Rehabilitation of Storm Drain Outfall at Remington Court Project

(UY-17-01)

Initial Study / Mitigated Negative Declaration

City of Sunnyvale

Department of Public Works

456 W. Olive Avenue, Sunnyvale, CA 94086

October 2020

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Rehabilitation of Storm Drain Outfall at Remington Court Project Draft Mitigated Negative Declaration

Project: Rehabilitation of Storm Drain Outfall at Remington Court (UY-17-01)

Lead Agency/ Project Proponent: City of Sunnyvale

Availability of Documents: The Initial Study for this Mitigated Negative Declaration is available for review on the City's web site and can be found at the following web address:

https://sunnyvale.ca.gov/business/planning/ceqa.htm

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PROJECT DESCRIPTION

The City of Sunnyvale (City) Public Works Department has determined that a 60-inch storm drain outfall that currently discharges directly into Stevens Creek has deteriorated and a small portion at the end of the pipe has fallen into the outfall channel connected to the creek. The storm drain outfall, which was built in 1957, consists of roughly 40 feet of 60-inch corrugated metal pipe (CMP) that daylights into the outfall channel. The portion of the pipe that fell into the outfall channel includes an iron flap gate and two short pipe segments used to connect the flap gate to the rest of the pipe that is currently intact.

A basis of design report prepared by BKF Engineers concluded that the deterioration of the 60-inch CMP pipe and the lack of proper erosion control measures at the discharge point and further downstream of the low-flow channel were the key reasons for the failure of the storm drain outfall pipe and the deepening of the outfall channel.

The City is proposing a project to replace the failed segment of pipeline and alter the drainage outlet to prevent future erosion at the discharge point and to prevent backups from the creek into the municipal storm drainage system.

The City of Sunnyvale is the Lead Agency for the project and the California Department of Fish and Wildlife, San Francisco Bay Regional Water Quality Control Board, Valley Water, and the United States Army Corps of Engineers are responsible agencies.

PROPOSED FINDINGS

The City has reviewed the attached Initial Study and determined that the Initial Study identifies potentially significant project effects, but:

1. Revisions to the project plans incorporated herein as mitigation would avoid or mitigate the effects to a point where no significant effects would occur; and
2. There is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment. Pursuant to California Environmental Quality Act (CEQA) Guidelines Sections 15064(f)(3) and 15070(b), a Mitigated Negative Declaration has been prepared for consideration as the appropriate CEQA document for the project.

BASIS OF FINDINGS

Based on the environmental evaluation presented in the attached Initial Study, the project would not cause significant adverse effects related to aesthetics, agricultural and forestry resources, cultural resources, energy, geology/soils, greenhouse gas emissions, hazards/hazardous materials, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation, tribal cultural resources, utilities/service systems, and wildfire. The project does not have impacts that are individually limited, but cumulatively considerable.

The environmental evaluation has determined that the project would have potentially significant impacts on biological and hydrological resources as described below.

Mitigation Measures

The project could result in significant adverse effects to air quality from short-term construction dust emissions and biological resources. However, the project has been revised to include the mitigation measures listed below, which reduce these impacts to a less-than-significant level. With implementation of these mitigation measures, the project would not substantially degrade the quality of the environment, 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. Nor would the project cause substantial adverse effects on humans, either directly or indirectly.

Mitigation Measures Incorporated into the Project:

Mitigation Measure AIR-1: To reduce potential fugitive dust that may be generated by project construction activities, the City or its contractor shall implement the following BAAQMD basic construction measures when they are appropriate:

- Water all exposed surfaces (e.g., staging areas, soil piles, graded areas, and unpaved access roads) during construction as necessary and adequately wet demolition surfaces to limit visible dust emissions.
- Cover all haul trucks transporting soil, sand, or other loose materials off the project site.
- Use a wet power vacuum street sweeper as necessary to remove all visible mud or dirt track-out onto adjacent public roads (dry power sweeping is prohibited) during construction of the proposed project.
- Vehicle speeds on unpaved roads/areas shall not exceed 15 miles per hour.
- Complete all areas to be paved as soon as possible and lay building pads as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time of diesel-powered construction equipment to five minutes and post signs reminding workers of this idling restriction at access points and equipment staging areas during construction of the proposed project.
- Maintain and properly tune all construction equipment in accordance with manufacturer's specifications and have a CARB-certified visible emissions evaluator check equipment prior to use at the site.
- Post a publicly visible sign with the name and telephone number of the construction contractor and City-staff person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The publicly visible sign shall also include the contact phone number for the Bay Area Air Quality Management District to ensure compliance with applicable regulations.

Mitigation Measure BIO-1: To ensure that biological resources are protected from project impacts, the project will include Avoidance and Minimization Measures (AMMs) that will be followed during project construction to avoid significant impacts to biological resources. The 18 AMMs will be included on all appropriate plans and documents used by the City's contractor(s) and will be incorporated into the project. Additionally, any additional measures required under agency permits (i.e., CDFW, RWQCB, USACE, Valley Water) will be also incorporated into the specifications provided on the plan and document set provided to the contractor(s). These could include minor modifications to the outfall design and/or planting plan and are expected to further reduce impacts to biological resources. If changes are required that would result in significantly greater impacts to biological resources, then additional environmental review may be triggered.

Avoidance and Minimization Measures Included in the Project

The following avoidance and minimization measures (AMM) will be incorporated into the contractor specifications on the final plan set to prevent significant impacts to biological resources:

AMM-1. Receive Agency Approval of Qualified Biologist. The qualifications of a biologist(s) experienced with the California red-legged frog and other special-status species that have the potential to occur in work area will be submitted to the USFWS and CDFW for review and written approval at least 30 calendar days prior to the start of project activities.

AMM-2 Worker Environmental Awareness Training. The City of Sunnyvale shall designate an approved project biologist to provide worker training, conduct pre-construction surveys, and support the site engineer during construction as needed. The project biologist shall prepare a Worker Environmental Awareness Training (WEAT) handout and shall provide worker training prior to the start of work on the first day (including material staging and vegetation removal), and subsequently as needed, to train new personnel onsite. All construction personnel will participate in a worker environmental awareness program. These personnel will be informed about the possible presence of all special-status species and habitats associated with the species identified here to be potentially present in the parcel and that unlawful take of the animal or destruction of its habitat is a violation of FESA. Prior to construction activities, the agency-approved biologist will instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. The biologist shall document worker training sessions.

AMM-3 Work Site Delineation and Wildlife Exclusion Barrier. Prior to any ground disturbance in the work area, an agency-approved temporary wildlife exclusion barrier will be installed along the limits of disturbance to delineate the work area and protect species. An agency-approved biologist will inspect the area prior to installation of the barrier. The barrier will be designed to allow the California red-legged frog to leave the work area and prevent them from entering the work area. The fence will remain in place until all development activities have been completed. This barrier will be inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs on the outer side of the barrier. Clearing within the project site will be confined to the minimal area necessary to facilitate construction activities. The location and extent of the work may be modified in the field by the engineer after consultation with the project biologist. No work activities shall occur outside of the delineated work site.

AMM-4 Conduct Preconstruction Survey. No more than 24 hours prior to the date of initial ground disturbance, a pre-construction survey for California red-legged frog and western pond turtle will be conducted within the impact area by an agency-approved biologist. The survey will consist of walking the limits of impact to ascertain the possible presence of the species. The agency-approved biologist will investigate all potential areas that could be used by California red-legged frog and western pond turtle for feeding, sheltering, movement, and other essential behaviors.

AMM-5 Vegetation Removal. All vegetation within the work area will be completely removed by hand just prior to the initiation of grading to remove cover that might be used by California red-legged frogs. The agency-approved biologist will monitor the vegetation removal. Ground disturbance and vegetation removal will not exceed the minimum amount necessary to complete work at the site. Vegetation trimming, grubbing, or removal will not occur between February 15 and September 15 unless AMM-6 Nesting Bird Survey and AMM-11 Bat Survey have been completed and any required protection measures have been implemented.

AMM-6a and 6b Nesting Bird Survey. AMM-5a. To avoid impacts to nesting birds and violation of state and federal laws pertaining to birds, all construction-related activities (including but not limited to mobilization and staging, clearing, grubbing, vegetation removal, fence installation, demolition, and grading) should occur outside the avian nesting season (generally prior to February 1 or after August 31). If construction and construction noise occurs within the avian nesting season (from February 1 to August 31 or according to local requirements), all suitable habitats located within the project's area of disturbance including staging and storage areas plus a 250-foot (passerines) and 1,000-foot (raptor nests) buffer around these areas shall be thoroughly surveyed, as feasible, for the presence of active nests by a qualified biologist no more than five days before commencement of any site disturbance activities and equipment mobilization. If project activities are delayed by more than five days, an additional nesting bird survey shall be performed. Active nesting is present if a bird is sitting in a nest, a nest has eggs or chicks in it, or adults are observed carrying food to the nest. The results of the surveys shall be documented.

AMM-6b. If pre-construction nesting bird surveys result in the location of active nests, no site disturbance and mobilization of heavy equipment (including but not limited to equipment staging, fence installation, clearing, grubbing, vegetation removal, fence installation, demolition, and grading), shall take place within 250 feet of non-raptor nests and 1,000 feet of raptor nests, or as determined by a qualified biologist in consultation with the California Department of Fish and Wildlife, until the chicks have fledged. Monitoring shall be required to ensure compliance with the MBTA and relevant California Fish and Game Code requirements. Monitoring dates and findings shall be documented.

AMM-7 Construction Monitoring. An agency-approved biologist will be onsite during all project activities that may result in take of any special-status species. The agency-approved biologist will be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, or otherwise associated with the project, the USFWS, the CDFW, or their designated agents. The agency-approved biologist will have oversight over implementation of all the conservation measures and will have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled.

AMM-8. Relocation of California Red-legged Frog. If a red-legged frog is found during implementation of Mitigation Measures 2, 3, 5, 6 and 11, an agency-approved biologist will contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, the project proponent will ensure the agency-approved biologist is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only agency-approved biologists will capture, handle, and move California red-legged frog. The agency-approved biologist will monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.

AMM-9. Relocation of Western Pond Turtle. If a pond turtle is found during implementation of Mitigation Measures 2, 3, 5, 6, and 11, an agency-approved biologist will contact CDFW to determine if moving any of the individuals is appropriate. In making this determination CDFW

will consider if an appropriate relocation site exists. If CDFW approves moving animals, the project proponent will ensure the agency-approved biologist is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only agency-approved biologists will capture, handle, and move the western pond turtle. The agency-approved biologist will monitor any relocated turtle until it is determined that it is not imperiled by predators or other dangers.

AMM-10 Materials and Equipment Staging. Materials and equipment storage and parking areas will be limited to pavement, existing roads, and unvegetated areas, and will be set back at least 25 five feet from the edge of vegetation at the top of bank of Stevens Creek. Equipment will only be re-fueled and serviced at designated construction staging areas. The Contractor will use drip pans during refueling to contain accidental releases. Drip pans will be placed under the fuel pump and valve mechanisms of any bulk fueling vehicles parked at the project site.

AMM-11 Roosting Bat Survey. A preconstruction survey for maternity (March 1 to August 1) or colony bat roosts (year-round) shall be conducted by a qualified biologist within 14 days prior to activities that remove vegetation or structures. If an occupied maternity or colony roost is detected, CDFW shall be contacted about how to proceed. Typically, a buffer exclusion zone would be established around each occupied roost until bat activities have ceased. The size of the buffer would address:

- Proximity and noise level of project activities;
- Distance and amount of vegetation or screening between the roost and construction activities;
- Species-specific needs, if known, such as sensitivity to disturbance.

Due to restrictions of the California Health Department, direct contact by workers with any bat is not allowed. The qualified bat biologist shall be contacted immediately if a bat roost is discovered during project construction.

AMM-12. Daytime Restriction. To the maximum extent practicable, nighttime construction will be minimized.

AMM-13 Water Pollution Prevention. The Contractor shall comply with the provisions of the San Francisco Bay Regional Municipal Regional Stormwater NPDES Permit CAS612008 and shall follow storm water best management practices as specified in the City of Sunnyvale Standard Specifications and Project Specifications, with the purpose of preventing pollution from entering Stevens Creek and downstream waters that support special-status steelhead and riparian habitat. The Contractor shall be familiar with the State of California Construction Best Management Practices Handbook for applicable control measures and employ its provisions throughout all construction activities. Excess or waste concrete shall not be washed into any drainage system. Provisions shall be made to retain concrete wastes on site until they can be disposed of as solid waste. The contractor will identify construction-phase BMPs. Recommended BMPs include: proper stockpiling and disposal of demolition debris, concrete, and soil; protecting existing storm drain inlets; stabilizing disturbed areas; applying erosion controls; employing proper management of construction materials; directing waste management; providing for aggressive litter control; and using applicable sediment controls. Construction vehicles and equipment will be checked daily and appropriately maintained to prevent contamination of soil or water from all sources of hydraulic fluid, fuel, oil, and grease. Waste facilities will be maintained. Waste facilities include concrete wash-out facilities, porta-potties, and hydraulic fluid containers. Waste will be removed to a proper disposal site.

