodically amended, which is incorporated here by reference.
Policy N-1.7	Carefully manage access and recreational use of environmentally sensitive areas, including the baylands, foothills and riparian corridors, in order to protect habitats and wildlife from the impacts of humans and domesticated animals.
Policy N-3.2	Prevent the further channelization and degradation of Palo Alto’s creeks.
Policy N-3.3	Protect the city’s creeks from the impacts of future buildings, structures, impervious surfaces and ornamental landscaping and preserve their function as habitat connectivity corridors by establishing a range of setback requirements that account for existing creek conditions, land use characteristics, property ownership and flood control potential.
Policy N-3.4	Recognize that riparian corridors are valued environmental resources whose integrity provides vital habitat for fish, birds, plants and other wildlife, and carefully monitor and preserve these corridors.
Policy N-3.5	Discourage bank instability, erosion, downstream sedimentation, and flooding by minimizing site disturbance and nearby native vegetation removal on or near creeks and by reviewing grading and drainage plans for development near creeks and elsewhere in their watersheds.
Policy N-3.7	Avoid fencing, piping and channelization of creeks when flood control and public safety can be achieved through measures that preserve the natural environment and habitat of the creek.

Policies	Description
Policy N-4.4	Manage water supply and water quality to reflect not only human use but also the water needed to sustain plant and animal life.
Policy N-4.8	Conserve and maintain subsurface water resources by exploring ways to reduce the impacts of residential basement dewatering and other excavation activities.
Policy N-4.12	Promote sustainable low water and pesticide landscaping practices on both public and private property.
Policy N-4.14	Improve storm drainage performance by constructing new system improvements where necessary.
Policy S-2.8	Minimize exposure to flood hazards by protecting existing development from flood events and adequately reviewing proposed development in flood prone areas.
Policy S-2.11	Monitor and respond to the risk of flooding caused by climate change-related changes to precipitation patterns, groundwater levels, sea level rise, tides and storm surges.

City of Palo Alto Municipal Code

Title 16 of the City of Palo Alto Municipal Code, Building Regulations includes regulations intended to prevent water degradation caused by stormwater runoff and construction-related clearing and grading, including:

- Chapter 16.11, Stormwater Pollution Prevention provides the stormwater requirements for projects conducted within the City of Palo Alto and is consistent with the requirements of the San Francisco RWQCB's Municipal Regional Permit.
- Chapter 16.28, Grading and Erosion and Sediment Control requires projects to obtain a grading and excavation permit and requires submittal of an interim erosion and sediment control and stormwater pollution prevention plan. Subsection 16.28.120 describes the surface runoff and erosion control measures that will be implemented during construction of the project. Subsection 16.28.200 contains the provisions for the final erosion and sediment control and SWPPP that describes permanent control measures to improve the quality of stormwater runoff from the site.

Title 16 also includes regulations intended to minimize public and private losses due to flooding, including:

- Chapter 16.52, Flood Hazard Regulations Ordinance requires projects to obtain a development permit within any area of special flood hazard. This chapter also applies specialized standards of construction designed to minimize: loss of life; damage to private land development, public facilities, and utilities; the need for rescue and relief efforts; business interruptions; and future blighted areas caused by flooding.

Additionally, Title 18 of the Municipal Code includes two subsections (18.40.140 and 18.40.150) that form the City's Stream Corridor Protection ordinance. These sections of the City's Zoning Code include requirements and guidelines that protect the integrity of stream corridors and stormwater quality consistent with the principles contained in the Santa Clara Valley Water Resources Protection Collaborative.

City of Palo Alto Guidelines and Standards for Land Use near Streams

The City of Palo Alto has adopted the Santa Clara Valley Water Resources Protection Collaborative's manual of tools, procedures, and standards to protect streams and streamside resources in Santa Clara County. The manual provides clear guidance to property owners and developers about how to design and construct streamside development projects in a way that protects streams and their resources with the benefits of reduced erosion, improved flood protection, and enhanced water quality.

4.10.1.2 *Existing Conditions*

Hydrology and Drainage

Phase II of the CHC San Francisquito Creek Stabilization project would occur within a 275-foot-long, 50-foot-wide linear portion of the CHC campus that borders San Francisquito Creek. Channel banks within this portion of San Francisquito Creek are approximately 30 feet high, and bank soils behind the existing shear pin wall are cracking and near failure. The eastern embankment is comprised of a mixture of unconsolidated sandy gravel alluvium and sand, and is sparsely vegetated. This embankment is at high risk of erosion, sedimentation, and collapse due to the combination of the height and steepness of the bank, sparse vegetation, impingement by creek flows, ongoing toe scour, and the unconsolidated nature of the bank material. A site assessment conducted by WRA in October 2018 identified 200 linear feet of bank failures within the project area.

Regionally, the work site is within the San Francisquito Creek watershed. The San Francisquito Creek watershed encompasses an area of approximately 45 square miles, extending from the ridge of the Santa Cruz Mountains to San Francisco Bay. The mainstem of San Francisquito Creek begins southwest of the project site at the confluence of Corte Madera Creek and Bear Creek just below the Searsville Dam. From there, San Francisquito Creek flows generally in a northeast direction for approximately 10 miles before emptying into the San Francisco Bay. Annual creek flows measured at United States Geological Survey Station 11164500 (approximately 1.25 miles upstream of the project site) averaged 20.4 cubic feet per second (cfs).

San Francisquito Creek experiences strong seasonal variation in streamflow, and the portion of San Francisquito Creek within the work area typically dries up during the summer months. Downstream of Station 11164500, low flows infiltrate to a shallow groundwater table below the bottom of the channel.³⁶

³⁶ San Francisquito Creek Joint Powers Authority. *San Francisquito Creek Flood Protection, Ecosystem Restoration, and Recreation Project Upstream of Highway 101 Draft Environmental Impact Report*. April 2019.

Surface Water Quality

San Francisquito Creek is listed by the SWRCB under the 303(d) list as impaired for the insecticide diazinon, sedimentation/siltation, and trash.³⁷ The primary water quality concerns regarding San Francisquito Creek are erosion and sediment control.

Additionally, because of the urbanized nature of the San Francisquito Creek watershed, surface water quality in the project area is directly affected by stormwater runoff from adjacent streets and properties delivering fertilizers, pesticides, metals, hydrocarbons, and other pollutants. Typically, pollutant levels in the creeks are highest following the first storm flows of the season when chemical constituents accumulated during the dry season are “flushed” into the creeks.

Groundwater

The San Francisquito Creek watershed overlays the Santa Clara Valley Groundwater Basin, including portions of the Santa Clara and San Mateo Plain subbasins. Groundwater in these two subbasins is managed by Valley Water in the Santa Clara Subbasin and by San Mateo County in the San Mateo Plain Subbasin. Groundwater flow direction is primarily in the direction of the San Francisco Bay, but may be locally influenced by the creeks or groundwater wells.

As mentioned above, San Francisquito Creek flows infiltrate the streambed and recharge the aquifers. Groundwater in the project vicinity is used for irrigation, public drinking water, and private drinking water. Groundwater in the area is currently considered to be balanced, meaning that withdrawals approximately equal recharge. Regional groundwater levels have been trending upward until the most recent drought due to reductions in regional irrigation pumping, and through augmented groundwater recharge programs.

Flood Hazards

The work area is located within a FEMA Special Flood Hazard Area (Zone A), which is an area subject to inundation. The CHC campus is within a Flood Zone X area of moderate flood hazard with a 0.2 percent annual chance of flooding (50-year flood).³⁸

Due to the steep topography of the upper watershed, storm events results in short duration, high-intensity runoff of stormwater flows. Flooding of San Francisquito Creek is a relatively common occurrence, with eight episodes between 1910 and 1972, and major flood events occurring in 1998 and 2012.³⁹

Dam Failure

As identified in the City of Palo Alto 2030 Comprehensive Plan, the project site and work area are mapped within the Searsville Reservoir and Felt Lake dam failure inundation areas, which are the areas that may be flooded in the event of a complete dam failure.

³⁷ San Francisquito Creek Joint Powers Authority. *San Francisquito Creek Flood Protection, Ecosystem Restoration, and Recreation Project Upstream of Highway 101 Draft Environmental Impact Report*. April 2019.

³⁸ Federal Emergency Management Agency. *Flood Insurance Rate Map, Community Panel No. 06085C0010H*. Map. Effective Date: May 18, 2019. <https://msc.fema.gov/portal/home>

³⁹ Ibid.

Seiche, Tsunami, and Sea Level Rise

Due to the project site's inland location and distance from large bodies of water (i.e., the San Francisco Bay), it is not subject to seiche or tsunami hazards or sea level rise.

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
– substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
– 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
– impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 water quality of streams, creeks, ponds, and other surface water bodies can be greatly affected by pollution carried in contaminated surface runoff. Pollutants from unidentified sources, known as non-point source pollutants, are washed from streets, construction sites, parking lots, and other exposed surfaces into storm drains. Urban stormwater runoff often contains contaminants such as oil and grease, plant and animal debris (leaves, dust, animal feces, etc.), pesticides, litter, and heavy metals. In sufficient concentrations, these pollutants have been found to adversely affect the aquatic habitats to which they drain.

Construction Impacts

Construction activities, such as grading and excavation, have the potential to result in temporary impacts to surface water quality in adjacent waterways. When disturbance to the soil occurs, sediments may be dislodged and discharged into the storm drainage system after surface runoff flows across the site. Construction of the proposed project would disturb approximately 0.69 acre of soil. Because less than one acre of soil would be disturbed, the project would not be required to comply with the NPDES General Permit for Construction Activities.

All development projects in Palo Alto are required to comply with the City's Grading and Erosion and Sediment Control Ordinance, which requires projects to implement surface runoff and erosion control measures. Prior to construction, the applicant would be required to obtain a grading and excavation permit and submit an interim erosion and sediment control and stormwater pollution prevention plan to the City Engineer. Additionally, projects must implement City-approved BMPs to control stormwater runoff and minimize potential impacts to water quality. As a standard permitting condition, the project would implement the following BMPs to control construction-related runoff and erosion. Although standard measures often include watering of exposed or disturbed soil, given the project's location within a creek bank and the fact that excessive watering of the bank could, in itself, affect water quality, this standard measure has not been added for the proposed project. For work within the creek, compliance with the City's Grading and Erosion and Sediment Control Ordinance would ensure that appropriate measures are identified for activities within the creek bank.