AMM-14 Erosion Control. Construction activities shall be limited to the dry season (generally April through October), to minimize erosion, unless authorized under permits from the resource agencies (e.g., CDFW, RWQCB, USACE). All disturbed soils shall undergo erosion control

treatment prior to October 15th and/or immediately after construction is terminated. Any disturbed soils on a gradient of over 30 percent will have erosion control blankets installed. Other disturbed soil areas and soil stockpiles will be covered with tarps prior to forecast rain events. The Contractor shall adhere to the Municipal Regional Stormwater NPDES Permit (MRP) Best Management Practices for sedimentation prevention and erosion control to prevent deleterious materials or pollutants from entering the storm drain system and Stevens Creek. Site conditions at the time of placement of erosion control measures will vary. The Contractor shall adjust erosion control measures as the site conditions change and as the needs of construction shift, to prevent erosion and sediment from leaving the construction site.

Plastic mono-filament netting (erosion control matting), netted rolled erosion control products or similar material shall not be used at the project site to prevent trapping California red-legged frogs or other species.

AMM-15 Hazardous Spill Plan. A hazardous spill plan shall be developed prior to the start of construction. The plan will describe what actions will be taken in the event of a spill of hazardous materials such as fuel, oil, and lubricants. The plan shall incorporate preventative measures to be implemented, such as vehicle and equipment staging, cleaning, maintenance, and refueling; and contaminant (including fuel) management and storage. In the event of a contaminant spill, work at the site will immediately cease until the contractor has contained and mitigated the spill. The contractor will immediately prevent further contamination and notify appropriate authorities and mitigate damage as appropriate. Adequate spill containment materials, such as oil diapers and hydrocarbon cleanup kits, shall be kept maintained and available on site. Containers for storage, transportation, and disposal of contaminated absorbent materials shall also be provided.

AMM-16 Tree and Riparian Habitat Protection. The Contractor shall hand trench near trees and cut roots as directed by the City Arborist. Trees adjacent to the work area shall be protected with fencing or other measures as directed by the City Arborist. All riparian habitat to be avoided will be shown on project design plans and prior to project activities these areas will be clearly delineated by the agency-approved biologist.

AMM-17. Wildlife Entrapment. All trenches shall be backfilled or covered at the end of each work day. No trench shall be left open during non-working hours. All excavated, steep-walled holes or trenches more than one foot deep shall be completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the agency-approved biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the agency-approved biologist and/or construction foreman/manager. If at any time a trapped California red-legged frog or western pond turtle is discovered by the agency-approved biologist or anyone else, the steps in AMM-7 Relocation of California red-legged frog or AMM-8 Relocation of Western Pond Turtle will be followed. Trenches shall be surveyed each morning for trapped wildlife. If trapped wildlife are discovered the site engineer shall contact the project biologist for direction regarding handling wildlife trapped in a trench. The project biologist shall identify the species and the least deleterious method of removing the species from the trench. If a special-status species is found, the project biologist shall follow AMM-7 and/or AMM-8. If injured non-special-status wildlife are encountered, the project biologist shall remove them to a wildlife rehabilitation facility.

AMM-18 Restoration. Existing patches of Arundo and Vinca should be pulled by hand and with hand tools, bagged or placed into a covered truck, and landfilled either prior to or as the first step of site grading. All portions of the plants need to be removed to prevent re-infestation. If heavy equipment is used to remove the patches, the area needs to be checked for remaining plant material that could sprout, and that plant material removed by hand.

Temporary work areas shall be restored with respect to pre-existing contours and conditions upon completion of work. Upon completion of construction, temporarily and permanently disturbed

sections of the Stevens Creek corridor shall be revegetated with native grasses and forbs and willow stakes as identified in the plans. Use of invasive plant species, as defined by the California Invasive Plant Council (Cal-IPC.com), is prohibited.

Willow stakes shall be installed on the creek terrace adjacent to the channel as shown on the project plans to replace riparian tree habitat removed by the project. Three stakes shall be placed in each planting hole, and to maintain a grassland/willow mosaic in the site, the plantings shall be placed on ten-foot centers. At least 6 sites containing a total of 18 willow stakes shall be planted (3 per site). More sites shall be planted if more than four trees are removed for the project.

One mature coast live oak expected to be removed for the project shall be replaced with three 15-gallon coast live oak plantings. These plantings shall be installed within 250 feet of the oak to be removed in a location that can be maintained so that at least one of the three trees survive to maturity.

The plantings shall be installed by a qualified revegetation contractor

The cover of invasive plant species shall not exceed 10% of the planting area in any monitoring year. Invasive plant species are defined as species rated as high or red alert by the California Invasive Species Council. Weeding, bagging, and disposal of invasive plants shall be implemented if the cover exceeds 10%.

All plantings shall be monitored by a qualified biologist after installation. Target species will achieve at least 70% survival after three years. Both qualitative and quantitative measurements will be used to determine, on an annual basis, if the restoration area, including target planting and native species recruitment, achieves the goals of increasing the cover and diversity of riparian species and the habitat functions and values of the riparian corridor in this location. If functions and values are replaced both with restoration plantings and natural recruitment of native species, the restoration will be successful. Functions and values primarily include providing cover and forage for wildlife. Additional planting/adaptive management shall be recommended in each annual monitoring report if necessary and implemented by the City. If the target survival rate is not met within five years, monitoring and adaptive management measures shall continue until restoration goals are achieved.

AMM-19 Construction Site Sanitation. Food items and trash may attract wildlife onto the construction site, which can expose them to construction-related hazards. A litter control program shall be instituted at the project site. All workers shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. Trash shall be removed from the project site at the end of each working day.

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REHABILITATION OF STORM DRAIN OUTFALL AT REMINGTON COURT PROJECT (UY-17-01)
INITIAL STUDY

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Chapter 1. Introduction

The City of Sunnyvale (City) retained BKF Engineers (BKF) to review the condition of a failing 60-inch storm drain outfall (outfall) that currently discharges to Stevens Creek (creek) at the end of West Remington Drive, to evaluate rehabilitation alternatives, and to prepare construction documents for the preferred design alternative. It was determined that repair or replacement of the failed 60-inch corrugated metal pipe was required in addition to stabilizing and enhancing the outfall channel bank.

This Initial Study (IS) evaluates the potential environmental effects of repairing the pipe and stabilizing and improving the bank. These proposed activities constitute a project under the California Environmental Quality Act (CEQA). The outfall is located in the western portion of Sunnyvale, near the City's border with Mountain View.

The City of Sunnyvale is the Lead Agency for the project and the following entities are responsible agencies:

- California Department of Fish and Wildlife,
- San Francisco Bay Regional Water Quality Control Board,
- Valley Water, and
- United States Army Corps of Engineers.

1.1 PROJECT BACKGROUND AND OVERVIEW

The outfall, which was built in 1957, serves a large urban drainage area and is in disrepair. The outfall is made up of roughly 40 feet of 60-inch corrugated metal pipe (CMP) that daylights into an outfall channel connected to the creek. Inspections conducted by City staff found that the outfall pipe has deteriorated and a small portion at the end of the pipe has fallen into the outfall channel. The portion of the pipe that fell into the outfall channel includes an iron flap gate and two short pipe segments used to connect the flap gate to the rest of the pipe that is currently intact.

The outfall is situated on the eastern bank of Stevens Creek and the top of the bank is roughly 37-feet above the creek flow line. The outfall channel flows across a creek terrace. The upper portion of the eastern bank, where the outfall currently daylights, is roughly 25 feet tall and 42 feet wide (i.e., a slope of 1.7 horizontal to 1 vertical). The lower portion of the bank is a gently sloping 50-foot wide terrace area that transitions into a steep sloped bank as it approaches the creek flow line. The channel to which the outfall discharges cuts across the gently sloping terrace area and it appears that the outfall channel has deepened over the past 60 years due to lack of proper erosion protection. The existing outfall system includes:

a) a 60-inch CMP pipe buried in the upper portion of the eastern bank slope,
b) a manhole on top of the eastern bank where the 60-inch CMP pipe begins and a 60-inch reinforced concrete pipe ends,
c) an iron flap gate attachment where the 60-inch pipe ends and daylights,
d) cement sack bags around the pipe where the pipe daylights, and,
e) an outfall channel with broken concrete and rubble downstream of the pipe discharge.

A basis of design report prepared by BKF, dated January 28, 2018 and included in this document as Appendix A, concluded that the deterioration of the 60-inch CMP pipe and the lack of proper erosion control measures at the discharge point and further downstream of the outfall channel were the key reasons for the failure of the outfall pipe and the deepening of the outfall channel. It also concluded that due to the presence of sensitive habitat within Stevens Creek, the agencies

with jurisdiction over the creek will require the outfall channel improvements to be ecologically friendly.

Construction is expected to take approximately four months and will occur between April 15 and October 15, 2021 except for any work that impacts the main channel of Stevens Creek if water is flowing. That work is limited to the period between June 15 and October 15 to avoid impacts to steelhead.

1.2 REGULATORY GUIDANCE

The California Environmental Quality Act (CEQA; Public Resources Code § 21000 et seq.) and the CEQA Guidelines (14 CCR §15000 et seq.) establish the City of Sunnyvale as the lead agency for the project. The lead agency is defined in CEQA Guidelines Section 15367 as, "the public agency which has the principal responsibility for carrying out or approving a project." The lead agency is responsible for preparing the appropriate environmental review document under CEQA. The Sunnyvale City Council serves as the decision-making body for the City and is responsible for adopting the CEQA document and approving the project.

CEQA Guidelines Section 15070 states a public agency shall prepare a proposed Negative Declaration or a Mitigated Negative Declaration when:

1. The Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
2. The Initial Study identifies potentially significant effects, but:
    - Revisions in the project plans made before a proposed Mitigated Negative Declaration and Initial Study are released for public review would avoid the effects or mitigate the effects to a point where no significant effects would occur, and
    - There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Pursuant to Section 15070, the City has determined a Mitigated Negative Declaration is the appropriate environmental review document for the Rehabilitation of Storm Drain Outfall at Remington Court (UY-17-01) Project.

To ensure that the mitigation measures and project revisions identified in a Mitigated Negative Declaration are implemented, CEQA Guidelines Section 15097(a) requires the City to adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. The City shall prepare a Mitigation, Monitoring and Reporting Plan based on the mitigation measures contained in this IS/MND.

1.3 LEAD AGENCY CONTACT INFORMATION

The lead agency for the project is the City of Sunnyvale. The contact person for the lead agency is:

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Phone: 408-730-7414
Email: rchen@sunnyvale.ca.go

1.4 DOCUMENT PURPOSE AND ORGANIZATION

The purpose of this document is to evaluate the potential environmental effects of the Rehabilitation of Storm Drain Outfall at Remington Court (UY-17-01) Project. This document is organized as follows:

- Chapter 1 – Introduction. This chapter introduces the project and describes the purpose and organization of this document.
- Chapter 2 – Project Description. This chapter describes the project location, area, site, objectives, and characteristics.
- Chapter 3 – Environmental Checklist and Responses. This chapter contains the Environmental Checklist that identifies the significance of potential environmental impacts (by environmental issue) and a brief discussion of each impact resulting from implementation of the proposed project. This chapter also contains the Mandatory Findings of Significance.
- Chapter 4 – Report Preparation. This chapter provides a list of those involved in the preparation of this document.
- Appendices
    - Appendix A: Rehabilitation of Storm Drain Outfall at Remington Court (UY-17-01) Project Repairs Basis of Design Report
    - Appendix B: General Biological Resources Assessment

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Chapter 2. Project Description

The proposed Rehabilitation of Storm Drain Outfall at Remington Court (UY-17-01) Project (project) is to repair a failed 60-inch corrugated metal pipe storm drain outfall that discharges into a small channel connected to Stevens Creek in Sunnyvale, California. The proposed project also includes stabilizing and enhancing the channel bank.

2.1 PROJECT PURPOSE

The 60-inch corrugated metal pipe outfall was built in 1957 and failed recently due to corrosion and the lack of appropriate erosion control measures at the mouth of the outfall. Currently, the corrugated metal pipe discharges into a highly eroded outfall channel predominantly lined with concrete debris. The pipe is undermined and corroded from the current outfall point to approximately 10 feet into the hillside. In addition, the pipe has broken into multiple detached sections which now lie in the low-flow channel along with other debris, including an iron flap gate. Therefore, the project proposal is to repair the existing storm drain outfall, remove metal and cement debris, stabilize the channel banks, and improve the riparian habitat value of the channel. Habitat enhancement will include removal of non-native vegetation, installation of biodegradable erosion control fabric, and installation of willow stakes.

2.2 PROJECT LOCATION

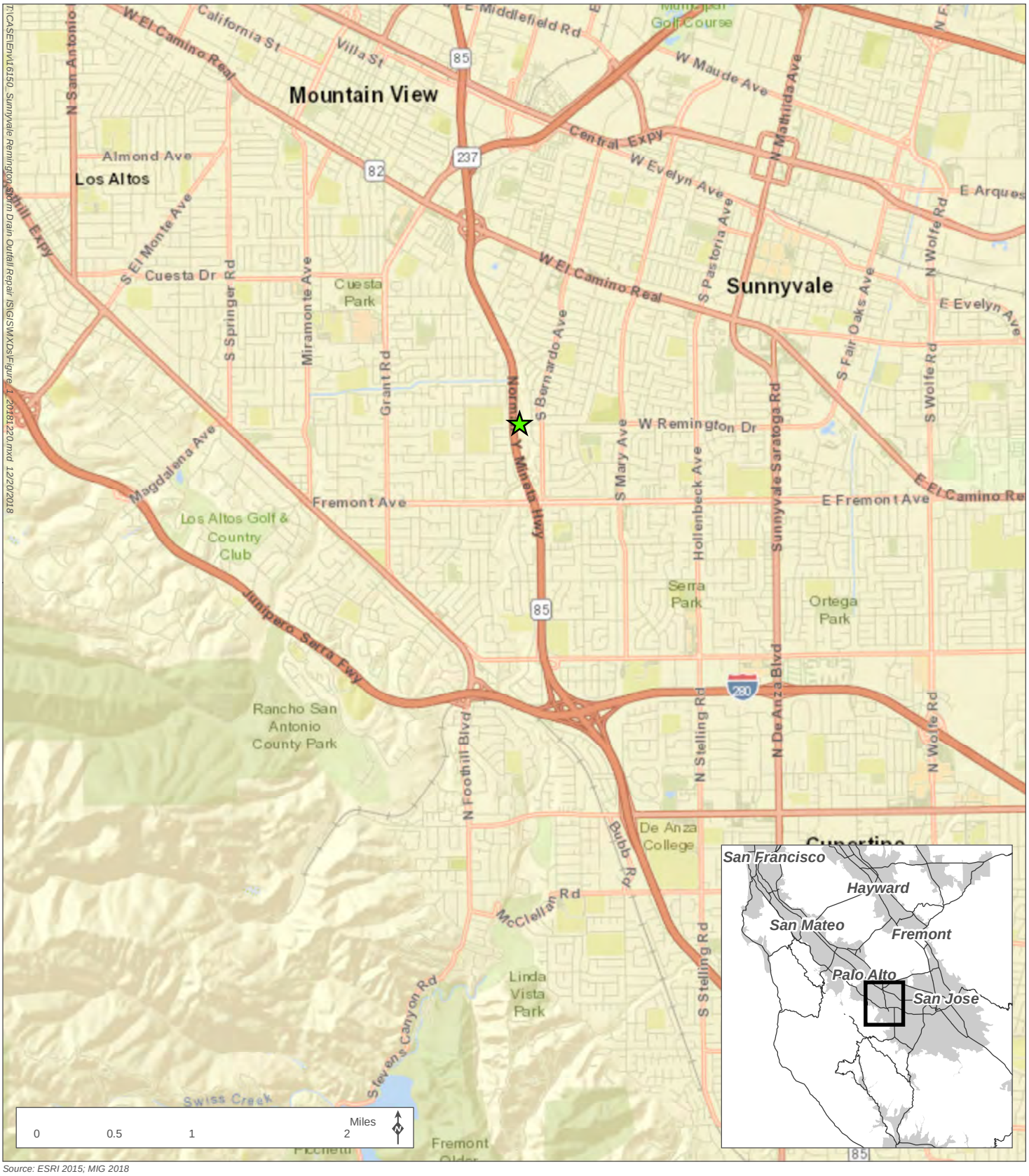
The proposed project is located in Sunnyvale, Santa Clara County, California (Figure 1, Project Location). The project is within a small outfall channel, which flows from the east bank of Stevens Creek below Remington Court to the main creek channel. It is located within a Valley Water (formerly Santa Clara Valley Water District (SCVWD)) easement (Figure 2, Project Vicinity). The project area is bounded on the west by Stevens Creek and State Highway (CA)-85. It is bounded to the east by an existing unpaved access road and residential development.

To access the site from CA-85, take the Fremont Avenue (Ave) exit. Turn left onto West Fremont Ave, left onto South Bernardo Ave, and left onto West Remington Drive. The closest street address to the project location is 1105 Remington Court. Access to the site occurs through a locked gate.

2.3 CURRENT SITE CONDITIONS

Stevens Creek has a 29-square mile watershed (Wikipedia, 2020). Originating in the Santa Cruz Mountains, the stream flows into Stevens Creek Reservoir before traveling approximately 12.5 miles to San Francisco Bay. Flows are released from Stevens Creek Reservoir during the dry season to maintain a wetted channel as far downstream as Fremont Ave, which is located approximately 0.5 mile upstream of the project site. Above the reservoir, the creek is surrounded by open space and agricultural land. In its downstream reaches, Stevens Creek is largely developed. Stevens Creek flows from south to north through the project area. Photos of the project site are included as Figure 3, Site Photographs.

The storm drain outfall proposed for repair sits at the northwest corner of an approximately 1.2-square mile catchment area associated with Stevens Creek. The catchment area is composed of 56 percent impervious surfaces and is surrounded by predominantly residential uses with some commercial land use. From the outfall, the storm drain pipe continues eastward under the adjacent residential area. A large tree root from a 34-inch diameter at breast height (DBH) coast live oak tree (*Quercus agrifolia*) currently blocks access to a manhole located at the edge of the upland access road used to access the pipe.



Source: ESRI 2015; MIG 2018

Project Location

Figure 1 Project Location

Rehabilitation of Storm Drain Outfall at Remington Court (UY-17-01)

Source: ESRI 2015; MIG 2018

Maximum Area of Project Impact

Figure 2 Project Vicinity

Rehabilitation of Storm Drain Outfall at Remington Court (UY-17-01)

Figure 3 Site Photographs

1. View of security gate from Remington Court.

2. Inside view of front gate from within the property.

3. View looking downslope from top of bank.

4. View looking upslope from near stream bed.

5. View of Failed Outfall Pipe

6. View of Outfall Channel Confluence with Stevens Creek

7. View Looking North Along Stevens Creek from Outfall Channel Confluence

8. View Looking South Along Stevens Creek from Outfall Channel Confluence

9. View Looking West from Stream Bed toward Highway 85.

The channel formed below the outfall is approximately 50 feet long and drains into Stevens Creek. The channel is an average of approximately 20 feet wide and seven feet deep and is located within a gently sloped 50-foot wide terrace. The layer of concrete debris in the channel is approximately two to three feet deep. A sack concrete headwall is present around the outfall pipe and extends slightly beyond the current pipe terminus. The channel is highly eroded, and the banks are near-vertical in some areas, including at its confluence with Stevens Creek. Other bank areas are stabilized by vegetation.

The project area supports seven vegetation communities and/or land cover types, including Himalayan blackberry semi-natural shrubland stands, riparian tree stratum, riparian shrub stratum, riparian herb stratum, coast live oak stand, developed land, and ruderal species and non-native annual vegetation. Steven Creek provides habitat for Steelhead and is a Federal Endangered Species Act Critical Habitat for Central California Coast Steelhead.

2.4 PROJECT ACTIVITIES

The proposed project will consist of the construction of a temporary access ramp for equipment to reach the outfall pipe at the bottom of the stream bank, removal of concrete from the outfall channel, channel grading, repair of the pipe using a cure-in-place-pipe (CIPP) liner, placement of rock and erosion control fabric to stabilize the outfall channel, temporary installation of a coffer dam to prevent the stream from entering the project area, and installation of live willow stakes to revegetate and stabilize the stream banks. The willow stake installation will improve riparian habitat along the project channel and is expected to mitigate for any temporary and permanent impacts to the channel from project activities. Construction is expected to take approximately four months and will occur between April 15 and October 15, 2021 except for any work that impacts the main channel of Stevens Creek if water is flowing. That work is limited to the period between June 15 and October 15 to avoid impacts to steelhead.

Construction access to the site will occur via Remington Court and the staging area will be located on an existing unpaved upland access road to the east of the project area. A temporary access ramp will provide access between the staging area and the channel. Equipment used during the Project will include a wood chipper, a long-reach and a short-reach excavator, dump trucks, plate compactors, and a skid loader or small bulldozer. The excavators will be staged from the bottom of the access ramp. No dewatering is anticipated as the channel is typically dry during the construction window. Site plans are provided in Figure 4 Site Plans.

Access Ramp Construction

A temporary access ramp will be constructed to facilitate small machinery entering the channel vicinity. The ramp will be 15 feet wide and graded to a maximum 2:1 slope. Constructed to the east of the outfall, the ramp will provide access from the existing upland access road to the outfall location. Ramp construction will entail approximately 307 cubic yards (CY) of excavation into the hillside. Impacts will include grading and understory vegetation removal. After construction, the access ramp area will be restored to pre-project conditions.

Site Preparation

Erosion control measures and fencing will be installed in the project area. Though no water is anticipated to be present in the channel during construction, a 2-foot tall gravel bag coffer dam will be installed at the confluence of the outfall channel with Stevens Creek which will be removed after construction is complete. Non-native material will be removed from the outfall channel, including segments of the existing outfall pipe, concrete debris, sack concrete, and other refuse.

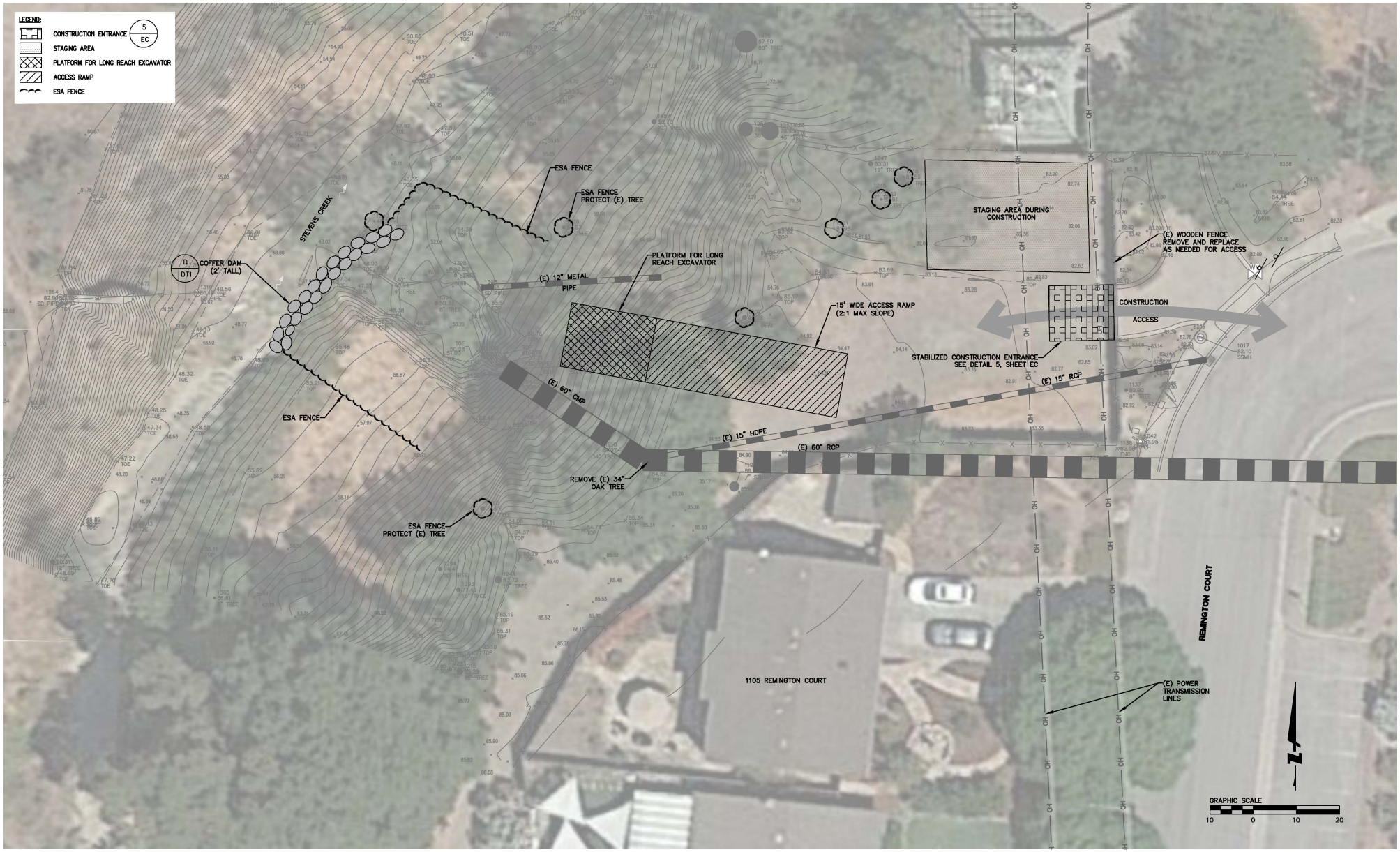


Figure 4 Site Plans

Rehabilitation of Storm Drain Outfall at Remington Court

The outfall channel area will then be graded to plan specifications to repair erosion damage and restore the area to conditions found up and downstream of the Project site. The outfall channel banks will be graded to a 2:1 slope. Approximately 0.032 acres of riparian understory vegetation will be removed in the outfall channel area during this process, which consists predominantly of Himalayan blackberry (*Rubus armeniacua*). In addition, one 34-inch DBH coast live oak tree will be removed from the top of bank area directly above the project area for manhole access reasons. Native vegetation will be left in place to the extent practicable, including three small trees within the construction area. Four trees will need to be removed, including one 8.5-inch diameter cottonwood, two 8.0-inch diameter arroyo willows, and one 6.0-inch diameter tan oak.

Outfall Repair

The outfall pipe will be rehabilitated using a cured-in-place pipe (CIPP) liner. The CIPP alternative was selected to minimize environmental impacts to the channel while maximizing the hydraulic capacity of the pipe. The CIPP liner repair will include using a 2-inch thick resin-saturated felt tube and inserting it into the host pipe. The pipe will be cured using steam to create a corrosion-resistant repair. The amount of water used for the steaming process is estimated to be less than 10 gallons. After the steam condenses, the water will be drained and will be properly disposed of off-site.