Standard Permit Conditions: Best Management Practices to prevent stormwater pollution and minimize potential sedimentation shall be applied to project construction, including but not limited to the following:

- Earthmoving or other dust-producing activities shall be suspended during periods of high winds.
- Stockpiles of soil or other materials that can be blown by the wind shall be watered or covered.
- All trucks hauling soil, sand, and other loose materials shall be covered and all trucks shall maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas, and residential streets adjacent to the construction sites shall be swept daily (with water sweepers).

- Vegetation in disturbed areas shall be replanted as quickly as possible.
- All unpaved entrances to the site shall be filled with rock to remove mud from tires prior to entering City streets. A tire wash system shall be installed if requested by the City.
- The project applicant shall comply with the City of Palo Alto's Grading and Erosion and Sediment Control Ordinance, and submit an erosion, sediment controls and stormwater pollution prevention plans that describes permanent control measures to improve the quality of stormwater runoff from the site.

Construction of the proposed project, with implementation of the above measures in accordance with the City's Comprehensive Plan and Municipal Code, would not result in significant construction-related water quality impacts. **(Less than Significant Impact)**

Post-Construction Water Quality Impacts

As mentioned under Section 4.10.1.2 Existing Conditions, the primary water quality concerns with San Francisquito Creek are erosion and sediment control. The channel banks are currently at high risk of erosion, sedimentation, and collapse due to the combination of the height and steepness of the bank, sparse vegetation, impingement by creek flows, ongoing toe scour, and the unconsolidated nature of the bank material.

Construction of the proposed log crib wall would stabilize the eastern embankment by protecting it from flow-induced erosion, which would improve stream function and sediment transport. As such, the project would reduce erosion and sedimentation in comparison with existing conditions. Additionally, as discussed under Impact HYD-3, one- and two-dimensional modeling of the proposed stabilization measures determined that the project would not result in increased erosion and sedimentation at neighboring properties (see analysis in Appendix F). Implementation of MM HYD 3.1 (presented below) would require monitoring a minimum of five years post-construction to verify the performance of the crib wall and its effects on erosion at this site and immediately downstream of the property. The project proposes to only use non-treated lumber and the final design includes vegetation to address long-term erosion. Based on the 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)**

Flows passing through the portion of San Francisquito Creek within the work area infiltrate into a shallow groundwater table approximately 15 feet below the channel bottom. The proposed rock toe foundation would extend to a maximum depth of five feet below the channel bottom, and therefore would not necessitate pumping of groundwater from the site. Furthermore, as discussed under Impact HYD-1, the project would improve stream function while reducing erosion and sedimentation, which would improve groundwater recharge downstream. The project would also use only non-treated lumber and implement a spill prevention plan, which would prevent the degradation of groundwater

supplies. Based on the above, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. **(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 with Mitigation Incorporated)**

Phase II of the San Francisquito Creek Stabilization project would construct a log crib wall with a rock toe foundation to stabilize the eroding eastern embankment of San Francisquito Creek. The project would alter the course of San Francisquito Creek by reducing the cross-sectional channel area immediately adjacent the crib wall approximately 10 to 12 feet from the existing toe. It is worth noting that the creek bank historically extended much further into the channel; however, erosion of the channel banks on the CHC property accelerated during the 2016-2017 rain season. This resulted in the loss of approximately 50 horizontal feet of the creek bank in this area..

Erosion and Siltation

The proposed log crib wall and rock toe foundation would protect the base and exterior of the eastern embankment from high velocity creek flows, thus reducing flow-induced erosion while improving stream function and sedimentation within the work area. Additionally, WRA conducted one- and two-dimensional hydraulic modeling of the proposed stabilization measures. Because the crib wall extends into the channel, the cross-sectional channel area immediately adjacent to the crib wall will cause short term increases in shear and velocity. The difference in shear and velocity between existing and post-Project conditions is shown in Figure 10 and Figure 11 of Appendix F. The change will result in natural channel response that will mobilize finer sediment that has accumulated in front of the left bank. Over time, channel forming flows will effectively transport the sediment and eventually restore an adjusted cross-sectional area similar to the existing conditions load. These changes are expected to occur over the course of several rainy seasons, or after two or more channel forming flows of 1.5-year recurrence interval or above. Modeling further shows that after the initial channel adjustments have occurred, the shear stress value decreases by 12 percent or 0.2 pounds per square foot and the velocity decreases slightly to approximately 6 feet per second, or a 3 percent decrease. Therefore, the hydrodynamic modeling shows that the project would not result in an increased risk of erosion and sedimentation and associated bank failures at neighboring properties. However, given the dynamic nature of the creek, if the performance of the creek wall differs from the model expectations, impacts associated with off-site erosion or siltation could be significant. With the incorporation of mitigation measure HYD-3.1 to verify the expected performance of the crib wall, impacts would be less than significant.

Impact HYD-3: Alteration of the course of San Francisquito Creek by the project could result in substantial erosion and sedimentation off site. **(Significant Impact)**

Mitigation Measure:

MM HYD-3.1: The crib wall shall be monitored for a minimum of five years during and immediately after each rainy season post-construction and shall include a survey of three cross sections. Monitoring documentation shall include, at minimum, a description the topographic elevation, cover material, and conditions (i.e., vegetation, sediment) for each cross section and shall note and photo-document any changes. If the trajectory of the channel suggests that the left (north) bank of the creek is experiencing morphologic changes that threaten to erode the upper terrace outside of the active channel, the applicant or their designee shall prepare a geomorphic assessment to determine the cause of the issue and identify appropriate measures to address the off-site erosion. Appropriate measures include, but are not limited to, activities within Palo Alto's jurisdiction such as the removal of accumulated sediment from the active channel, removal of debris accumulated along or near the crib wall, thinning or trimming of vegetation, and/or installation of willow poles or other bioengineering measures.

With implementation of MM HYD-3.1, construction of the proposed San Francisquito Creek stabilization project would not result in substantial erosion or siltation on- or off-site. **(Less than Significant Impact with Mitigation Incorporated)**

Runoff

Stormwater within the work area is collected within the channel banks, where it either continues downstream via San Francisquito Creek before emptying into the San Francisco Bay or infiltrates into the groundwater table below the channel bottom. No stormwater runoff within the work area is conveyed to the City's storm drain system. Therefore, the project would not create or contribute runoff that would exceed the capacity of the storm drain system or contribute additional sources of polluted runoff. **(No Impact)**

Flooding

The San Francisquito Creek channel and work area are located within a FEMA Special Flood Hazard Area (Zone A), which is an area subject to inundation. Hydraulic modeling of Phase II of the CHC San Francisquito Creek Stabilization project indicates that the stabilization measures would increase water surface elevations upstream of the project site by a maximum of 0.4 feet. Increased surface water elevations of greater than 0.1 feet are expected to extend as far as 1,000 feet upstream of the project.

Increases in surface water elevations are acceptable within FEMA Zone A, as long as there is no increase in flood risk. Due to the height of the channel walls (approximately 30 feet), which would not be affected by the proposed log crib wall and rock toe foundation, 100-year flood flows are projected to be well below the top of bank, and the minor increase in projected water surface elevations would not result in any damage to the CHC campus or any neighboring properties upstream or downstream of the site. Accordingly, the alteration of San Francisquito Creek flows

would not impede or redirect flood flows in a manner that would result in flooding on- or off-site. **(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. **(Less than Significant Impact)**

The work area is not at risk of inundation due to seiches, tsunamis, or sea level rise. However, the work area is regularly inundated by creek flows, and is at risk of elevated inundation levels during storm events and in the case of complete dam failure at either the Searsville Reservoir or the Fall Lake Dam.

The project would be constructed during the dry season (May 1st to October 30th) when creek flows are naturally at their lowest and the creek bed is expected to be dry. Any creek flows present during construction would be diverted to the opposite side of the creek channel outside of the work area, or fed downstream through a gravity bypass system. Additionally, as discussed under Impact BIO-1, the project would be required to implement a spill protection plan. Therefore the risk of construction-related pollutants or hazardous materials being released due to inundation is low.

Post-construction, no pollutants or hazardous materials would be present within the work area, and the project proposes to use non-treated lumber. Maintenance of the log crib wall and rock toe foundation, which would involve irrigation, re-planting, and removal of debris collected during large storm events, would not involve pollutants or hazardous materials. Based on the above, the project would not risk the release of pollutants due to project inundation. **(Less than Significant 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)**

As discussed above, the project would implement City-approved BMPs to prevent construction impacts to surface and ground water quality, and the proposed stabilization measures would improve future surface and ground water quality by reducing erosion and sedimentation. No groundwater excavation or dewatering would be required by project implementation, and the project would not degrade groundwater supplies. Accordingly, the project would not conflict or obstruct implementation with the RWQCB San Francisco Bay Basin Plan or the Valley Water Resources Protection Ordinance. **(No Impact)**

4.11 LAND USE AND PLANNING

4.11.1 Environmental Setting

4.11.1.1 *Regulatory Framework*

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the City's Comprehensive Plan have been adopted for the purpose of avoiding or mitigating land use and planning impacts resulting from planned development within the City including the following:

Policies	Description
Policy N-1.5	Preserve and protect the Bay, marshlands, salt ponds, sloughs, creeks, and other natural water or wetland areas as open space, functioning habitats, and elements of a larger, interconnected wildlife corridor, consistent with the Baylands Master Plan, as periodically amended, which is incorporated here by reference.
Policy N-1.7	Carefully manage access and recreational use of environmentally sensitive areas, including the baylands, foothills and riparian corridors, in order to protect habitats and wildlife from the impacts of humans and domesticated animals.
Policy N-3.3	Protect the city's creeks from the impacts of future buildings, structures, impervious surfaces and ornamental landscaping and preserve their function as habitat connectivity corridors by establishing a range of setback requirements that account for existing creek conditions, land use characteristics, property ownership and flood control potential.
Policy N-3.4	Recognize that riparian corridors are valued environmental resources whose integrity provides vital habitat for fish, birds, plants and other wildlife, and carefully monitor and preserve these corridors.
Policy S-2.8	Minimize exposure to flood hazards by protecting existing development from flood events and adequately reviewing proposed development in flood prone areas.