Erosion Control

Approximately 96 CY and 0.021 acres of rock will be placed in the project area to stabilize the channel bed and banks. The undercut area beneath the outfall pipe will be filled with controlled density fill (a low strength concrete often used as pipe encasement). A 12-inch base layer of ¾-inch drain rock will be fully wrapped in biodegradable erosion control blanket and placed in the bed of the channel and the outfall channel banks closest to the outfall pipe. Three feet of ¼- to 1-ton boulders will be placed above the drain rock and the voids will be filled with bedding (0.5-inch gravel or similar rock placed between the boulders).

Habitat Enhancement

Biodegradable erosion control fabric and willow stakes will be installed on the outfall channel bank closest to Stevens Creek. Post-construction temporarily impacted areas will be restored to pre-project conditions and hydroseed will be applied. After construction activities are finished, the ramp will be graded to pre-project contours. Revegetation will occur as described in Table 2-1, below.

Table 2-1 Revegetation Plan

Location	Method	Quantity	Species
Banks of storm drain outfall channel adjacent to Stevens Creek	Biodegradable erosion control blanket planted with live willow stakes	3 stakes per hole planted 10 feet on center, 6 holes, 18 total stakes	Salix spp.
All temporarily impacted areas	Hydroseed	200 pounds per acre	Native annual grassland seed mix
Remington Court	Install 15-gallon container stock trees to mitigate for the removal of the existing 34-inch DBH coast live oak at a 3:1 ratio	3	Coast live oak (*Quercus agrifolia*)

2.5 BEST MANAGEMENT PRACTICES

The City will require the following Best Management Practices (BMPs) (implemented as a requirement of the construction documents) into the planning, design, construction, operation, and maintenance of the proposed project to minimize the potential adverse effects of the project on the surrounding community and the environment. These Best Management Practices are considered a part of the project and are not considered mitigation measures.

Table 2-2: Best Management Practices Incorporated into the Project

Impact Section	Best Management Practice
Cultural Resources	In the event archaeological resources are unearthed during ground-disturbing activities, all ground-disturbing activities on the site shall be halted so that the find can be evaluated. Ground moving activities shall not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. The City shall coordinate with the archaeologist to develop an appropriate management plan for the resources.
Geology/Soils	In the event paleontological resources are unearthed during ground-disturbing activities, all ground-disturbing activities on the site shall be halted so that the find can be evaluated. Ground moving activities shall not be allowed to continue until a qualified paleontologist has examined the newly discovered artifact(s) and has evaluated the area of the find. The City shall coordinate with the paleontologist to develop an appropriate management plan for the resources.
Hazards and Hazardous Materials/Hydrology and Water Quality	Designate one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking, refueling, and routine vehicle and equipment maintenance. Contain the area with berms, sand bags, or other barriers. Maintain all vehicles and heavy equipment. Inspect frequently for and repair leaks. Perform major maintenance, repair jobs, and vehicle and equipment washing off site where cleanup is easier. Do not drain or fill motor vehicle fluids on site. If vehicle fluids (motor oil, radiator coolant, etc.,) must be drained on site, use drip pans or drop cloths to catch drips and spills. Collect all spent fluids, store in separate containers. Recycle them wherever possible, otherwise, dispose of them as hazardous wastes. Do not use diesel oil to lubricate equipment parts, or clean equipment. Use only water for any onsite cleaning. Cover oily or greasy equipment during rain events. Use as little water as possible for dust control. Ensure water used doesn't leave silt or discharge to storm drains. Clean up fluid spills immediately when they happen.

	Never hose down "dirty" pavement or impermeable surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/ or rags) whenever possible and properly dispose of absorbent materials. Sweep up spilled dry materials immediately. Never attempt to “wash them away" with water or bury them. Clean up spills on dirt areas by digging up and properly disposing of contaminated soil. Report significant spills to the appropriate local spill response agencies immediately. In Sunnyvale, dial 9-1-1 if hazardous materials might enter the storm drain. If the spill poses a significant hazard to human health and safety, property or the environment, it must also be reported to the State Office of Emergency Services 1-800-852-7500.
Hydrology/Water Quality	Construction Site Stormwater Pollution Controls. All construction sites will implement effective erosion control, run-on and runoff control, sediment control, active treatment systems (as appropriate), good site management, and non-stormwater management through all phases of construction (including, but not limited to, site grading, building and finishing of lots) until the site is fully stabilized by landscaping or permanent erosion control measures. All applicable sites are encouraged to include adequate source control measures to limit pollutant generation, discharge and runoff. These source control measures are identified in Section 12.60.155 of the Sunnyvale Municipal Code.
Noise	Construction and Hours Limitations – Per the City’s Municipal Code construction activities are limited to the hours of 7:00 AM to 6:00 PM, Monday through Friday, 8:00 AM to 5:00 PM on Saturdays, with no construction allowed on Sundays. City Public Works projects generally only allow construction Monday to Friday. Saturday work can be done with advance approval from the City. In addition, the project would: Ensure all equipment engines are covered and that mufflers are in good working condition Orient construction equipment so that engines and exhaust pipes are faced away from residences or offices when possible Prohibit the use of radios or other amplified sound devices such that the sound from these devices is not audible beyond the project’s property line.

2.6 REQUIRED APPROVALS

The city of Sunnyvale is both the proponent and the Lead Agency for the proposed project. The proposed project would be subject to the following approvals or permits:

- Federal Clean Water Act Section 404 Nationwide Permit Program.
- Federal Clean Water Act Section 401 Water Quality Certification.
- California Fish and Game Code Section 1600.
- Valley Water Encroachment Permit.

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Chapter 3. Environmental Checklist and Responses

1. **Project Title:** Rehabilitation of Storm Drain Outfall at Remington Court (UY-17-01) Project
2. **Lead Agency Name and Address:** City of Sunnyvale, 456 W. Olive Ave. Sunnyvale, CA 94086
3. **Contact Person and Phone Number:** Richard Chen, PE. Senior Engineer/Project Design Manager
4. **Project Location:** Remington Drive at Remington Court, Sunnyvale, CA 94087
5. **Project Sponsor's Name and Address:** City of Sunnyvale, Public Works Department, 456 W. Olive Ave., Sunnyvale, CA 94086
6. **General Plan Designation:** RLM (Low Medium Density Residential)
7. **Zoning:** R2 - Low Medium Density Residential
8. **Description of the Project:** The proposed project consists of the repair and replacement of existing storm drainage facilities. It will consist of the construction of a temporary access ramp, removal of concrete from the outfall channel, channel grading, repair of the pipe using a cure-in-place-pipe (CIPP) liner, placement of rock and erosion control fabric to stabilize the outfall channel, and revegetation and restoration of disturbed areas, installation of live willow stakes.
9. **Surrounding Land Uses and Setting:** The project site is situated in the southern portion of the San Francisco Peninsula, within the City of Sunnyvale, on the border of the City of Mountain View. The project site is an undeveloped parcel of land in the City of Sunnyvale and within the streambanks of Stevens Creek. The site has not previously been developed in its history. Stevens Creek runs through the parcel, and the storm drain discharges stormwater into the creek. The site is surrounded by residential properties to the east, and by Highway 85 to the west. To the north and south are further undeveloped parcels that act as an easement for Stevens Creek.
10. **Other public agencies whose approval is required:** The proposed project is within the jurisdiction of several local, state, and federal agencies, including the Valley Water (formerly Santa Clara Valley Water District (SCVWD)), California Department of Fish and Wildlife (CDFW), California Regional Water Quality Control Board (RWQCB), and U.S. Army Corps of Engineers (USACE).
11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?** The City of Sunnyvale has not received any request from a Native American tribe traditionally and culturally affiliated with the project area. Thus, no consultation has been conducted.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

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

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

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

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

	10/16/2020
Signature	**Date**
Richard Chen	Senior Engineer
Printed Name	**Title**
City of Sunnyvale	
Agency	

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in 5. below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less Than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources. A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to less than significance.

3.1 AESTHETICS

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

3.1.1 Environmental Setting

The project site is situated on an undeveloped parcel of land adjacent to a creek. The existing infrastructure consists of a 60-inch corrugated metal pipe (CMP) outfall storm drain pipe, a flap gate, and cement sack riprap at the base of the CMP. The height of the top of bank from the creek bed is approximately 37 feet. The site is a private parcel with no public views from Remington Court, as the site is fenced and gated (Figure 3). A view of the site may be observed from a small section of Highway 85, depending on seasonal foliage; however, the view would be extremely limited and only visible for a very brief time from a moving vehicle. The Outfall is unlikely to be visible from any public view.

3.1.2 Regulatory Setting

City of Sunnyvale General Plan. The City's general plan includes the following goals and policies that relate to aesthetics:

- *Goal LT-4: An Attractive Community for Residents and Businesses.* In combination with the City's Community Design Sub-Element, ensure that all areas of the city are attractive and that the city's image is enhanced by following policies and principles of good urban design while valued elements of the community fabric are preserved.
    - *Policy LT-4.3:* Enforce design review guidelines and zoning standards that ensure the mass and scale of new structures are compatible with adjacent structures, and also recognize the City's vision of the future for transition areas such as neighborhood Village Centers and El Camino Real nodes.

3.1.3 Discussion

Would the project:

a) Have a substantial adverse effect on a scenic vista?

No Impact. For purposes of determining significance under CEQA, a scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the public. The only view of the site may be observable from an extremely limited section of Highway 85, which itself would be dependent on seasonal foliage. The proposed project, therefore, is not considered part of a scenic vista. Construction would be temporary, and after project completion, the site would be returned to its current appearance. The project would not have an adverse effect on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. The proposed project is situated adjacent to State Route 85, no part of which is designated as a scenic highway (CalTrans 2019). Interstate 280, approximately 1.7 miles south of the project site, is eligible for listing as a state scenic highway but because of the distance, intervening development and topography, the project site is not visible from the viewshed of Interstate 280. The project would not impact scenic resources within a state scenic highway.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

No Impact. The proposed project would consist of replacing existing infrastructure and is not visible from public views. Therefore, no significant change or degradation of the existing visual character or quality of the site is anticipated.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. The proposed project would not include the installation of lights, and all components would consist of matt surfaces which would not cause glare.

3.1.4 References

CalTrans, 2019. Scenic Highways, Santa Clara County. Accessed on February 20, 2019 at http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/

City of Sunnyvale, 2017. General Plan, Land Use and Transportation Element. Accessed on February 20, 2019 at https://sunnyvaleca-prod.civica.granicusops.com/civicax/filebank/blobdload.aspx?BlobID=23980.

3.2 AGRICULTURAL AND FOREST RESOURCES

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

3.2.1 Environmental Setting

The project site is located in the City of Sunnyvale (City) on an undeveloped site. The California Department of Conservation Farmland Mapping and Monitoring Program identifies the property as Urban and Built-up Land. The project site is designated Low-Medium Density Residential according to the City's land use (City of Sunnyvale 2017).

3.2.2 Discussion

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d) Result in the loss of forest land or conversion of forest land to non-forest use?

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact (Responses a – e). There are no forest lands or agricultural lands on or near the proposed project site, which is surrounded by urban or transportation land uses. The project would not convert or cause the conversion of any farmland or forest land to a non-agricultural/non-forest use. The proposed project would not impact Prime Farmland, Unique Farmland, Farmland of Statewide Importance, forest land, or land under a Williamson Act contract. Thus, the project would not result in impacts to any agricultural or forestry resources.

3.2.3 References

City of Sunnyvale, 2017. General Plan, Land Use and Transportation Element. Accessed on February 20, 2019 at https://sunnyvaleca-prod.civica.granicusops.com/civicax/filebank/blobdload.aspx?BlobID=23980.

3.3 AIR QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:*				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐
*Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.				

3.3.1 Environmental Setting

Air quality is a function of pollutant emissions, and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

Federal, state, and local governments control air quality through the implementation of laws, ordinances, regulations, and standards. The federal and state governments have established ambient air quality standards for “criteria” pollutants considered harmful to the environment and public health. National Ambient Air Quality Standards (NAAQS) have been established for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO2), ozone (O3), fine particulate matter (particles 2.5 microns in diameter and smaller, or PM2.5), inhalable coarse particulate matter (particles 10 microns in diameter and smaller, or PM10), and sulfur dioxide (SO2). California Ambient Air Quality Standards (CAAQS) are more stringent than the national standards for the pollutants listed above and include the following additional pollutants: hydrogen sulfide (H2S), sulfates (SOX), and vinyl chloride. In addition to these criteria pollutants, the federal and state governments have classified certain pollutants as hazardous air pollutants (HAPs) or toxic air contaminants (TACs), such as asbestos and diesel particulate matter (DPM).

The proposed project is located in the San Francisco Bay Area Air Basin (SFBAAB), an area of non-attainment for national and state ozone, state particulate matter (PM10), and national and state fine particulate matter (PM2.5) air quality standards (BAAQMD 2017a). The Bay Area Air Quality Management District (BAAQMD) has jurisdiction over air quality in the SFBAAB.

Sensitive Receptors

A sensitive receptor is generally defined as a location where human populations, especially children, seniors, and sick persons, are located where there is reasonable expectation of continuous human exposure to air pollutants. These typically include residences, hospitals, and schools. Sensitive receptors within 1,000 feet of the project site include:

- Single-family homes immediately adjacent to the site in Sunnyvale and to the west, approximately 200 feet away in Los Altos;
- Alta Vista High School, approximately 200 feet west of the project site, across from State Route 85; and
- Community Preschool, approximately 750 feet east of the project site.

3.3.2 Regulatory Setting

In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, CARB adopted a regulation to reduce DPM and NO_x emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. This regulation applies to all off-road diesel vehicles over 25 horsepower (hp) used in California and most two-engine vehicles (except on-road two-engine sweepers), which are subject to the *Regulation for In-Use Off-Road Diesel Fueled Fleets (Off-Road regulation).* Additionally, vehicles that are rented or leased (rental or leased fleets) are included in this regulation.

The Off-Road regulation:

- Imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles;
- Requires all off-road diesel vehicles over 25-horsepower be reported to CARB (using the Diesel Off-Road Online Report System DOORs) and labeled;
- Restricts the adding of older vehicles into fleets; and,
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies, VDECS (i.e., exhaust retrofits).

Bay Area Air Quality Management District

The BAAQMD is the agency primarily responsible for maintaining air quality and regulating emissions of criteria and toxic air pollutants within the SFBAAB. The BAAQMD carries out this responsibility by preparing, adopting, and implementing plans, regulations, and rules that are designed to achieve attainment of state and national air quality standards. The BAAQMD currently has 14 regulations containing more than 100 rules that control and limit emissions from sources of pollutants. Table 3-1 summarizes the major BAAQMD rules and regulations that may apply to the proposed project.

Table 3-1: Potentially Applicable BAAQMD Rules and Regulations

Regulation	Rule	Description
6 – Particulate Matter	1 – General Requirements	Limits visible particulate matter emissions.
8 – Organic Compounds	3 – Architectural Coatings	Limits the quantity of volatile organic compounds in architectural coatings.
Source: BAAQMD 2017b		

On April 19, 2017, the BAAQMD adopted the *2017 Clean Air Plan: Spare the Air, Cool the Climate* (*Clean Air Plan*), which updates the District's *2010 Clean Air Plan*, and continues to provide the framework for assuring that the NAAQS and CAAQS would be attained and maintained in the Bay Area in compliance with state and federal requirements (BAAQMD 2017c). The BAAQMD's 2017 *Clean Air Plan* is a multi-pollutant plan focused on protecting public health and the climate. Specifically, the primary goals of the 2017 Clean Air Plan are to:

- Attain all state and national quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Reduce Bay Area GHG Emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

The *Clean Air Plan* includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision which forecasts what a clean air Bay Area will look like in the year 2050. The control measures aggressively target the largest source of GHG, ozone pollutants, and particulate matter emissions – transportation. The 2017 Clean Air Plan includes more incentives for electric vehicle infrastructure, off-road electrification projects such as Caltrain and shore power at ports, and reducing emissions from trucks, school buses, marine vessels, locomotives, and off-road equipment.

3.3.3 Discussion

Would the proposed project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The proposed project would not conflict with nor obstruct implementation of the BAAQMD *2017 Clean Air Plan*. The *2017 Clean Air Plan* includes increases in regional construction, area, mobile, and stationary source activities, and operations in its emission inventories and plans for achieving attainment of air quality standards. Chapter 5 of the 2017 Clean Air Plan contains the BAAQMD's strategy for achieving the plan's climate and air quality goals. This control strategy is the backbone of the *2017 Clean Air Plan*.

The proposed project consists of construction activities and would not emit operational criteria air pollutant upon its completion. The control measures in the *2017 Clean Air Plan* do not apply to the proposed project and, therefore, the proposed project would not conflict with the *2017 Clean Air Plan*. No impact would occur.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact with Mitigation. The proposed project would generate criteria air pollutant emissions from fuel combustion in heavy-duty construction equipment, motor vehicles, and area sources such as landscaping equipment, etc. The BAAQMD's CEQA Air Quality Guidelines contain screening criteria to provide lead agencies with a conservative indication of whether a proposed project could result in potentially significant air quality impacts (BAAQMD 2017d).

Consistent with the BAAQMD's guidance, if a project meets all the screening criteria, then the project would result in a less than significant air quality impact and a detailed air quality assessment would not be required for the project. Table 3-2 compares the proposed project with the rest of the BAAQMD's construction screening criteria.

Table 3-2 Project Consistency with BAAQMD Screening Criteria

Screening Criterion[A]	Requirement	Project Consistency
1) Land Use Type and Size	Project is below the typical construction (277,000 square foot) screening size.[B]	The proposed project would consist of the repair and replacement of existing storm drainage facilities. Project construction – both in terms of equipment and time – would be considerably less than that needed to develop a 277,000 square foot building.[C]
2) Basic Construction Measures	Project design and implementation includes all BAAQMD *Basic Construction Mitigation Measures.*	The proposed project would incorporate all BAAQMD *Basic Construction Mitigation Measures* into all project-related bid, contract, engineering, and site plan documents as required by mitigation measure AIR-1.
3) Demolition	Demolition activities are consistent with BAAQMD Regulation 11, Rule 3: Asbestos Demolition, Renovation, and Manufacturing.	The project does not include building demolition activities.
4) Construction Phases	Construction does not include simultaneous occurrence of more than two construction phases (e.g., grading, paving, and building construction would occur simultaneously).	The proposed project does not include simultaneous occurrence of more than two construction phases.
5) Multiple Land Uses	Construction does not include simultaneous construction of more than one land use type.	The proposed project includes construction of only one land use type.
6) Site Preparation	Construction does not require extensive site preparation.	The proposed project would not include extensive site preparation as the scope of work is limited in ground moving activity.
7) Material Transport	Construction does not require extensive material transport and considerable haul truck activity (greater than 10,000 cubic yards).	The project would result in substantially less than 10,000 cubic yards of total material transport.

(A) BAAQMD Screening Criteria from Table 3-1 of BAAQMD CEQA Guidelines (BAAQMD 2017d)

(B) Screening level sizes from Table 3-1 of BAAQMD CEQA Guidelines (BAAQMD 2017d)

(C) Although none of the screening sizes are directly applicable to the proposed project, construction activities associated with the project would be far less intensive than those associated with the building sizes contained in Table 3-1 of BAAQMD CEQA Guidelines. For example, the construction-related screening sizes provided by the BAAQMD indicate emissions during construction activities would be less than significant for most projects having a building size of 277,000 square feet or less. Not only would a building of that size require substantially more equipment than that anticipated for the proposed project, it would also take longer than the construction activities proposed for the project. Therefore, the project is considered to meet the BAAQMD's land use type and size criterion.

For all projects, the BAAQMD recommends implementation of eight "Basic Construction Mitigation Measures" to reduce construction fugitive dust emissions levels; these basic measures are also used to meet the BAAQMD's best management practices (BMPs) threshold of significance for construction fugitive dust emissions (i.e., the implementation of all basic construction measures renders fugitive dust impacts a less than significant impact). The City would implement these BMPs through Mitigation Measure AIR-1.

Impact AIR-1: The Project has the potential to emit fugitive dust during construction activities.

Mitigation Measure AIR-1: To reduce potential fugitive dust that may be generated by project construction activities, the City or its contractor shall implement the following BAAQMD basic construction measures when they are appropriate:

- Water all exposed surfaces (e.g., staging areas, soil piles, graded areas, and unpaved access roads) during construction as necessary and adequately wet demolition surfaces to limit visible dust emissions.
- Cover all haul trucks transporting soil, sand, or other loose materials off the project site.
- Use a wet power vacuum street sweeper as necessary to remove all visible mud or dirt track-out onto adjacent public roads (dry power sweeping is prohibited) during construction of the proposed project.
- Vehicle speeds on unpaved roads/areas shall not exceed 15 miles per hour.
- Complete all areas to be paved as soon as possible and lay building pads as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time of diesel-powered construction equipment to five minutes and post signs reminding workers of this idling restriction at access points and equipment staging areas during construction of the proposed project.
- Maintain and properly tune all construction equipment in accordance with manufacturer's specifications and have a CARB-certified visible emissions evaluator check equipment prior to use at the site.
- Post a publicly visible sign with the name and telephone number of the construction contractor and City-staff person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The publicly visible sign shall also include the contact phone number for the Bay Area Air Quality Management District to ensure compliance with applicable regulations.

Effectiveness: These measures would minimize and/or avoid local impacts from fugitive dust.

Implementation: The City shall include these measures on all appropriate bid, contract, and engineering and site plan (e.g., building, grading, and improvement plans) documents.

Timing: During construction activities.

Monitoring: The City shall review all appropriate bid, contract, and engineering and site plan documents for inclusion of dust control measures.

As shown in Table 3-2 Project Consistency with BAAQMD Screening Criteria, the proposed project is consistent with all screening criteria after implementation of Mitigation Measure AIR-1 and, therefore, would not result in emissions levels that exceed BAAQMD CEQA thresholds of significance.

As demonstrated above, the proposed project is consistent with the BAAQMD screening criteria and would not result in any long-term operational emissions. The project, therefore, 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. This impact would be less than significant with mitigation incorporated.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive residential receptors are located all around the project site. Project-related construction activities would emit PM2.5 from equipment exhaust. Nearly all the project's PM2.5 emissions from equipment exhaust would be diesel particulate matter (diesel PM), a TAC. Although project construction would emit criteria and hazardous air pollutants, these emissions would not result in substantial pollutant concentrations.

As described above, the project is below all BAAQMD construction emission thresholds and heavy-duty construction equipment would operate intermittently during the daytime, weekday hours for approximately four months. The City would implement Mitigation Measure AIR-1, which requires the City and/or the City's contractors to incorporate measures into the project that would reduce potential emissions of fugitive dust and limit diesel construction equipment idling to no more than five minutes. The proposed project would not result in long-term increases in operational emissions. This impact would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. Construction of the project would generate typical odors associated with construction activities, such fuel and oil odors. Construction of the proposed project would also involve the use of CIPP. The resin-saturated felt tube may emit some odors while it is put in place and cured; however, this process should be completed in one to two days maximum. The odors generated by the project would be intermittent and localized in nature and would disperse quickly. There are no other anticipated emissions. Therefore, the project would not create emissions or odors that adversely affect a substantial number of people. This impact would be less than significant.

3.3.4 References

Bay Area Air Quality Management District (BAAQMD) 2017a. "Air Quality Standards and Attainment Status". BAAQMD, Research & Data, Air Quality Standards & Attainment Status. January 5, 2017. Accessed on October 3, 2017 at http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status.

_____2017b. Current Rules. BAAQMD. Accessed on December 12, 2017 at http://www.baaqmd.gov/rules-and-compliance/current-rules.

_____2017c. 2017 Clean Air Plan: Spare the Air, Cool the Climate. BAAQMD, Planning, Rules, and Research Division. April 19, 2017.

_____2017d. California Environmental Quality Act Air Quality Guidelines. San Francisco, CA. June 2010, updated May 2017.

3.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1 Environmental Setting

Vegetation and Habitats.

Vegetative communities are assemblages of plant species that occur together in the same area, which are defined by species composition and relative abundance. The plant communities in the project area were classified using A Manual of California Vegetation (Sawyer *et al* 2009). The project area is comprised of seven main habitat types in addition to Stevens Creek itself including, semi-natural shrubland stands, riparian tree stratum, riparian shrub stratum, riparian herb stratum, coast live oak stand, developed land, and ruderal species and non-native annual vegetation, as defined by Sawyer *et al* (2009). See Figure 5 Vegetation Communities Map for a map of habitat types within the project area.

Source: ESRI 2015; MIG 2018; BKF; SCVWD

- Study Area
- Stevens Creek/low-flow channel
- Coast live oak alliance
- Developed land
- Riparian tree, shrub, and herb strata
- *Rubus armeniacus* semi-natural shrubland stands
- Ruderal species and non-native annual vegetation

Figure 5 Vegetation Communities Map

Rehabilitation of Storm Drain Outfall at Remington Court (UY-17-01)

A complete list of plant species observed within the study area is provided in Appendix B of this document (General Biological Resources Assessment).

Semi-Natural Shrubland Stands

Himalayan blackberry (*Rubus armeniacus*), is dominant or co-dominant in the shrub layer within the project area and along the banks of Stevens Creek upstream and downstream of the project area.

Riparian Tree Stratum

Cottonwood (*Populus* spp.) and willow (*Salix* spp.) species are dominant along the outfall drainage area within the project area and are intermittently spaced.

Riparian Shrub Stratum

The western bank of Stevens Creek is dominated by California sagebrush (*Artemisia californica*). The eastern bank is dominated by Himalayan blackberry and as the grade steepens, transitions to a terrace with primarily ruderal grassland species and non-native annual vegetation. As the gradient increases, toyon (*Heteromeles arbutifolia*), Pacific poison oak (*Toxicodendron diversilobum*), and coyote brush (*Baccharis pilularis*) are interspersed with semi mature coast live oak alliance.

Riparian Herb Stratum

The herb stratum includes California mugwort (*Artemisia douglasiana*), horehound (*Marrubium vulgare*), bigleaf periwinkle (*Vinca major*), and annual grasses.

Coast Live Oak Alliance

One mature, native coast live oak tree (Quercus agrifolia) occurs within the project area boundary directly upslope of the outfall pipe. Additional coast live oaks trees are present outside and adjacent to the project area. As the grade increases within the project area, coast live oak transitions to Eucalyptus stands.