4.11.1.2 *Existing Conditions*

The project site and work area are located at 650 Clark Way, Palo Alto (APN: 142-02-015), in the far northwest corner of Santa Clara County. The site is bordered to the west and north by San Francisquito Creek, the historic centerline of which forms the border between Santa Clara County and San Mateo County, as well as the Cities of Palo Alto and Menlo Park.

The project site has a split Comprehensive Plan land use designation of Major Institution/Special Facility and Streamside Open Space, and is zoned PF – Public Facility. Consistent with the project site's land use and zoning designation, the site is developed with two on-site schools, a therapy center, clinics for underserved families, a community education center, and an outdoor learning area/playground, and serves approximately 150 students daily.

The portion of San Francisquito Creek within the project site parcel boundary, and the work site specifically, has a Comprehensive Plan land use designation of Streamside Open Space, and is zoned PF – Public Facility. Sites with a Streamside Open Space designation are intended to preserve and enhance corridors of riparian vegetation along streams.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

The project proposes to construct a log crib wall with rock toe protection to stabilize the eroding eastern embankment of San Francisquito Creek, which is consistent with the site's land use designation and Palo Alto 2030 Comprehensive Plan policies regarding development within Streamside Open Space designated areas. No elements of the proposed project include dividing infrastructure such as freeways and highways, major arterial streets, and railroad lines that could inhibit the access of residents to the surrounding areas. The project would not physically divide an established community within the City because it would not interfere with or modify the movement of residents throughout nearby neighborhoods. **(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. **(Less than Significant Impact)**

Land Use Compatibility

Potential incompatibility may arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project's design or scope. Depending on the nature of the impacts and its severity, land use compatibility conflicts can range from minor irritation and nuisance to potentially significant effects on human health and safety.

Construction of the proposed project could impact air quality and biological and cultural resources; the proposed project would however include measures that would reduce potential impacts from these activities to a less than significant level. After construction activities cease, the proposed log crib wall and rock toe foundation would preserve and protect San Francisquito Creek and the

surrounding riparian and vegetated natural communities. Therefore the project is consistent with the 2030 Comprehensive Plan in the site's intended use and would result in any significant environmental impacts as a result of project construction and operation.

Consistency with Plans

Land use and planning policies and regulations adopted for the purpose of avoiding or mitigating adverse environmental effects include land use and zoning designations outlined in the Palo Alto Municipal Code. The portion of San Francisquito Creek within the project site parcel boundary, and the work site specifically, has a Comprehensive Plan land use designation of Streamside Open Space, and is zoned PF – Public Facility. As discussed under Impact LU-1, the proposed project is consistent with the work area's land use designation, and with Comprehensive Plan policies regarding development within Streamside Open Space designated areas. The project's consistency with state and local regulations, including those outlined in the Palo Alto Municipal Code, is discussed throughout this document. For example, the project's consistency with Municipal Code regulations intended to prevent Geology and Soils impacts is discussed in Section 4.7 Geology and Soils. Accordingly, the proposed 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. **(Less than Significant Impact)**

4.12 MINERAL RESOURCES

4.12.1 Environmental Setting

4.12.1.1 *Regulatory Framework*

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act (SMARA) was enacted by the California legislature in 1975 to address the need for a continuing supply of mineral resources, and to prevent or minimize the negative impacts of surface mining to public health, property, and the environment. As mandated under SMARA, the State Geologist has designated mineral land classifications in order to help identify and protect mineral resources in areas within the state subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board (SMGB), after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance.

The classification of these mineral resources is a joint effort of the state and the local governments. It is based on geologic factors and requires that the State Geologist classify the mineral resources area as one of the four Mineral Resource Zones (MRZs), Scientific Resource Zones (SZ), or Identified Resource Areas (IRAs), as follows:

- MRZ-1—adequate information indicates that no significant mineral deposits are present or likely to be present;
- MRZ-2—adequate information indicates that significant mineral deposits are present or a likelihood of their presence and development should be controlled;
- MRZ-3—the significance of mineral deposits cannot be determined from the available data;
- MRZ-4—there is insufficient data to assign any other MRZ designation; SZ areas—contain unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance; and,
- IRA areas—adequate production and information indicates that significant minerals are present.

4.12.1.2 *Existing Conditions*

A small portion of Palo Alto is classified as MRZ-2 in the southern portion of the city, adjacent to the San Mateo County/Santa Clara County border north of Foothills Park (five miles south of the project site).⁴⁰ Per USGS records, there are no known mineral resources or mines present on or near the project site and work area.⁴¹

⁴⁰ City of Palo Alto. *Comprehensive Plan Update Environmental Impact Report Volume 1: Draft EIR*. February 2016.

⁴¹ United States Geological Survey. “Mineral Resources Online Spatial Data”. Accessed September 15, 2020. <https://mrdata.usgs.gov/general/map-us.html>.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 project site and work area are not located in an area with known mineral resources or a mineral resource recovery site. Additionally, the project site is designed to not cut into native soils and would only excavate to a depth of approximately five feet below the creekbank. Therefore the project would not result in the loss of a known mineral resource or mineral resource recovery site. **(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 site and work area are not located in an area with known mineral resources or a mineral resource recovery site. Therefore the project would not result in the loss of a known mineral resource or mineral resource recovery site. **(No Impact)**

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.⁴² 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 inch per second (in/sec) PPV.

4.13.1.2 *Regulatory Framework*

Federal

Federal Transit Administration Vibration Limits

The Federal Transit Administration (FTA) has developed vibration impact assessment criteria for evaluating vibration impacts associated with transit projects. The FTA has proposed vibration impact criteria based on maximum overall levels for a single event. The impact criteria for groundborne

⁴² 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} .

vibration are shown in Table 4.13-1 below. These criteria can be applied to development projects in jurisdictions that lack vibration impact standards.

Table 4.13-1: Groundborne Vibration Impact Criteria			
Land Use Category	Groundborne Vibration Impact Levels (VdB inch/sec)		
	Frequent Event	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations	65	65	65
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime use	75	78	83
Source: Federal Transit Administration. <i>Transit Noise and Vibration Assessment Manual</i> . September 2018.			

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the City’s Comprehensive Plan have been adopted for the purpose of avoiding or mitigating noise and vibration impacts resulting from planned development within the City including the following:

Policies	Description
Policy N-6.3	Protect the overall community and especially sensitive noise receptors, including schools, hospitals, convalescent homes, senior and child care facilities and public conservation land from unacceptable noise levels from both existing and future noise sources, including construction noise.
Policy N-6.11	Continue to prioritize construction noise limits around sensitive receptors, including through limiting construction hours and individual and cumulative noise from construction equipment.

City of Palo Alto Municipal Code

Regulations pertaining to permitted noise levels and operational hours associated with construction as well as acceptable noise levels from stationary sources are provided in Chapter 9.10, Noise of the Palo Alto Municipal Code. Relevant portions of the Municipal Code regarding noise and hours of operation include:

- **9.10.030 Residential property noise limits**

Noise levels on single-family residential properties are not to exceed six dB above the local ambient at any point outside of the property plane. Noise levels at multi-family residential properties are not to exceed more than six dB above the local ambient three feet from any

wall, floor, or ceiling inside any dwelling unit on the same property, when the windows and doors of the dwelling unit are closed.

- **9.10.040 Commercial and industrial property noise limits**

Noise levels on commercial or industrial properties are not to exceed eight dB above the local ambient at any point outside of the property plane.

- **9.10.060 Special provisions**

Section 9.10.060 exempts construction, alteration and repair activities that occurs during permitted construction hours (between the hours of 8:00 AM and 6:00 PM Monday through Friday, 9:00 AM and 6:00 PM on Saturday) from Sections 9.10.030 and 9.10.040, provided that (1) no individual piece of equipment shall produce a noise level exceeds 110 dBA at a distance of 25 feet; (2) the noise level at any point outside of the property plane of the project shall not exceed 110 dBA; and (3) signs are posted at all entrances to the project site informing all contractors and subcontractors of the basic requirements of this chapter.

4.13.1.3 Existing Conditions

The project site and work area, located at 650 Clark Way, is surrounded by low-density and multi-family residential, commercial, and academic institutional land uses. There are single-family homes located to the north and west across San Francisquito Creek in Menlo Park, and in Palo Alto, commercial select businesses and the Stanford Shopping Center to the northeast and open space surrounded by apartment buildings to the south.

According to the Palo Alto 2030 Comprehensive Plan and the Menlo Park General Plan, existing and future noise levels at the project site and surrounding area are not expected to exceed 60 dBA CNEL.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<hr/>				
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)			

Construction Noise

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. Project construction is estimated to take approximately three to four months (an estimated 55 construction work days) over the course of a single dry season (Summer 2021). Construction work would occur between 8:00 AM and 6:00 PM Monday through Friday and between 9:00 AM and 6:00 PM on Saturdays.

Construction equipment would include two excavators, an off-road hauler, a dump truck, a front-end loader, dewatering equipment (i.e., pumps, generators, and piping), trailers, and assorted power or hand tools. As shown on Table 4.13-2, noise levels generated by the proposed construction equipment ranges from 70 to 85 dBA measured at a distance of 50 feet from the construction area during busy construction periods. Construction-generated noise levels drop off at a rate of about six dBA per doubling of distance between the source and receptor. As construction of the project would not involve pile driving or heavy equipment or machinery (cranes, dozers, etc.), construction-

generated noise levels are projected to be significantly lower than average construction-generated noise levels and below the City's construction noise thresholds of 110 dBA at a distance of 25 feet 110 dBA at any point outside of the property boundary of the project site.

Table 4.13-2: Construction Equipment Noise Generation at 50 Feet		
Equipment Category	L _{max} Level (dBA)	Impact/Continuous
Chain Saw	85	Continuous
Compressor ¹	70	Continuous
Compressor (other)	80	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
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Notes: ¹ 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.		