Developed Land

Developed land includes residential land uses, parking lots, paved paths and roads within the project area. These areas are generally devoid of vegetation or are sparsely vegetated.

Ruderal Species and Non-native Annual Vegetation

This vegetation type is typically located within frequently disturbed areas, i.e. along roads and other developed areas. Species observed within this vegetation type consist of a mix of non-native, herbaceous plants like bur clover (*Medicago polymorpha),* smart weed *(Persicaria lapathifolia)*, Italian thistle *(Carduus pycnocephalus),* giant reed *(Arundo donax)* and non-native annual grasses*.*

Wildlife

Wildlife in the project area consists of species adapted to urban areas. The only wildlife observed on the December 12, 2018 site visit were Anna's hummingbird (*Calypte anna*) and common raven (*Corvus corvax*). Amphibians and reptiles that may occur within the project area include, but are not limited to, western fence lizard (*Sceloporus occidentalis*), Pacific chorus frog (*Pseudacris regilla*), and northern alligator lizard (*Elgaria coerulea*). Bird species that may occur within the project area include, but are not limited to, American crow (*Corvus brachyrhynchos*), dark-eyed junco (*Junco hyemalis*), European starling (*Sturnus vulgaris*), house finch (*Haemorhous mexicanus*), killdeer (*Charadrius vociferous*), mourning dove (*Zenaida macroura*), Northern mockingbird (*Mimus polyglottos*), oak titmouse (*Baeolophus inornatus*), rock pigeon (*Columba*

livia), western gull (*Larus occidentalis*), black phoebe (*Sayornis nigricans*), and white-crowned sparrow (*Zonotrichia leucophrys*). Mammal species that may occur in the project area may include the domestic house cat (*Felis catus*), eastern fox squirrel (*Sciurus niger*), eastern grey squirrel (*Sciurus carolinenesis*), western grey squirrel (*Sciurus griseus*), non-native mice and rats, raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*). Bat species that may occur in the area include little brown myotis (*Myotis lucifugus*), California myotis (*Myotis californicus*), Yuma myotis (*Myotis yumensis*) and other species that are common in the region.

Special-Status Species

A special-status species is defined as a species meeting one or more of the following criteria:

- Listed, proposed for listing, or candidate for possible future listing as threatened or endangered under the federal Endangered Species Act (FESA; 50 CFR §17.12).
- Listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA; CFGC §2050 et seq.).
- Listed as rare under the Native Plant Protection Act (NPPA; CFGC §1900 et seq.).
- Listed as a Fully Protected Species (CFGC §§3511, 4700, 5050, and 5515).
- Listed as a California Species of Special Concern (CSSC) on the CDFW Special Animals list.
- Plant species considered by the California Native Plant Society (CNPS) and California Department of Fish and Wildlife (CDFW) to be “rare, threatened, or endangered in California” (All California Rare Plant Ranks [CRPR]).

A complete list of special-status species that occur within a 9-quadrangle radius of the project area, their listing status, geographic range in California, habitat requirements, life form and blooming period (plants only), and potential to occur in the project area are included in the General Biological Resources Assessment prepared for the project (Appendix B).

Special-Status Plants

Based on a California Native Diversity Database (CNDDB) search of the USGS 7.5-minute quadrangles encompassing the project and the eight (8) surrounding quadrangles, 82 special-status plants occur in the project region. However, all 82 special-status plant species have no potential to occur in the project area due to its disturbed and urban conditions, distance from known occurrences, lack of appropriate soil type (e.g., serpentine or alkaline), and/or lack of suitable habitat type (e.g., vernal pools, coastal dunes) required by the species. There are also no CNDDB occurrences for rare plants within one mile of the project area. No USFWS-designated critical habitat for any plant species occurs in or near the project area.

Special-Status Wildlife

Based on the CNDDB search, 43 special-status wildlife species occur in the project region. However, 42 of these species have no or low potential to occur in the project area due to the disturbed and heavily urbanized conditions, distance from known occurrences, and/or the project area’s lack of required habitat (e.g., streams, vernal pools, coastal dunes). Except steelhead, no special-status wildlife species are documented to occur within one mile of the project area.

Stevens Creek, which is within the project area, is a FESA Critical Habitat for Central California Coast Steelhead. Critical Habitat is defined by the U.S. Fish and Wildlife Service (USFWS) as, “the specific areas within the geographic area, occupied by the species at the time it was listed, that contain the physical or biological features that are essential to the conservation of

endangered and threatened species and that may need special management or protection. Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation." (USFWS 2017)

The project area does not contain federally designated critical habitat for any other wildlife species. Only steelhead has a high potential to occur within the project area within Stevens Creek and is discussed in more detail below.

Central California Coast Distinct Population Segment (DPS) *Steelhead; Federal Threatened*

Critical habitat for CCC steelhead DPS was designated on September 2, 2005 and includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River in Sonoma County to Aptos Creek in Santa Cruz County. The San Mateo Hydrologic Unity includes the coastal streams in San Mateo County from San Pedro Creek near Pacifica to Butano Creek near Aṅo Nuevo and the Santa Clara Hydrologic Unit includes South Bay creeks from San Francisquito Creek in Palo Alto eastward to Coyote Creek (NMFS 2006), and includes Stevens Creek.

Steelhead is an anadromous salmonid, typically migrating to marine waters after spending two years in freshwater. Following out-migration to the ocean, individual Steelhead typically remain there for two to three years (and up to seven years) before returning to their natal stream to spawn. Adults typically spawn between December and June; females typically spawn twice before they die. Recent salmonid tracking studies have indicated that migrating steelhead tend to spend only limited time in San Francisco Bay and tend to stay within deeper water channels once passing through the saltwater/freshwater interface (Chapman et al 2009). Although this behavior has not been documented in South San Francisco Bay, it is likely that similar migratory patterns are followed based on the prevalence of evidence from existing studies. Preferred spawning is found in perennial streams with cooler-temperature water, high dissolved oxygen levels, and substantial flow. Abundant riffles (shallow areas with gravel or cobble substrate) for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful reproduction.

CCC Steelhead are known to occur in Stevens Creek (Leidy et al. 2005, CNDDB 2019); However, the status of steelhead populations in coastal San Francisco Bay streams, including Stevens Creek, remains highly uncertain, and it has been determined that sections of upper Stevens Creek, including the project site, are periodically inaccessible due to passage barriers (Domenichelli & Associates 2017; Williams et al. 2016).

Stevens Creek flows from south to north adjacent to the outfall channel; flows from the outfall channel empty into the creek. It is possible that steelhead could occur in the creek channel adjacent to the project work area. If water is present in the outfall channel during construction steelhead could potentially enter the mouth of the outfall channel from Stevens Creek. The concrete rubble in the bottom of the outfall channel and the ephemeral nature of flows there do not provide suitable steelhead habitat, and steelhead are not expected to occur farther up the outfall channel than at the mouth. Cottonwood trees adjacent to Stevens Creek and just outside of the project footprint provide shade for steelhead and may provide root wad habitat for steelhead to forage or rest out of the main stream flow.

Creek flows are controlled at Stevens Creek Reservoir, upstream of the project. Water is released from the dam in summer months to maintain steelhead habitat. Therefore, water is expected to be present in Stevens Creek during the summer months when the project is proposed to be built.

Nesting Birds

Nesting birds may nest within vegetation, shallow scrapes on bare ground, and man-made structures in and around the project site. Two common bird species were observed during the December 12, 2018 site visit (Appendix B). Most nesting bird species are protected under CFGC.

Bats

Bats tend to forage and roost near water sources. Common bat species (particularly maternity colonies) may be found roosting or foraging within the project area. Disturbance of roosting habitat of any bat species could be considered significant under California Environmental Quality Act (CEQA) guidelines. Bat species are also protected under the California Fish and Game Code (CFGC).

Sensitive Habitats

Sensitive vegetation communities include those listed in the CNDDB, in local or regional plans, policies, or regulations, and those designated by the USFWS and CDFW. Within the project area, the coast live oak woodland and riparian habitat is listed as sensitive habitat via CDFW. The USFWS National Wetlands Inventory also has Stevens Creek designated as R4SBC (Riverine, Intermittent, Streambed, and Seasonally Flooded) (USFWS 2019b). Stevens Creek (and the low-flow channel) are also considered a Waters of the United States and Waters of the State, described further below.

Jurisdictional Wetlands and Other Waters

MIG conducted a wetland delineation and preliminary jurisdictional determination (PJD) of the project area on December 12, 2018. The PJD found that 0.021 acres of the project area are potential Waters of the United States and 0.05 acres of the project area are potential Waters of the State. These areas would be subject to regulatory oversight by the U.S. Army Corps of Engineers (USACE) and the Regional Water Quality Control Board (RWQCB) and would require permits from both agencies if they are impacted consistent with Sections 404 and 401 of the federal Clean Water Act (CWA). In addition, any impacts to the bed, banks or channel of Stevens Creek will require a Lake and Streambed Alteration Agreement (LSAA) from the California Department of Fish and Wildlife (CDFW), consistent with CFGC Section 1600.

Wildlife Migration

The project area is surrounded by urban development including residences, buildings, roads, and parking lots which present permanent migration barriers for most wildlife species. There are no large open spaces near the project area. Stevens Creek provides a wildlife migratory corridor within the project area for numerous species, including amphibians, fish, and mammals.

3.4.2 Regulatory Setting

Federal Regulations

Clean Water Act

The USACE and the United States Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (33 USC 1344). Waters of the United States are defined in Title 33 Code of Federal Regulations (CFR) Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. The lateral limits of jurisdiction in those waters may be divided into three categories – territorial seas, tidal waters, and non-tidal waters – and is determined depending on which type of waters is present (Title 33 CFR Part 328.4(a), (b), (c)).

Activities in waters of the United States regulated under Section 404 include fill for development, water resource projects (e.g., dams and levees), infrastructure developments (e.g., highways, rail lines, and airports) and mining projects. Section 404 of the CWA requires a federal permit before

dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a water quality certification from the state in which the discharge originates. The discharge is required to comply with the applicable water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The EPA has delegated responsibility for the protection of water quality in California to State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has the following four major components: (1) provisions for listing species, (2) requirements for consultation with the USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), (3) prohibitions against "taking" (meaning harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species, and (4) provisions for permits that allow incidental "take". The FESA also discusses recovery plans and the designation of critical habitat for listed species. Section 7 requires Federal agencies, in consultation with, and with the assistance of the USFWS or NOAA Fisheries, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. Both the USFWS and NOAA Fisheries share the responsibility for administration of the FESA.

Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), Title 50 CFR Part 10, prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." With a few exceptions, most birds are considered migratory under the MBTA. Previously, under MBTA it was illegal to disturb a nest that is in active use, since this could result in killing a bird, destroying a nest, or destroying an egg. In 2017, the USFWS issued a memorandum stating that the MBTA does not prohibit incidental take; therefore, the MBTA is currently limited to purposeful actions, such as hunting and poaching.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) program requires permitting for activities that discharge pollutants into waters of the United States. This includes discharges from municipal, industrial, and construction sources. These are considered point-sources from a regulatory standpoint. Generally, these permits are issued and monitored under the oversight of the SWRCB and administered by each regional water quality control board. Construction activities that disturb one acre or more (whether a single project or part of a larger development) are required to obtain coverage under the state's General Permit for Dischargers of Storm Water Associated with Construction Activity. All dischargers are required to obtain coverage under the Construction General Permit.

The activities covered under the Construction General Permit include clearing, grading, and other disturbances. The permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of Best Management Practices (BMPs) with a monitoring program.

State Regulations

California Endangered Species Act

The State of California enacted the California Native Plant Protection Act (NPPA) in 1977, and the California Endangered Species Act (CESA) in 1984. The CESA expanded upon the original NPPA and enhanced legal protection for plants, but the NPPA remains part of California Fish and Game Code. To align with the federal ESA, California incorporated the categories of "threatened" and "endangered" species into CESA, and it converted all "rare" animals on previous state lists into CESA as threatened species, but did not do so for rare plants. Thus, the NPPA and CESA together provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. The California Department of Fish and Wildlife (CDFW) implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the CNDDB, a computerized inventory of information on the general location and status of California's rarest plants, animals, and natural communities. During the California Environmental Quality Act review process, the CDFW is given the opportunity to comment on the potential of a proposed project to affect listed plants and animals as a Trustee Agency.

California Native Plant Protection Act

The NPPA of 1977 (CFGC, §§ 1900 through 1913) directed the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by the CDFW, which has the authority to designate native plants as endangered or rare and to protect them from "take."

California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by state and local public agencies. CEQA (Public Resources Code Sections 21000 et. seq.) requires public agencies to review activities which may affect the quality of the environment so that consideration is given to preventing damage to the environment. When a lead agency issues a permit for development that could affect the environment, it must disclose the potential environmental effects of the project. This is done with an Initial Study and Negative Declaration (or Mitigated Negative Declaration) or with an Environmental Impact Report. Certain classes of projects are exempt from detailed analysis under CEQA. CEQA Guidelines Section 15380 defines endangered, threatened, and rare species for purposes of CEQA and clarifies that CEQA review extends to other species that are not formally listed under CESA or FESA, but that meet specified criteria, such as plants listed by the California Native Plant Society (CNPS), and identified sensitive habitats, as described below.

The California Native Plant Society (CNPS), a non-profit plant conservation organization, publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic version (http://www.cnps.org/cnps/rareplants/inventory/).