Construction activities would be completed in accordance with the provisions of the City's Comprehensive Plan and the Municipal Code, as noted above. The project would also include the following Standard Permit Conditions, to reduce construction noise levels emanating from the site and minimize disruption and annoyance at existing noise-sensitive receptors in the project vicinity. These measures are conditions of approval of the proposed project.

Standard Permit Conditions: The project proposes to implement the following standard measures to reduce short-term construction noise impacts along the entire project reach, as necessary.

- Construction shall be limited to between the hours of 8:00 AM and 6:00 PM Monday through Friday, 9:00 AM and 6:00 PM on Saturday, with no construction allowed on Sundays and holidays.
- No individual piece of equipment shall produce a noise level exceeding 110 dBA at a distance of 25 feet. If the device is housed within a structure on the property, the measurement shall be made outside the structure at a distance as close to 25 feet from the equipment as possible.

- The noise level at any point outside of the property boundary of the project shall not exceed 110 dBA.
- The holder of a valid construction permit shall post a sign at all entrances to the construction site upon commencement of construction, in accordance with Municipal Code Section 9.10.060.b.3.
- During construction, mufflers shall be provided for all heavy construction equipment and all stationary noise sources in accordance with the manufacturers' recommendations.
- Prohibit all unnecessary idling of internal combustion engines.
- Stationary noise sources and staging areas shall be located as far as is feasible from existing noise-sensitive receivers. Locating stationary noise sources near existing roadways away from adjacent properties is preferred.
- Air compressors and pneumatic equipment should be equipped with mufflers, and impact tools should be equipped with shrouds or shields.
- A "disturbance coordinator" shall be designated to ensure coordination between construction staff and neighbors to minimize disruptions due to construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented.
- Neighboring property owners within 400 feet of construction activity shall be notified in writing of the construction schedule and the contact information for the construction liaison.

Implementation of the controls outlined above would reduce construction noise levels emanating from the site in order to minimize disruption and annoyance. With the implementation of these controls, and recognizing that construction duration would be temporary in nature and no particular receptor would be exposed to construction over the entire duration of the project, the increase in ambient noise levels due to project construction would be less than significant. (**Less than Significant Impact**)

Operational Noise

Once operational, the proposed crib wall and rock toe foundation, which would not be accessible to the public and would have no users, would not generate any additional noise beyond what is already produced by the San Francisquito Creek. The design life of the proposed project is expected to be 50 years or more and would only require minimal maintenance, such as irrigation or replanting, or possible removal of debris collected during large storm events. Due to the minimal amount of noise generated by these temporary activities, and the distance between the proposed location of the crib wall and rock toe protection and nearby sensitive receptors, the project would not result in the

generation of temporary or permanent noise increases during operation. **(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)**

Construction Vibration

Vibration may occur as a result of various project-related construction activities, specifically those associated with the use of construction equipment and the installation of the rock toe foundation and crib wall structure. As mentioned above, pile driving is not anticipated as a method of construction. Vibration levels depend on soil conditions, construction methods, and equipment used.

The work area is approximately 80 to 100 feet from the CHC campus facilities and surrounding residential structures, and is physically separated from surrounding structures by the 30 foot tall creek embankments. The creek embankments and the distance between the work area and nearby sensitive receptors would partially insulate surrounding development from construction-generated vibration. Additionally, the proposed crib wall and rock toe foundation would be constructed with excavators, an off-road hauler, a dump truck, a front-end loader, dewatering equipment (i.e., pumps, generators, and piping), trailers, and assorted power or hand tools, none of which generate substantial vibration. Based on the above, vibration-related impacts are anticipated to be minimal. **(Less Than Significant Impact)**

Operational Vibration

The design life of the proposed project is expected to be 50 years or more, and would only require minimal maintenance, such as irrigation or replanting, or possible removal of debris collected during large storm events. These activities would not generate substantial groundborne vibration or noise. **(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)**

The nearest airport to the project site and work area is the Palo Alto Airport, which is located approximately 3.75 miles northeast. The project site is not located within the Palo Alto Airport Influence Area or identified noise contours of airport operations. Therefore, implementation of the proposed project would not result in excessive noise impacts to workers in the work area related to airport activities. **(No Impact)**

4.14 POPULATION AND HOUSING

4.14.1 Environmental Setting

4.14.1.1 *Regulatory Framework*

State

Housing-Element Law

State requirements mandating that housing be included as an element of each jurisdiction's general plan is known as housing-element law. The Regional Housing Need Allocation (RHNA) is the state-mandated process to identify the total number of housing units (by affordability level) that each jurisdiction must accommodate in its housing element. California housing-element law requires cities to: 1) zone adequate lands to accommodate its RHNA; 2) produce an inventory of sites that can accommodate its share of the RHNA; 3) identify governmental and non-governmental constraints to residential development; 4) develop strategies and a work plan to mitigate or eliminate those constraints; and 5) adopt a housing element and update it on a regular basis.⁴³ The City of Palo Alto Housing Element and related land use policies were last updated in 2014.

Regional and Local

Plan Bay Area 2040

Plan Bay Area 2040 is a long-range transportation, land-use, and housing plan intended support a growing economy, provide more housing and transportation choices, and reduce transportation-related pollution and GHG emissions in the Bay Area. Plan Bay Area 2040 promotes compact, mixed-use residential and commercial neighborhoods near transit, particularly within identified Priority Development Areas (PDAs).⁴⁴

ABAG allocates regional housing needs to each city and county within the nine-county San Francisco Bay Area, based on statewide goals. ABAG also develops forecasts for population, households, and economic activity in the Bay Area. ABAG, MTC, and local jurisdiction planning staff created the Regional Forecast of Jobs, Population, and Housing, which is an integrated land use and transportation plan through the year 2040 (upon which Plan Bay Area 2040 is based).

4.14.1.2 *Existing Conditions*

According to the California Department of Finance, the City of Palo Alto had a population of 69,226 as of January 1, 2020, a 0.17 percent increase from the previous year.⁴⁵ The Association of Bay Area

⁴³ California Department of Housing and Community Development. "Regional Housing Needs Allocation and Housing Elements" Accessed September 16, 2020. <http://hcd.ca.gov/community-development/housing-element/index.shtml>.

⁴⁴ Association of Bay Area Governments and Metropolitan Transportation Commission. "Project Mapper." <http://projectmapper.planbayarea.org/>. Accessed September 16, 2020.

⁴⁵ California Department of Finance. "E-1 Population Estimates for Cities, Counties, and the State – January 1, 2019 and 2020." Accessed September 20, 2020. <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/>.

Governments (ABAG) projects the City's population will be 86,510 by 2040.⁴⁶ As of 2013, there were 26,270 households with an average of 2.5 persons per household.⁴⁷

Historically, the project site and work area have not provided housing and there are no current residents. The project does not propose to add housing units. The portion of San Francisquito Creek within the project site parcel boundary, and the work site specifically, have a Comprehensive Plan land use designation of Streamside Open Space, and is zoned PF – Public Facility. Sites with a Streamside Open Space designation are intended to preserve and enhance corridors of riparian vegetation along streams.

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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<hr/>				
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). (Less than Significant Impact)			

A project can induce substantial population growth by proposing new housing beyond projected or planned development levels, generating demand for housing as a result of new businesses, extending roads or other infrastructure to previously undeveloped areas, or removing obstacles to population growth (e.g., expanding capacity of a wastewater treatment plant beyond that necessary to serve planned growth).

The project proposes to construct a log crib wall with a rock toe foundation to stabilize the eroding eastern embankment of San Francisquito Creek that forms the western border of the CHC campus, while preserving and enhancing the existing stream and riparian habitat. The proposed project is consistent with the work area's land use designation, and would not construct housing or enable unplanned population growth in the surrounding area, which is already extensively developed with residential uses. As such, the project does not propose a new use at the site that would induce unplanned population growth during operations. Due to the short duration of construction activities

⁴⁶ Association of Bay Area Governments. *Projections 2040, A Companion to Plan Bay Area 2040*. November 2018.

⁴⁷ City of Palo Alto. *Palo Alto Housing Element (2015 – 2023)*. November 2014.

and the small number of employees on site at a given time, construction activities also are not anticipated to induce unplanned population growth. **(Less than Significant 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)**

There are no housing units or residences on-site; therefore, the project would not displace existing housing or people. **(No Impact)**

4.15 PUBLIC SERVICES

4.15.1 Environmental Setting

4.15.1.1 *Regulatory Framework*

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the City’s Comprehensive Plan have been adopted for the purpose of avoiding or mitigating impacts on public services resulting from planned development within the City including the following:

Policies	Description
Policy L-2.12	Ensure that future development addresses potential risks from climate change and sea level rise.
Policy L-9.11	Provide utilities and service systems to serve all urbanized areas of Palo Alto and plan infrastructure maintenance and improvements to adequately serve existing and planned development.
Policy N-4.12	Promote sustainable low water and pesticide landscaping practices on both public and private property.
Policy N-4.14	Improve storm drainage performance by constructing new system improvements where necessary.
Policy N-8.3	Prioritize infrastructure improvements that address adaptation of critical facilities to climate change in the Capital Improvement Program (CIP) five-year plan.
Policy S-1.9	Design Palo Alto’s infrastructure system to protect the life and safety of residents, ensure resiliency in the face of disaster and minimize economic loss, including in the context of climate change and sea level rise.
Policy S-2.3	Implement public safety improvements, such as access roads and other infrastructure, in a manner that is sensitive to the environment.
Policy S-2.8	Minimize exposure to flood hazards by protecting existing development from flood events and adequately reviewing proposed development in flood prone areas.
Policy S-2.11	Monitor and respond to the risk of flooding caused by climate change-related changes to precipitation patterns, groundwater levels, sea level rise, tides and storm surges.

4.15.1.2 *Existing Conditions*

Fire Protection Services

Fire protection services in Palo Alto are provided by the Palo Alto Fire Department (PAFD). The PAFD service area covers all of the land within the jurisdictional boundaries of Palo Alto in addition to some of the unincorporated land surrounding the city limit, much of which is occupied by the Stanford University Campus. The PAFD service area includes a daytime population of almost 150,000 people, including both residents and workers in the city and on the Stanford campus. The service area occupies a 50-square-mile area and contains a variety of environments including residential neighborhoods, commercial corridors, industrial and high-tech uses, and open space and hillside terrain.

In addition to the PAFD's primary service area, the City has entered into mutual aid and automatic aid agreements with the City of Menlo Park, CAL FIRE, the Central County Fire Department (CCFD), the City of Mountain View, and the Woodside Fire Protection District. These agreements call for the department with crews closest to the incident to respond to the call.

The City has set its service goals based on the percentage of calls that are responded to under a specified response time goal. These time goals include responding to 90 percent of fire emergencies and emergency medical requests for service within eight minutes and responding to 90 percent of paramedic calls for service within 12 minutes. In 2014, the PAFD met its response time goal for responding to emergency medical service and paramedic calls, but did not meet its goal for responding to fire emergencies; however, the PAFD has attributed the increase in response times to methodology in how response times are calculated associated with the virtual consolidation of Computer Aided Dispatch (CAD) services with the partner cities of Mountain View and Los Altos.

As of the 2016 fiscal year, the department includes 107 full time positions, which staff a total of seven fire stations. Stations 1 through 5 and 8 are within Palo Alto City limits, and Station 6 is staffed through a contract with Stanford University. All stations are staffed year-round, with the exception of Station 8, which is staffed for approximately four months each year during fire season. The closest fire station is Fire Station 1, which is located approximately 0.8 mile northeast of the project site and work area.

Police Protection Services

Police protection services in Palo Alto are provided by the Palo Alto Police Department (PAPD). The primary service area of the PAPD is coterminous with the city's jurisdictional border. The PAPD employs approximately 150 employees divided amongst the department's six divisions: Field Services, Technical Services, Investigations, Traffic Services, Parking Services, and Police Personnel Services. Police headquarters is located at 275 Forest Avenue, approximately one mile east of the project site.

Schools

Public schools in Palo Alto are run by the Palo Alto Unified School District (PAUSD), an independent special-purpose local government institution separate from the City of Palo Alto. PAUSD serves students from the City of Palo Alto, portions of Los Altos Hills and Portola Valley,

and the Stanford University campus. PAUSD operates twelve elementary schools (grades K-5), three middle schools (grades 6-8) and two high schools (grades 9-12). Historically, the PAUSD has experienced over-enrollment problems in the lower grade levels. The growth seen in the lower grade levels will lead to increased demand for school facilities at all grade levels.

The project site is occupied by the Children's Health Council campus, which provides specialized education and clinical services to children and teens with autism, ADHD, anxiety, depression, and other learning differences. The site is developed with two on-site schools, a therapy center, clinics for underserved families, a community education center, an outdoor learning area/playground, and serves approximately 150 students daily.

Parks

The City of Palo Alto owns and operates 32 parks and four open space preserves. In addition to these facilities, there are a variety of other parks available to residents, including PAUSD-owned land used for recreation, Stanford University open space and recreation lands, privately owned recreational facilities, land managed by conservation groups, and state and regional parks in the vicinity of Palo Alto. The City has approximately 4,203 acres of parkland. With a population of 65,685 residents in 2014, this translates to a parkland ratio of 64 acres per 1,000 residents.

Other Public Facilities

The City of Palo Alto Recreation Services Division offers numerous programs, including youth and adult sports, teen and middle school activities, after school programs, a variety of classes for all ages, and a wide range of special events. Recreation facilities include the Cubberley, Lucie Stern, and Mitchell Park Community Centers; the Children's Theater and Community Theater; Rinconada Pool; Junior Museum and Zoo; Baylands Golf Links; Palo Alto Art Center; Baylands Interpretive Center; and Skateboard Park at Greer Park.

The City of Palo Alto has five community libraries throughout the City. All five library branches were renovated between 2006 and 2015. The most recent renovations include the Mitchell Library and Rinconada Library. In 2014, the Mitchell Park Library branch opened, which is a 41,000-square-foot, two-story library, and includes a children's room, teen room, computer training room, quiet reading areas, and a 100-person program room. This library, the largest of the five, includes a selection of reference materials, magazines, newspapers, DVDs, books-on-CD, and music CDs. In 2015, the Rinconada Library (formerly Main Library) reopened after undergoing renovation. Rinconada Library includes a large collection of reference materials, magazines, newspapers, and media.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5) Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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. **(Less than Significant Impact)**

During construction of the proposed project, construction equipment and vehicles would access the project site via Sand Hill Road and Clark Way, and would park in the CHC campus parking lot. None of the streets and thoroughfares in the surrounding area would be permanently blocked such that emergency vehicles would be unable to access the project site or surrounding areas. The project itself would have no users and would reduce the probability of future flooding or site destabilization that might require emergency services. As the project would not result in increased demand for fire protection or emergency services or the need for new or expanded facilities, the project's potential impact on fire protection services would be less than significant. **(Less Than Significant 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. **(Less than Significant Impact)**

As discussed under Impact PS-1, emergency vehicles would be able to access the site during construction, and the project, once completed, would have no users and would reduce the probability of future flooding or site destabilization that might require emergency services. As the project would not result in increased demand for police protection or emergency services or the need for new or

expanded facilities, the project's potential impact on police protection services would be less than significant. **(Less Than Significant 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)
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The project would not increase the population of the City of Palo Alto and, therefore, would not increase the demand for schools. Additionally, the project would reduce the probability of future flooding or site destabilization that could displace the students currently serviced by the CHC campus and create additional demand on PAUSD facilities. **(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. (No Impact)
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The project would not increase the population of the City of Palo Alto and, therefore, would not increase the demand for parks. Additionally, the project would reduce the probability of future flooding or site destabilization which could prevent students and teachers at the CHC campus from using the outdoor learning area/playground area located on the northern portion of the site that is adjacent to the San Francisquito Creek. **(No 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)
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The project would not increase the population of the City of Palo Alto and, therefore, would not increase the demand for recreational facilities, libraries, or any other public facilities. **(No Impact)**

4.16 RECREATION

4.16.1 Environmental Setting

4.16.1.1 *Existing Conditions*

The City of Palo Alto Recreation Services Division offers numerous programs, including youth and adult sports, teen and middle school activities, after school programs, a variety of classes for all ages and a wide range of special events. Recreation facilities include the Cubberley, Lucie Stern, and Mitchell Park Community Centers; the Children's Theater and Community Theater; Rinconada Pool; Junior Museum and Zoo; Baylands Golf Links; Palo Alto Art Center; Baylands Interpretive Center; and Skateboard Park at Greer Park.

The City of Palo Alto owns and operates 32 parks and four open space preserves. In addition to these facilities, there are a variety of other parks available to residents, including PAUSD-owned land used for recreation, Stanford University open space and recreation lands, privately owned recreational facilities, land managed by conservation groups, and State and regional parks in the vicinity of Palo Alto. Section 21.050.040 of the City's Municipal Code, Land Requirement, establishes a parkland provision requirement of 5 acres of neighborhood park, district park, recreational facilities, and open space for every 1,000 residents. The City has approximately 4,203 acres of parkland. With a population of 65,685 residents in 2014, this translates to a parkland ratio of 64 acres per 1,000 residents.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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. **(No Impact)**

The project would not increase the population of the City of Palo Alto and, therefore, would not increase the demand for recreational facilities and parks. Additionally, as discussed under Impact PS-4, the project would reduce the probability of future flooding or site destabilization damaging the CHC campus, which could increase demand for recreational facilities and parks. Accordingly, the project would not increase the use of existing neighborhood and regional parks or other recreational facilities. **(No 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. **(No Impact)**

As discussed under Impact REC-2, the project would not increase demand for recreational facilities and parks, and therefore the project would not require the construction or expansion of recreational facilities. The project does not include recreational facilities. **(No Impact)**

4.17 TRANSPORTATION

4.17.1 Environmental Setting

4.17.1.1 *Regulatory Framework*

State

Regional Transportation Plan

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area, including Santa Clara County. MTC is charged with regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities in the region. MTC and ABAG adopted Plan Bay Area 2040 in July 2017, which includes a Regional Transportation Plan to guide regional transportation investment for revenues from federal, state, regional and local sources through 2040.

Senate Bill 743

SB 743 establishes criteria for determining the significance of transportation impacts using a vehicle miles traveled (VMT) metric intended to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. Specifically, SB 743 requires analysis of VMT in determining the significance of transportation impacts. Local jurisdictions were required by Governor's Office of Planning and Research (OPR) to implement a VMT policy by July 1, 2020.

Regional

Congestion Management Program

VTA oversees the Congestion Management Program (CMP), which is aimed at reducing regional traffic congestion. The relevant state legislation requires that urbanized counties in California prepare a CMP in order to obtain each county's share of gas tax revenues. State legislation requires that each CMP define traffic LOS standards, transit service standards, a trip reduction and transportation demand management plan, a land use impact analysis program, and a capital improvement element. VTA has review responsibility for proposed development projects that are expected to affect CMP-designated intersections.

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the City's Comprehensive Plan have been adopted for the purpose of avoiding or mitigating transportation impacts resulting from planned development within the City including the following:

Policies	Description
Policy T-1.3	Reduce GHG and pollutant emissions associated with transportation by reducing VMT and per-mile emissions through increasing transit options, supporting biking and walking, and the use of zero-emission vehicle technologies to meet City and State goals for GHG reductions by 2030..
Policy T-1.23	Monitor VMT per capita and citywide GHG emissions from mobile sources as a measure of progress toward the City's goal of reducing GHG 80 percent below 1990 levels by 2030.
Policy T-2.3	Use motor vehicle LOS at signalized intersections to evaluate the potential impact of proposed projects, including contributions to cumulative congestion. Use signal warrants and other metrics to evaluate impacts at unsignalized intersections.

Palo Alto Bicycle and Pedestrian Plan

Pedestrian and bicycle facilities in Palo Alto are governed by the Palo Alto Bicycle & Pedestrian Transportation Plan that was adopted in July 2012. The plan identifies objectives for the expansion of bicycle and pedestrian goals for the City. The City has a goal of expanding bicycle-to-work trips to 15 percent by 2020. The City's high school student population is the highest bicycle commuter group with an average of 44 percent of high school commuters traveling by bicycle. This is in part due to the past efforts to provide bicycle-friendly infrastructure within the community. The Bicycle & Pedestrian Transportation Plan supports additional goals for the City to encourage life-long appreciation for bicycle commuting to support healthy living and reduce global climate change.