The Inventory assigns plants to the following categories:

1A Presumed extinct in California;

1B Rare, threatened, or endangered in California and elsewhere;

2 Rare, threatened, or endangered in California, but more common elsewhere;

3 Plants for which more information is needed – A review list; and

4 Plants of limited distribution – A watch list.

Additional endangerment codes are assigned to each taxon as follows:

1 Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).

2 Fairly endangered in California (20-80% occurrences threatened).

3 Not very endangered in California (20% of occurrences threatened or no current threats known).

Plants on Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing, and the CDFW, as well as other state agencies (e.g., California Department of Forestry and Fire Protection). As part of the CEQA process, such species should be fully considered, as they meet the definition of threatened or endangered under the NPPA and Sections 2062 and 2067 of the CFGC. California Rare Plant Rank (CRPR) 3 and 4 species are plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents (CNPS 2018, CDFW 2018b).

Sensitive natural communities are habitats that are either unique in constituent components, of relatively limited distribution in the region, or of particularly high wildlife value. These communities may or may not necessarily contain special-status species. Sensitive natural communities are usually identified in local or regional plans, policies or regulations, or by the CDFW or the USFWS. The CNDDB identifies many natural communities as rare, which are given the highest inventory priority (CDFW 2018a). Impacts to sensitive natural communities and habitats must be considered and evaluated under the CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G)

Fully Protected Species and Species of Special Concern

The classification of “fully protected” (CFP) was the CDFW’s initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibian and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The CFGC sections (fish at §5515, amphibian and reptiles at §5050, birds at §3511, and mammals at §4700) dealing with “fully protected” species states that these species “…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species,” (CDFW Fish and Game Commission 1998) although take may be authorized for necessary scientific research. This language makes the “fully protected” designation the strongest and most restrictive regarding the “take” of these species. In 2003, the code sections dealing with fully protected species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

Species of special concern (CSSC) are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologist, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

California Fish and Game Code Sections 3503 and 3513

According to Section 3503 of the CFGC, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MBTA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW.

California Fish and Game Code Sections 4150-4155

Sections 4150-4155 of the CFGC protects non-game mammals, including bats. Section 4150 states "A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission". The non-game mammals for which "take" is typically authorized are primarily those that cause crop or property damage. All bats are classified as a non-game mammal and are protected under CFGC.

California Fish and Game Code Section 1600-1603

Streams, lakes, and riparian vegetation, as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of the CFGC. Any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake generally require a 1602 Lake and Streambed Alteration Agreement (LSAA).

The term "stream", which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life". This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFW 1994). Riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFW 1994). In addition to impacts to jurisdictional streambeds, removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

Local Regulations

Valley Water District Encroachment Permit

Stevens Creek is within the jurisdiction of Valley Water, and per Valley Water's online instructions:

"Encroachment permits are required for any work that takes place on or near District land, easement, or facility.

To protect these assets, the Community Projects Review Unit administers the Water Resources Protection Ordinance using the Water Resources Protection Manual, provides cost sharing for good neighbor fencing, facilitates land use transactions and joint use agreements, and offers technical assistance to other agencies on how to apply the Guidelines and Standards for Land Use Near Streams."

3.4.3 Discussion

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation.

Impacts to Special-Status Plants

No special-status plants were determined to have potential to occur within the project footprint. While unlikely, special-status plants may occur adjacent to the project footprint and could be trampled or crushed if project activities occur outside the work area. Implementation of the AMMs listed above will ensure that impacts don't occur to special-status plant species. With the implementation of Mitigation Measure BIO-1, impacts to special-status plants will be less than significant.

Impacts to Special-status Wildlife

Steelhead is the only special-status wildlife determined to have high potential to occur within the project area, however, the project will not directly impact the main channel of Stevens Creek where steelhead could occur, and will be completed between June 15 and October 15, outside of migration. Construction activities could indirectly cause the degradation of surface or ground water quality due to erosion and transport of fine sediments downstream of the construction area and unintentional release of contaminants outside of the footprint of project, which could result in impacts to steelhead and/or steelhead habitat. However, with the implementation of Mitigation Measure BIO-1, no indirect impacts to steelhead are expected.

Although both California red-legged frog and western pond turtle were determined to have a low likelihood of occurrence in the project area, implementation of Mitigation Measure BIO-1, which incorporates Avoidance and Minimization Measures that will prevent significant impact to these other special-status species, will reduce the potential impacts to less than significant.

Impacts to Nesting Birds

Nesting birds, including raptors, protected under CFGC are potentially present in the vegetation within the project area. If construction activities occur during the avian breeding season (generally February 1 to September 15), injury to individuals and/or nest abandonment could occur. In addition, noise and increased construction activity could temporarily disturb nesting or foraging activities, potentially resulting in the abandonment of nest sites and/or reduced reproductive success. To ensure that impacts don't occur to nesting birds Mitigation Measure BIO-1 will be implemented including, conducting pre-construction nesting surveys during the nesting season and implementing no-disturbance buffers around nests (if necessary). With the implementation of Mitigation Measure BIO-1, impacts to nesting birds will be less than significant.

Impacts to Bats

Common bat species protected under the CFGC could potentially roost in bark of the trees within and near the project area. One mature coast live oak will be removed for project activities and other trees within the project area may vibrated and/or auditorily disturbed via project construction activities. Direct impacts to bats could occur if construction activities result in the disruption or abandonment of nearby active bat roosts. To ensure impacts to bats are minimal, Mitigation Measure BIO-1 will be implemented including, conducting pre-construction surveys for roosting

bats prior to construction. With the implementation of Mitigation Measure BIO-1, the impacts from the project will be less than significant.

Impact BIO-1: Project construction activities could adversely impact biological resources by direct removal, disturbance, and indirect impacts on the habitats with the introduction of pollutants, sediment, and invasive weeds.

Mitigation Measure BIO-1: To ensure that biological resources are protected from project impacts, the project will include Avoidance and Minimization Measures (AMMs) that will be followed during project construction to avoid significant impacts to biological resources. The 18 AMMs will be included on all appropriate plans and documents used by the City's contractor(s) and will be incorporated into the project. Additionally, any additional measures required under agency permits (i.e., CDFW, RWQCB, USACE, Valley Water) will be also incorporated into the specifications provided on the plan and document set provided to the contractor(s). These could include minor modifications to the outfall design and/or planting plan, and are expected to further reduce impacts to biological resources. If changes are required that would result in significantly greater impacts to biological resources, then additional environmental review may be triggered.

Avoidance and Minimization Measures Included in the Project

The following avoidance and minimization measures (AMM) will be incorporated into the contractor specifications on the final plan set to prevent significant impacts to biological resources:

AMM-1. Receive Agency Approval of Qualified Biologist. The qualifications of a biologist(s) experienced with the California red-legged frog and other special-status species that have the potential to occur in work area will be submitted to the USFWS and CDFW for review and written approval at least 30 calendar days prior to the start of project activities.

AMM-2 Worker Environmental Awareness Training. The City of Sunnyvale shall designate an approved project biologist to provide worker training, conduct pre-construction surveys, and support the site engineer during construction as needed. The project biologist shall prepare a Worker Environmental Awareness Training (WEAT) handout and shall provide worker training prior to the start of work on the first day (including material staging and vegetation removal), and subsequently as needed, to train new personnel onsite. All construction personnel will participate in a worker environmental awareness program. These personnel will be informed about the possible presence of all special-status species and habitats associated with the species identified here to be potentially present in the parcel and that unlawful take of the animal or destruction of its habitat is a violation of FESA. Prior to construction activities, the agency-approved biologist will instruct all construction personnel about (1) the description and status of the species; (2) the importance of their associated habitats; and (3) a list of measures being taken to reduce impacts on these species during project construction and implementation. The biologist shall document worker training sessions.

AMM-3 Work Site Delineation and Wildlife Exclusion Barrier. Prior to any ground disturbance in the work area, an agency-approved temporary wildlife exclusion barrier will be installed along the limits of disturbance to delineate the work area and protect species. An agency-approved biologist will inspect the area prior to installation of the barrier. The barrier will be designed to allow the California red-legged frog to leave the work area and prevent them from entering the work area. The fence will remain in place until all development activities have been completed. This barrier will be inspected daily and maintained and repaired as necessary to ensure that it is functional and is not a hazard to California red-legged frogs on the outer side of the barrier. Clearing within the project site will be confined to the minimal area necessary to facilitate construction activities. The location and extent of the work may be modified in the field by the engineer after consultation with the project biologist. No work activities shall occur outside of the delineated work site.

AMM-4 Conduct Preconstruction Survey. No more than 24 hours prior to the date of initial ground disturbance, a pre-construction survey for California red-legged frog and western pond turtle will be conducted within the impact area by an agency-approved biologist. The survey will consist of walking the limits of impact to ascertain the possible presence of the species. The agency-approved biologist will investigate all potential areas that could be used by California red-legged frog and western pond turtle for feeding, sheltering, movement, and other essential behaviors.

AMM-5 Vegetation Removal. All vegetation within the work area will be completely removed by hand just prior to the initiation of grading to remove cover that might be used by California red-legged frogs. The agency-approved biologist will monitor the vegetation removal. Ground disturbance and vegetation removal will not exceed the minimum amount necessary to complete work at the site. Vegetation trimming, grubbing, or removal will not occur between February 15 and September 15 unless AMM-6 Nesting Bird Survey and AMM-11 Bat Survey have been completed and any required protection measures have been implemented.

AMM-6a and 6b Nesting Bird Survey. AMM-5a. To avoid impacts to nesting birds and violation of state and federal laws pertaining to birds, all construction-related activities (including but not limited to mobilization and staging, clearing, grubbing, vegetation removal, fence installation, demolition, and grading) should occur outside the avian nesting season (generally prior to February 1 or after August 31). If construction and construction noise occurs within the avian nesting season (from February 1 to August 31 or according to local requirements), all suitable habitats located within the project's area of disturbance including staging and storage areas plus a 250-foot (passerines) and 1,000-foot (raptor nests) buffer around these areas shall be thoroughly surveyed, as feasible, for the presence of active nests by a qualified biologist no more than five days before commencement of any site disturbance activities and equipment mobilization. If project activities are delayed by more than five days, an additional nesting bird survey shall be performed. Active nesting is present if a bird is sitting in a nest, a nest has eggs or chicks in it, or adults are observed carrying food to the nest. The results of the surveys shall be documented.

AMM-6b. If pre-construction nesting bird surveys result in the location of active nests, no site disturbance and mobilization of heavy equipment (including but not limited to equipment staging, fence installation, clearing, grubbing, vegetation removal, fence installation, demolition, and grading), shall take place within 250 feet of non-raptor nests and 1,000 feet of raptor nests, or as determined by a qualified biologist in consultation with the California Department of Fish and Wildlife, until the chicks have fledged. Monitoring shall be required to ensure compliance with the MBTA and relevant California Fish and Game Code requirements. Monitoring dates and findings shall be documented.

AMM-7 Construction Monitoring. An agency-approved biologist will be onsite during all project activities that may result in take of any special-status species. The agency-approved biologist will be given the authority to freely communicate verbally, by telephone, electronic mail, or in writing at any time with construction personnel, any other person(s) at the project site, or otherwise associated with the project, the USFWS, the CDFW, or their designated agents. The agency-approved biologist will have oversight over implementation of all the conservation measures and will have the authority and responsibility to stop project activities if they determine any of the associated requirements are not being fulfilled.

AMM-8. Relocation of California Red-legged Frog. If a red-legged frog is found during implementation of Mitigation Measures 2, 3, 5, 6 and 11, an agency-approved biologist will contact the USFWS to determine if moving any of the individuals is appropriate. In making this determination the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, the project proponent will ensure the agency-approved biologist is given sufficient time to move the animals from the impact area before ground disturbance is

initiated. Only agency-approved biologists will capture, handle, and move California red-legged frog. The agency-approved biologist will monitor any relocated frog until it is determined that it is not imperiled by predators or other dangers.

AMM-9. Relocation of Western Pond Turtle. If a pond turtle is found during implementation of Mitigation Measures 2, 3, 5, 6, and 11, an agency-approved biologist will contact CDFW to determine if moving any of the individuals is appropriate. In making this determination CDFW will consider if an appropriate relocation site exists. If CDFW approves moving animals, the project proponent will ensure the agency-approved biologist is given sufficient time to move the animals from the impact area before ground disturbance is initiated. Only agency-approved biologists will capture, handle, and move the western pond turtle. The agency-approved biologist will monitor any relocated turtle until it is determined that it is not imperiled by predators or other dangers.

AMM-10 Materials and Equipment Staging. Materials and equipment storage and parking areas will be limited to pavement, existing roads, and unvegetated areas, and will be set back at least 25 five feet from the edge of vegetation at the top of bank of Stevens Creek. Equipment will only be re-fueled and serviced at designated construction staging areas. The Contractor will use drip pans during refueling to contain accidental releases. Drip pans will be placed under the fuel pump and valve mechanisms of any bulk fueling vehicles parked at the project site.

AMM-11 Roosting Bat Survey. A preconstruction survey for maternity (March 1 to August 1) or colony bat roosts (year-round) shall be conducted by a qualified biologist within 14 days prior to activities that remove vegetation or structures. If an occupied maternity or colony roost is detected, CDFW shall be contacted about how to proceed. Typically, a buffer exclusion zone would be established around each occupied roost until bat activities have ceased. The size of the buffer would address:

- Proximity and noise level of project activities;
- Distance and amount of vegetation or screening between the roost and construction activities;
- Species-specific needs, if known, such as sensitivity to disturbance.