Palo Alto City Council Resolution No. 9894

Resolution No. 9894, adopted by the Palo Alto City Council on June 15, 2020, established VMT thresholds of significance and screening criteria for purposes of CEQA review of projects. The revised thresholds are based upon the VMT metric that is specifically required in CEQA Guidelines Section 15064.3. Additionally, the City is setting the new CEQA thresholds at a level and in a manner consistent with and based upon review of OPR guidance. Under Resolution No. 9894, small developments, defined as projects of 10,000 square feet or less for non-residential uses, are considered to have a less than significant impact under Section 15064.3.

4.17.1.2 *Existing Conditions*

Roadway Network

Regional access to the project site is provided by Interstate 280 (I-280) and State Route 82 (El Camino Real), which are connected via the northeast-southwest-oriented Sand Hill Road corridor.

I-280 is a north-south freeway extending from the US 101 interchange in the City of San José in the south to San Francisco in the north. The freeway includes four to five mixed-flow lanes per direction with HOV lanes north of the I-280/I-880/SR 17 interchange and south of the Magdalena Avenue interchange. Access to the site from I-280 is provided via its interchange with Sand Hill Road.

El Camino Real is a six-lane, north-south regional arterial that extends south towards Mountain View and Santa Clara, and north towards Redwood City, Millbrae, and San Bruno. El Camino Real provides access to local and regional commercial areas. Access to the project site from El Camino Real is provided via Sand Hill Road.

Pedestrian and Bicycle Facilities

Pedestrian facilities consist of sidewalks, pedestrian paths, crosswalks, and pedestrian signals at signalized intersections. In the project vicinity, sidewalks exist along both sides of most roadways in the study area, with the exception of Durand Way. Marked crosswalks with pedestrian signal heads and push buttons are present at nearby signalized intersections, including Sand Hill Road/Clark Way, Sand Hill Road/Arboretum Road, and Sand Hill Road/Pasteur Dr. A pedestrian and bicycle bridge connecting San Mateo Drive in Menlo Park and Clark Way in Palo Alto is located approximately 475 feet southwest of the work site.

There are several bicycle facilities in the vicinity of the project site. The existing bicycle facilities within the study area are described below.

Class I Bikeways are referred to as multi-use or shared-use paths that are physically separated from a roadway by either at least five feet of landscape or other form of barrier. Class I bikeways provide exclusive use for non-motorized modes of transportation and must contain a paved path with a minimum width of eight feet and two-foot-wide graded shoulders. Palo Alto has approximately 15.3 miles of Class I path, including a portion of Sand Hill Road extending southwest from El Camino Real to Arboretum Road.

Class II Bike Lanes are striped lanes on roadways that provide for one-way bicycle travel. Within the project vicinity, Class II bikeways are striped along the following street segments:

- Sand Hill Road (northeast), between Oak Avenue and El Camino Real
- Pasteur Drive, between Sand Hill Road and Welch Road
- Welch Road, between Campus Drive and Quarry Road

Class III Bikeways are signed bike routes where bicyclists share travel lanes with motorists. Class III lanes are typically routes where roadways cannot provide for Class II bike lanes, but still have a bicycle demand. Palo Alto has approximately eight miles of Class III routes, including the entire extent of Clark Way.

Transit Services

Existing transit services near the project site are provided by the Alameda-Contra Costa Transit District (AC Transit), the Santa Clara Valley Transportation Authority (VTA), and Caltrain. The project site is served indirectly by AC Transit Route U and VTA Route 522. Additional transit services (VTA bus services & Caltrain) are provided at the Palo Alto Transit Center, which is located approximately 1.3 miles east of the project site.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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. **(Less than Significant Impact)**

The City of Palo Alto has traditionally used LOS (i.e. vehicle delay or congestion) as the basis for determining a project's transportation impacts. However, with the passage of SB 743 and the adoption of related Guidelines implementing SB 743, LOS traffic impacts are required to be considered insignificant (CA PRC 21099(b)(2)). The relevant question under CEQA, as amended by SB 743, is whether any physical roadway improvements would be required to maintain or restore acceptable LOS conditions would have negative environmental consequences from construction or operation of the modified roadway.

Project Construction

Project construction activities would generate off-site traffic consisting of the initial delivery of construction vehicles and equipment to the project site, the daily arrival and departure of construction workers, the removal of construction debris and soil, and the delivery of materials throughout the construction period. Traffic generated from construction activities would be temporary and spread out over the three- to four-month construction period. Given the proximity of the campus to regional roadways (i.e. I-280 and El Camino Real), construction vehicles would have a relatively direct route to the project site via Sand Hill Road and would generate far fewer than 50 net new weekday (AM or PM peak hour) trips during construction. As such, no further transportation analysis is necessary and temporary construction traffic impacts associated with the project would be less than significant.

Project Operation

As discussed below under Impact TRN-2, the project, if constructed, would not be accessible to the public and would have no recreational users. As the project would not generate any bicycle or pedestrian trips, the project would not generate additional traffic on the existing pedestrian and bicycle facilities in the project vicinity, and would not conflict with the Palo Alto Bicycle & Pedestrian Transportation Plan. For the same reason, the project would not generate any trips via public transit. Furthermore, the project, if completed, would only generate a minimal number of infrequent trips associated with project maintenance (irrigation or re-planting as necessary, removal of debris collected during large storm events). Accordingly, the project as a whole would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian facilities. **(Less than Significant Impact)**

Impact TRN-2: The project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **(Less than Significant Impact)**

Construction of the 275-foot-long log crib wall and rock toe foundation would only contribute a minimal increase in VMT associated with the initial delivery of construction vehicles and equipment to the project site, the daily arrival and departure of construction workers, the removal of construction debris and soil, and the delivery of materials throughout the construction period. Furthermore, the project, if completed, would not be accessible to the public, and would have no users beyond the minimal number of infrequent trips associated with project maintenance. Based on the above, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **(Less than Significant 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). **(Less than Significant Impact)**

The proposed crib wall and rock toe foundation would be constructed along the eastern embankment of San Francisquito Creek, outside of the public right-of-way. As discussed under Impact LU-2, the proposed project is consistent with the site's land use designation and zoning.

Additionally, during construction, construction equipment and vehicles would access the project site via Sand Hill Road and Clark Way, and would park in the CHC campus parking lot. From there, construction vehicles would access the work area via the temporary access road. None of the streets and thoroughfares in the surrounding area would be blocked such that hazards to vehicles, bicycles, or pedestrians would increase. Accordingly, the project would not substantially increase hazards due to a geometric design feature or incompatible use. **(Less than Significant Impact)**

Impact TRN-4: The project would not result in inadequate emergency access. **(Less than Significant Impact)**

During construction of the proposed project, construction equipment and vehicles would access the project site via Sand Hill Road and Clark Way, and would park in the CHC campus parking lot. None of the streets or thoroughfares in the surrounding area would be blocked such that emergency vehicles would be unable to access the project site or surrounding areas. **(Less than Significant Impact)**

4.18 TRIBAL CULTURAL RESOURCES

The following discussion is based in part on a Cultural Resources Study prepared by Basin Research Associates in April 2020, and a peer review of the study prepared by Albion Environmental, Inc. in September 2020. These reports are on file with the City of Palo Alto Planning & Development Services Department.

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*

Native Americans historically resided in the Bay Area region for a 5,000- to 7,000-year period dating back from the 1800s. The aboriginal inhabitants of the region, the Costanoan (Ohlone), occupied the central California coast as far east as the Diablo Range.

The project site is within the Tamyen (Tamien) territory of the Ohlone, and was occupied by the Puyson (Puichon) people. Two Puichon villages, Capsup and Ssiputca, were located north of the project site. No Native American ethnographic settlements or contemporary Native American use areas have been identified on or adjacent to the project site. A number of Mission-era Native American trails likely used San Francisquito Creek and the general area surrounding the site, but none have been identified specifically through or adjacent to the project site.

The work area contains a portion of San Francisquito Creek, which is considered extremely sensitive for archaeological resources by the City of Palo Alto. Research by Stanford University over the past 30 years has interpreted the prehistoric resources present along the creek as part of a complex of

overlapping, adjacent prehistoric sites that represent repeated, intensive, and long-term residential activities over 5,000 years.

The archaeological survey conducted in February 2020 found no evidence of prehistoric and/or combined prehistoric/historic features, isolated artifacts, sites, or cultural sediments within the creek channel or eroding from the creek bank. The records and literature search did identify two archaeological sites in close proximity to the work area, and a total of five prehistoric resources within 0.25 mile of the project site. The NRHP- and CRHR-eligible cultural resources within the project APE include CA-SCL-613/H (P-43-000608) and CA-SCL-591/H (P-43-000586). These resources are discussed further in the cultural resources report, which the City is confidentially withholding to protect the location of cultural resources. This report is on file with the City of Palo Alto Planning & Development Services Department.

Prior to Phase I of the San Francisquito Creek Bank Stabilization project, Basin extracted 20 soil cores along the top of the south bank of San Francisquito Creek at the rear of the CHC facility to determine the potential for the shear pin wall installation to affect buried cultural resources. No indications of buried cultural deposits were uncovered during this survey effort. The survey effort concluded that there was a low potential for subsurface cultural deposits within the shear pin alignments. Subsequent archaeological monitoring of ground disturbing construction associated with the installation of the shear pin wall and tieback resulted in the discovery of a historic period well (discussed above in Section 4.5 Cultural Resources) but no indications of a prehistoric cultural deposit. Further evaluation of the well concluded that the resource was not significant, and there is no reason to believe the historic period well constitutes a tribal cultural resource.

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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)				

No Native American tribes have formally requested to be put on the City's notification list for projects undergoing review pursuant to AB 52; therefore no tribal consultation regarding this project is required.

Two NRHP- and CRHR-eligible archaeological resources with buried cultural deposits are in close proximity to the work area. Subsurface investigations and archaeological monitoring of the work site conducted during Phase I of the CHC San Francisquito Creek Stabilization project found no indication of prehistoric cultural deposits. As discussed under Impact CUL-2, deposits associated with CA-SCL-613/H are outside the area of disturbance, and deposits associated with CA SCL-591 are outside the direct impact area. Therefore, the cultural resources within or adjacent to the project site are not within the project's direct impact area. Additionally, the project has been designed to avoid cutting into the native soils with the potential to hold subsurface archaeological resources. With implementation of MM CUL-2.1, MM CUL-2.2, and MM CUL-2.3, any unknown unknown culturally significant archaeological resources encountered during construction would be evaluated and protected in accordance with the recommendations of a qualified archaeologist. Accordingly, 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 CRHR, 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)**

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)**

As part of the archaeological investigation, Basin contacted the California NAHC and requested a search of the NAHC's Sacred Lands File (SLF) and a list of Native American representatives who may have interest in the project. The NAHC replied and stated that the SLF has no record of sacred sites in the vicinity of the APE, and included a list of six Native American representatives to contact who may be interested in the Project. Basin sent letters to the six Native American contacts provided in the NAHC response; the letters provided information on the project and requested that the recipients provide information on cultural resources that may be impacted by the project, if they would like to do so. Basin received one response to the letters, from Andrew Galvan of the Ohlone Tribe, who inquired into the results of the literature search and field investigations. Follow-up inquiries were sent on October 15, 2020 via email and telephone, resulting in one additional response from Irene Zwierlein, Chairperson of the Amah Mutsun Tribal Band of Mission San Juan Bautista. Ms. Zwierlein recommended that cultural sensitivity for all construction workers involved in earthworks and the presence of an Archaeological Resources Monitor and Native American Resources Monitor. These recommendations have been incorporated into the project as MM CUL-2.1 and MM CUL-2.3. As discussed under Impact TCR-1, the records and literature search identified two CRHR-eligible archaeological resources with buried cultural deposits within or adjacent to the project's APE.

Although tribal cultural resources have been recorded within or adjacent to the project's APE, subsurface investigation and archaeological monitoring conducted during Phase I of the project did not identify any prehistoric cultural deposits. This indicates that any subsurface cultural deposits associated with CA-SCL-613/H present in the project vicinity are set back from the creek channel, a conclusion which is supported by excavations completed in 1997 by Stanford University. Prehistoric deposits associated with CA SCL-591 are within the periphery of the proposed project, but are not within the direct impact area. Furthermore, the project has been designed to avoid cutting into the native soils with the potential to hold subsurface archaeological resources, and with implementation of MM CUL-2.1 the project would not cause a substantial adverse change in the significance of a tribal cultural resource. **(Less than Significant Impact with Mitigation Incorporated)**

4.19 UTILITIES AND SERVICE SYSTEMS

4.19.1 Environmental Setting

4.19.1.1 *Regulatory Framework*

State

State Water Code

Pursuant to the State Water Code, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan (UWMP) and update it every five years. As part of a UWMP, water agencies are required to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, water conservation, water service reliability, water recycling, opportunities for water transfers, and contingency plans for drought events. The City of Palo Alto adopted its most recent UWMP in May 2016.

Assembly Bill 939

The California Integrated Waste Management Act of 1989, or AB 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures.

Assembly Bill 341

AB 341 sets forth the requirements of the statewide mandatory commercial recycling program. Businesses that generate four or more cubic yards of garbage per week and multi-family dwellings with five or more units in California are required to recycle. AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

Senate Bill 1383

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The bill grants Department of Resources Recycling and Recovery (CalRecycle) the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that at least 20 percent of currently disposed edible food is recovered for human consumption by 2025.

Local

City of Palo Alto 2030 Comprehensive Plan

Various policies in the City's Comprehensive Plan have been adopted for the purpose of avoiding or mitigating impacts on utilities and service systems resulting from planned development within the City including the following:

Policies	Description
Policy L-9.11	Provide utilities and service systems to serve all urbanized areas of Palo Alto and plan infrastructure maintenance and improvements to adequately serve existing and planned development.
Policy N-3.2	Prevent the further channelization and degradation of Palo Alto's creeks.
Policy N-3.3	Protect the city's creeks from the impacts of future buildings, structures, impervious surfaces and ornamental landscaping and preserve their function as habitat connectivity corridors by establishing a range of setback requirements that account for existing creek conditions, land use characteristics, property ownership and flood control potential.
Policy N-3.5	Discourage bank instability, erosion, downstream sedimentation, and flooding by minimizing site disturbance and nearby native vegetation removal on or near creeks and by reviewing grading and drainage plans for development near creeks and elsewhere in their watersheds.
Policy N-3.7	Avoid fencing, piping and channelization of creeks when flood control and public safety can be achieved through measures that preserve the natural environment and habitat of the creek.
Policy N-4.4	Manage water supply and water quality to reflect not only human use but also the water needed to sustain plant and animal life.
Policy N-4.8	Conserve and maintain subsurface water resources by exploring ways to reduce the impacts of residential basement dewatering and other excavation activities.
Policy N-4.12	Promote sustainable low water and pesticide landscaping practices on both public and private property.
Policy N-4.14	Improve storm drainage performance by constructing new system improvements where necessary.
Policy S-2.8	Minimize exposure to flood hazards by protecting existing development from flood events and adequately reviewing proposed development in flood prone areas.
Policy S-2.11	Monitor and respond to the risk of flooding caused by climate change-related changes to precipitation patterns, groundwater levels, sea level rise, tides and storm surges.

City of Palo Alto Construction and Demolition Ordinance

The City's Construction and Demolition Ordinance (Chapter 5.24 of the PAMC) requires the diversion of construction and demolition waste from landfills. Under this ordinance, project-related construction and demolition waste shall be diverted to an approved recycling/transformation facility or salvaged. The City passed the Construction and Demolition Debris Diversion Ordinance in 2004, and updated the ordinance in 2009. The ordinance requirements are currently enforced through the City's Green Building Program and require projects to salvage, and/or divert at least 75 percent of project debris from landfills.

4.19.1.2 Existing Conditions

Water Service

The City's drinking water is provided by the CPAU and is purchased from the San Francisco Public Utility Commission, which obtains most of its water from the Hetch Hetchy system. The City also owns five groundwater wells, three of which are currently operational. The wells are available in case the Hetch Hetchy system cannot meet the City's needs in times of drought or emergency. Water lines are available in the area to serve the project site.

The City's Water Efficient Landscape Ordinance incorporates a set of standards that are applied to any new or renovated landscape for commercial, industrial, multi-family common area, or City facility projects with 1,000 square feet or more of landscaped area. The ordinance requires projects to meet the requirements of the City's water efficiency standards before a building or grading permit is issued.

Sanitary Sewer/Wastewater Treatment

The CPAU is responsible for the existing wastewater collection system. There are existing sanitary sewer lines in the area that serve the project site.

The City of Palo Alto operates the Regional Water Quality Control Plant (RWQCP), a wastewater treatment plant, for the East Palo Alto Sanitary District, Los Altos, Los Altos Hills, Mountain View, Palo Alto, and Stanford University. The RWQCP is on the shore of the San Francisco Bay in Palo Alto, adjacent to the Palo Alto Baylands Preserve. The RWQCP discharges treated wastewater effluent to a man-made channel, which empties into the southern reach of the San Francisco Bay. In 2016, the RWQCP treated an average of 18 million gallons per day (MGD) of wastewater during the dry season, well below its permitted dry-weather capacity of 39 MGD.⁴⁸

Storm Drainage

The project site and work area are within the San Francisquito Creek watershed. The mainstem of San Francisquito Creek begins to the west of the project site at the confluence of Corte Madera Creek and Bear Creek just below the Searsville Dam. From there, San Francisquito Creek flows generally in a northeast direction for approximately 10 miles before emptying into the San Francisco Bay.

The City's Department of Public Works Storm Drain Management Program is responsible for the approval, construction, and maintenance of the storm drain system in Palo Alto. The system consists of approximately 107 miles of underground pipelines, 2,750 catch basins, 800 manholes, and six pump stations. Local storm drains are designed to convey the runoff from a 10-year storm.⁴⁹ Stormwater at the project site flows into San Francisquito Creek or into existing City stormwater lines.

⁴⁸ Palo Alto Regional Water Quality Control Plan. *Clean Bay Pollution Prevention Plan 2017*. Available at: <http://www.cityofpaloalto.org/news/displaynews.asp?NewsID=1527&TargetID=65>. Accessed September 17, 2020.

⁴⁹ City of Palo Alto. Storm Drain System Facts and Figures. <http://www.cityofpaloalto.org/civicax/filebank/documents/2806>. Accessed September 17, 2020.

Solid Waste

Solid waste collection and disposal services are provided under exclusive franchises overseen by the City of Palo Alto Public Works Department. The majority of the City's solid waste is taken to the Sunnyvale Materials Recovery and Transfer Station (SMaRT[®] Station), where recyclables and yard trimmings are recovered, processed and marketed.

Currently, the City is contracted with GreenWaste of Palo Alto for collection of garbage, recycling, and composting services in the City and with Waste Management Inc. to use the Kirby Canyon Landfill for waste disposal. As of May 2017, the Kirby Canyon Landfill has a remaining capacity of 16,191,600 tons and the daily permitted capacity is 2,600 tons per day. According to the latest Disposal Facility Inspection Report in 2010, the peak tonnage is 2,094 tons per day. Therefore, the landfill has a remaining daily capacity of 506 tons per day.

Palo Alto residential and commercial recycling is processed at the GreenWaste Material Recovery Facility in the City of San José. This 96,000-square-foot facility processes and recycles residential and commercial trash, yard trimmings, curbside recyclables, and food waste.⁵⁰

Mixed construction debris is processed at the Zanker Materials Processing Facility in San José. The facility has a total capacity of approximately 1.2 million cubic yards.⁵¹

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

⁵⁰ City of Palo Alto. *Comprehensive Plan Update Environmental Impact Report Volume 1: Draft EIR*. February 2016.

⁵¹ Greenwaste/Zanker. Sustainability Report. September 17, 2020.

http://www.zankerrecycling.com/sites/default/files/GreenWaste_Zanker_Sustainability_Report_2012.pdf.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5) Be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact UTL-1: The project would not 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)**

The project proposes construction of a log crib wall with a rock toe foundation to stabilize the eroding eastern embankment of San Francisquito Creek. The only water usage associated with the proposed project would be small amounts required for construction, primarily dust suppression. As the project would not generate wastewater or use electric power, natural gas, or telecommunication facilities during operation, no relocation or construction of treatment plants, stormwater drainage, or energy facilities would be required. **(Less than Significant Impact)**

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 project would not include features that would require water or water services beyond what is provided by creek flows and rain. The project would not result in insufficient water supplies available during normal, dry, and multiple dry years. **(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 project does not include any facilities or bathrooms that would generate wastewater, and therefore there would be no impact to the wastewater treatment provider's capacity. **(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 proposed project would generate construction debris and, post-construction, the removal of solid waste in the form of debris collected by the crib wall during large storm events. The solid waste generated would be minimal and disposed in accordance with City requirements and not be expected to exceed the capacity of local infrastructure or impair the attainment of solid waste reduction goals. **(Less than Significant Impact)**

Impact UTL-5: The project would comply with federal, state, or local management and reduction statutes and regulations related to solid waste. **(No Impact)**

As discussed under Impact UTL-4, all waste generated by the proposed project during construction and operation would be disposed in accordance with City requirements. Thus, the project would not be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste. **(No Impact)**

4.20 WILDFIRE

4.20.1 Environmental Setting

4.20.1.1 *Regulatory Framework*

State

Fire Hazard Severity Zones

CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. Referred to as Fire Hazard Severity Zones (FHSZs), these maps influence how people construct buildings and protect property to reduce risk associated with wildland fires. FHSZs are divided into areas where the state has financial responsibility for wildland fire protection, known as state responsibility areas (SRAs), and areas where local governments have financial responsibility for wildland fire protection, known as local responsibility areas (LRAs). Homeowners living in an SRA are responsible for ensuring that their property is in compliance with California's building and fire codes. Only lands zoned for very high fire hazard are identified within LRAs.

4.20.1.2 *Existing Conditions*

The project site and work area are not mapped within or near state or local responsibility areas classified as very high fire hazard severity zones. Per Map S-8 Wildfire Hazard Zones in the Palo Alto 2030 Comprehensive Plan, the project site and work area have a low risk of wildfires occurring.

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, the project would not result in wildfire impacts. **(No Impact)**

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 discussed in prior sections of this Initial Study, the proposed project would not degrade the quality of the environment, substantially affect biological resources, or eliminate important examples of California history or prehistory with implementation of the identified best management practices and mitigation measures.

As discussed in Section 4.4 Biological Resources, implementing the proposed conservation measures and Habitat Mitigation and Monitoring Program; City-approved BMPs; special-status species surveys, relocation, and protection measures (MM BIO-1.1 through MM BIO-1.4); and the recommendations of the arborist report, including the Tree Protection and Preservation Plan, would reduce impacts to biological resources to a less than significant level.

As discussed in Section 4.5, Cultural Resources, the project would implement mitigation measures to stop work if archaeological resources (MM CUL-2.1 through MM CUL-2.3) or human remains (MM CUL-3.1) are discovered, and adhere to reporting requirements for the find(s). With implementation of these mitigation measures, the project would result in a less than significant impact on cultural and tribal cultural resources. **(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)**

Under Section 15065(a)(3) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects “that are individually limited, but cumulatively considerable.” As defined in Section 15065(a)(3) of the CEQA Guidelines, cumulatively considerable means “that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” This Initial Study evaluates the environmental impacts of the proposed creek bank stabilization project and takes into account other past, pending, and probable future projects whose impacts could combine to produce cumulative impacts.

The project would result in no impacts to agricultural and forestry resources, mineral resources, population and housing, recreation, or wildfire. Therefore, the project would not contribute to significant cumulative impacts to these resources. There are no projects in proximity to the proposed project that would cause the project to contribute to cumulative impacts to aesthetics or land use and planning. Given the project’s consistency with the Comprehensive Plan and compliance with existing regulations, the project would not contribute to significant cumulative public services or utilities and service systems impacts.

The project, and any other development in the surrounding area, would be required to comply with federal, state, and local regulations. Cumulative water quality impacts would be less than significant with adherence to City-approved BMPs and the required erosion and sediment control and stormwater pollution prevention plan identified in Section 4.10 Hydrology and Water Quality. As discussed in Section 4.13 Noise, cumulative noise impacts would be less than significant with adherence to standard permitting conditions. There are no other projects currently proposed or approved within the immediate vicinity that could contribute to cumulative noise impacts during construction of the proposed project. Operation of the project would have no impact on noise.

With adherence with the hazardous materials management and fuel spill containment plan described in Section 4.9 Hazards and Hazardous Materials and required by USACE, cumulative impacts associated with the release of hazardous materials would be less than significant. As discussed in Section 4.7 Geology and Soils, the project’s potential effects on geology and soils would be reduced to less than significant with adherence to CBC standard engineering design and seismic safety techniques and the recommendations of the design-level geotechnical report. The project would require worker training related to paleontological resources (MM GEO-6.1) and would implement additional measures if such resources are found during construction (MM GEO-6.2); therefore, the project would not result in significant cumulative geology impacts.

In general, an individual project's impact on broader communitywide or regional resources including air quality, energy, GHGs, and VMT are evaluated at a cumulative level. That is, if a project results in a significant impact to air quality, energy, GHGs, and VMT, the project would be considered to have a significant cumulative impact to those resources. As discussed in Sections 4.3, Air Quality, 4.6 Energy, 4.8 Greenhouse Gas Emissions, and 4.17 Transportation, the project would not result in significant impacts to those resources with the implementation of identified standard permit conditions and mitigation measures (including MM AIR-3.1, implementation of BAAQMD best management practices, and MM AIR-3.2, use of Tier 4 construction equipment) would reduce potentially significant impacts from toxic air contaminants to a less than significant level. For this reason, the project would not result in significant cumulative impacts to those resources.

With implementation of the measures discussed above, the proposed creek bank stabilization project would not result in any cumulatively significant impacts. **(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)**

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include construction air quality, hazardous materials, and noise. Implementation of conditions of approval, best management practices, and mitigation measures (including MM AIR-3.1, MM AIR-3.2, MM BIO-1.1, MM BIO-1.2, MM BIO-1.3, MM BIO-1.4, MM CUL-2.1, MM CUL-2.2, MM CUL-2.3, MM CUL-3.1, MM GEO-6.1, and MM GEO-6.2), and adherence to the City's Comprehensive Plan and Municipal Code, and state and federal regulations described in this document would avoid significant impacts. No other direct or indirect adverse effects on human beings have been identified. **(Less than Significant Impact with Mitigation Incorporated)**

SECTION 5.0 REFERENCES

The analysis in this 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

City of Palo Alto

Planning and Development Services

Claire Raybould, Senior Planner

6.2 CONSULTANTS

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Kelly Hardwicke, Senior Plant/Wetland Ecologist

Illingworth & Rodkin, Inc.

Air Quality and GHG Consultants

James A. Reyff, Senior Consultant

WRA Environmental Consultants, Inc.

Biological Resources and Hydrology and Water Quality Consultants

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Brian Bartell, Project Director

Ben Snyder, Senior Engineer/Project Manager

Andrew Smith, Water Resources Engineer

Bianca Clarke, Associate Regulatory Permitting Specialist

Erik Schmidt – Regulatory Permitting Specialist

Steven Cognac, Biologist

Scott Yarger, Biologist/Arborist

Gavin Albertoli, Arborist

SECTION 7.0 ACRONYMS AND ABBREVIATIONS

2017 CAP	Bay Area 2017 Clean Air Plan
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACM	asbestos-containing material
ADA	Americans with Disabilities Act
ADHD	Attention Deficit Hyperactivity Disorder
APN	Assessor's Parcel Number
ARB	Architectural Review Board
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practices
Btu	British thermal unit
CalARP	California Accidental Release Program
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CAP	Clean Air Plan
CARB	California Air Resources Board
CBC	California Building Standards Code
CCC	Central Coast California
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CHC	Children's Health Council
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database

CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
Comprehensive Plan	City of Palo Alto 2030 Comprehensive Plan
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
dB	decibel
dBA	A-weighted sound level
DDT	dichlorodiphenyltrichloroethane
DNL	Day-Night Level
DPM	diesel particulate matter
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
EPA	United States Environmental Protection Agency
ESA	Environmental Site Assessment
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHG	greenhouse gas
GWh	gigawatt hour
HCP	Habitat Conservation Plan
HDPE	high-density polyethylene
HFC	hydrofluorocarbon
HSP	health and safety plan
LED	light emitting diode
L _{eq}	Noise Equivalent Level
LID	Low Impact Development
L _{max}	Maximum Sound Level

LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MMTCO _{2e}	million metric tons of carbon dioxide equivalent
MND	Mitigated Negative Declaration
MRP	Municipal Regional Permit
msl	mean sea level
MTC	Metropolitan Transportation Commission
NAHC	Native American Heritage Commission
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
N ₂ O	nitrous oxide
NO ₂	nitrogen dioxide
NMFS	National Marine Fisheries Service
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
OGFC	open-graded friction course
OPR	Office of Planning and Research
PCE	perchloroethylene
PDA	Priority Development Area
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM ₁₀	coarse particulate matter
PM _{2.5}	fine particulate matter
PPV	peak particle velocity
PV	photovoltaic
RHNA	Regional Housing Need Allocation
ROG	reactive organic gas
RRFB	rectangular rapid flash beacon
RWF	Regional Wastewater Facility

RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCCDEH	Santa Clara County Department of Environmental Health
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SHMA	Seismic Hazards Mapping Act
SLF	Sacred Land Files
SMARA	Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
SMP	Site Management Plan
SO _x	sulfur oxide
SR	State Route
SVCE	Silicon Valley Clean Energy
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCM	transportation control measure
TCR	Tribal Cultural Resource
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
UWMP	urban water management plan
Valley Water	Santa Clara Valley Water District
VdB	vibration velocity level
VMТ	vehicle miles traveled
VOC	volatile organic compound
VTА	Santa Clara Valley Transit Authority
Williamson Act	California Land Conservation Act
WRA	WRA Environmental Consultants, Inc.