Due to restrictions of the California Health Department, direct contact by workers with any bat is not allowed. The qualified bat biologist shall be contacted immediately if a bat roost is discovered during project construction.

AMM-12. Daytime Restriction. To the maximum extent practicable, nighttime construction will be minimized.

AMM-13 Water Pollution Prevention. The Contractor shall comply with the provisions of the San Francisco Bay Regional Municipal Regional Stormwater NPDES Permit CAS612008 and shall follow storm water best management practices as specified in the City of Sunnyvale Standard Specifications and Project Specifications, with the purpose of preventing pollution from entering Stevens Creek and downstream waters that support special-status steelhead and riparian habitat. The Contractor shall be familiar with the State of California Construction Best Management Practices Handbook for applicable control measures and employ its provisions throughout all construction activities. Excess or waste concrete shall not be washed into any drainage system. Provisions shall be made to retain concrete wastes on site until they can be disposed of as solid waste. The contractor will identify construction-phase BMPs. Recommended BMPs include: proper stockpiling and disposal of demolition debris, concrete, and soil; protecting existing storm drain inlets; stabilizing disturbed areas; applying erosion controls; employing proper management of construction materials; directing waste management; providing for aggressive litter control; and using applicable sediment controls. Construction vehicles and equipment will be checked daily and appropriately maintained to prevent contamination of soil or water from all sources of hydraulic fluid, fuel, oil, and grease. Waste facilities will be maintained. Waste facilities include

concrete wash-out facilities, porta-potties, and hydraulic fluid containers. Waste will be removed to a proper disposal site.

AMM-14 Erosion Control. Construction activities shall be limited to the dry season (generally April through October), to minimize erosion, unless authorized under permits from the resource agencies (e.g., CDFW, RWQCB, USACE). All disturbed soils shall undergo erosion control treatment prior to October 15th and/or immediately after construction is terminated. Any disturbed soils on a gradient of over 30 percent will have erosion control blankets installed. Other disturbed soil areas and soil stockpiles will be covered with tarps prior to forecast rain events. The Contractor shall adhere to the Municipal Regional Stormwater NPDES Permit (MRP) Best Management Practices for sedimentation prevention and erosion control to prevent deleterious materials or pollutants from entering the storm drain system and Stevens Creek. Site conditions at the time of placement of erosion control measures will vary. The Contractor shall adjust erosion control measures as the site conditions change and as the needs of construction shift, to prevent erosion and sediment from leaving the construction site.

Plastic mono-filament netting (erosion control matting), netted rolled erosion control products or similar material shall not be used at the project site to prevent trapping California red-legged frogs or other species.

AMM-15 Hazardous Spill Plan. A hazardous spill plan shall be developed prior to the start of construction. The plan will describe what actions will be taken in the event of a spill of hazardous materials such as fuel, oil, and lubricants. The plan shall incorporate preventative measures to be implemented, such as vehicle and equipment staging, cleaning, maintenance, and refueling; and contaminant (including fuel) management and storage. In the event of a contaminant spill, work at the site will immediately cease until the contractor has contained and mitigated the spill. The contractor will immediately prevent further contamination and notify appropriate authorities and mitigate damage as appropriate. Adequate spill containment materials, such as oil diapers and hydrocarbon cleanup kits, shall be kept maintained and available on site. Containers for storage, transportation, and disposal of contaminated absorbent materials shall also be provided.

AMM-16 Tree and Riparian Habitat Protection. The Contractor shall hand trench near trees and cut roots as directed by the City Arborist. Trees adjacent to the work area shall be protected with fencing or other measures as directed by the City Arborist. All riparian habitat to be avoided will be shown on project design plans and prior to project activities these areas will be clearly delineated by the agency-approved biologist.

AMM-17. Wildlife Entrapment. All trenches shall be backfilled or covered at the end of each work day. No trench shall be left open during non-working hours. All excavated, steep-walled holes or trenches more than one foot deep shall be completely covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks and inspected by the agency-approved biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the agency-approved biologist and/or construction foreman/manager. If at any time a trapped California red-legged frog or western pond turtle is discovered by the agency-approved biologist or anyone else, the steps in AMM-7 Relocation of California red-legged frog or AMM-8 Relocation of Western Pond Turtle will be followed. Trenches shall be surveyed each morning for trapped wildlife. If trapped wildlife are discovered the site engineer shall contact the project biologist for direction regarding handling wildlife trapped in a trench. The project biologist shall identify the species and the least deleterious method of removing the species from the trench. If a special-status species is found, the project biologist shall follow AMM-7 and/or AMM-8. If injured non-special-status wildlife are encountered, the project biologist shall remove them to a wildlife rehabilitation facility.

AMM-18 Restoration. Existing patches of Arundo and Vinca should be pulled by hand and with hand tools, bagged or placed into a covered truck, and landfilled either prior to or as the first step of site grading. All portions of the plants need to be removed to prevent re-infestation. If heavy equipment is used to remove the patches, the area needs to be checked for remaining plant material that could sprout, and that plant material removed by hand.

Temporary work areas shall be restored with respect to pre-existing contours and conditions upon completion of work. Upon completion of construction, temporarily and permanently disturbed sections of the Stevens Creek corridor shall be revegetated with native grasses and forbs and willow stakes as identified in the plans. Use of invasive plant species, as defined by the California Invasive Plant Council (Cal-IPC.com), is prohibited.

Willow stakes shall be installed on the creek terrace adjacent to the channel as shown on the project plans to replace riparian tree habitat removed by the project. Three stakes shall be placed in each planting hole, and to maintain a grassland/willow mosaic in the site, the plantings shall be placed on ten-foot centers. At least 6 sites containing a total of 18 willow stakes shall be planted (3 per site). More sites shall be planted if more than four trees are removed for the project.

One mature coast live oak expected to be removed for the project shall be replaced with three 15-gallon coast live oak plantings. These plantings shall be installed within 250 feet of the oak to be removed in a location that can be maintained so that at least one of the three trees survive to maturity.

The plantings shall be installed by a qualified revegetation contractor

The cover of invasive plant species shall not exceed 10% of the planting area in any monitoring year. Invasive plant species are defined as species rated as high or red alert by the California Invasive Species Council. Weeding, bagging, and disposal of invasive plants shall be implemented if the cover exceeds 10%.

All plantings shall be monitored by a qualified biologist after installation. Target species will achieve at least 70% survival after three years. Both qualitative and quantitative measurements will be used to determine, on an annual basis, if the restoration area, including target planting and native species recruitment, achieves the goals of increasing the cover and diversity of riparian species and the habitat functions and values of the riparian corridor in this location. If functions and values are replaced both with restoration plantings and natural recruitment of native species, the restoration will be successful. Functions and values primarily include providing cover and forage for wildlife. Additional planting/adaptive management shall be recommended in each annual monitoring report if necessary and implemented by the City. If the target survival rate is not met within five years, monitoring and adaptive management measures shall continue until restoration goals are achieved.

AMM-19 Construction Site Sanitation. Food items and trash may attract wildlife onto the construction site, which can expose them to construction-related hazards. A litter control program shall be instituted at the project site. All workers shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. Trash shall be removed from the project site at the end of each working day.

Effectiveness: These measures would minimize and/or avoid impacts to sensitive or special-status species.

Implementation: The City shall include these AMMs on all appropriate bid, contract, and engineering and site plan (e.g., building, grading, and improvement plans) documents.

Timing: During construction activities.

Monitoring: The City shall review all appropriate bid, contract, and engineering and site plan documents for inclusion of all biology AMMs and the City shall review all biology reports submitted as documentation of mitigation compliance for completeness.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

Less than Significant Impact with Mitigation. Sensitive vegetation communities include riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations, or designated by the USFWS, NOAA Fisheries, and CDFW. Impacts to jurisdictional aquatic features will occur and are discussed further in Section 5.4.

The coast live oak stand/woodland within and adjacent to the project area is listed as sensitive habitat by the CDFW. As part of the project, one (1) coast live oak will be removed from the project area. To ensure impacts to sensitive habitats are minimal, the coast live oak will be replaced with coast live oak plantings following project implementation at a minimum ratio of 3:1, pending CDFW approval.

Riparian habitat will be removed as part of project implementation; however, willow stakes will be planted within the disturbed riparian area to avoid erosion and improve the riparian habitat value and to ensure impacts are less-than-significant.

To ensure that additional impacts to coast live oak woodland and riparian habitat outside the project footprint are minimized and/or avoided, the work area will be delineated with orange fencing and/or flagging. With the implementation of Mitigation Measure BIO-1, project impacts on sensitive habitats will be less than significant.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant Impact with Mitigation. The project site does not contain federally protected wetlands. The project work area includes 0.021 acres that are potentially Waters of the United States and 0.05 acres that are potentially Waters of the State that will be impacted. The project requires an LSAA from the CDFW, a Nationwide Permit from the USACE, an encroachment permit from Valley Water, and a Water Quality Certification from the RWQCB. The project will incorporate AMMs and meet the permit conditions identified by the agencies. Therefore, direct impacts to waters under the jurisdiction of the USACE, CDFW, Valley Water, and/or RWQCB in the project area will be less than significant.

Potentially jurisdictional features outside of the project area (e.g., Stevens Creek) could be indirectly affected by project activities. Specifically, construction activities could indirectly cause the degradation of surface or ground water quality due to erosion and transport of fine sediments downstream of the construction area and unintentional release of contaminants into jurisdictional waters that are outside of the footprint of the project. With implementation of Mitigation Measure BIO-1, impacts to the water quality of waters under the jurisdiction of the USACE, CDFW, Valley Water, and/or RWQCB downstream of the construction area will be less than significant.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact. Stevens Creek provides a corridor through the urbanized south bay for wildlife to move between the foothills and the bay. The project site is not a known wildlife nursery site, although the creek in general is known to support steelhead and California red-legged frog. The project will have temporary construction impacts that may affect wildlife movement, but it will not result in a permanent barrier to wildlife movement. The project will have a less than significant impact on wildlife movement and wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including the County Heritage and Significant Tree Ordinances)?

Less than Significant Impact. The project requires a Valley Water encroachment permit. Compliance with the measures in the permit will assure the project complies with local policies.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project is not within an area covered by an HCP or NCCP and will have no impact related to a conservation plan.

3.4.4 References

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3.5 CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

3.5.1 Environmental Setting

Prehistoric

The Ohlone Native Americans inhabited the project area prior to invasion by the Spanish in 1769 and were named Costanoans by the Spanish. The Ohlones were hunters and gatherers, living in "tribelets" – small independent groups of usually related families occupying a specific territory and speaking the same language or dialect.

Historic

The first Europeans to reach the San Francisco area were Spanish explorers in 1769 as part of the Portolá expedition. In 1774, the de Anza expedition had set out to convert the Native American tribes to Christianity, resulting in the establishment of (among others) Mission San Francisco de Asis (Mission Dolores) (founded in 1776), Mission Santa Clara de Asis (founded in 1777) and Mission San José (founded in 1779). The El Camino Real (which runs through Sunnyvale) became a heavily traveled route between the 21 California Missions. This route led to the establishment of inns and roadhouses to serve travelers along the way. In this historic period, the Ohlone people were subjugated and absorbed into the mission system for compulsory baptism and conversion to Christianity that resulted in the loss of their freedom of movement, their culture, and customs.

In 1842, Rancho Pastoria de las Borregas Francisco Estrada and his wife Inez Castro were given a grant to the land. Portions of the land in this grant were later developed into the cities of Mountain View and Sunnyvale. Two years later, in 1844, another land grant was given to Lupe Yñigo, one of the few Native Americans to hold land grants. His land grant was first called Rancho Posolmi, named in honor of Posolmi village of the Ohlone that once stood in the area. Rancho Posolmi was later known as Rancho Ynigo.

In 1860, The San Francisco and San Jose Railroad laid tracks on Bay View and established Murphy Station, which was named in honor of the Murphy family. Lawrence Station was later established on the southern edge of Bay View.

In the 1870s, county property tax laws, imports, and soil degradation caused wheat farming to become uneconomical in Santa Clara County. Small fruit orchards replaced the large wheat farms. In 1871, James and Eloise Dawson established the first fruit cannery in Santa Clara

County. Fruit agriculture and canning soon became a major industry in the county. The invention of the refrigerated rail car further increased the viability of an economy based upon fruit. The fruit orchards become so prevalent that in 1886, the San Jose Board of Trade called Santa Clara County the "Garden of the World".

In 1901, the residents of Murphy were informed they could not use the name Murphy for their post office. They decided to use the name Sunnyvale for the name of their town. Sunnyvale continued to grow and in 1904, dried fruit production began. Two years later, Libby, McNeill & Libby, a Chicago meat-packing company, decided to open its first fruit packing factory in Sunnyvale. In 1912, the residents of Sunnyvale voted to incorporate, and Sunnyvale became an official city.

Fremont High School first opened in 1923. It served as a military base before the school opened and through World War II. Planes flying to and from Moffett Field, which opened in 1933, commonly stopped here for fuel top-offs. In 1930, Congress decided to place the West Coast dirigible base in Sunnyvale. This naval airfield was later renamed Moffett Naval Air Station and then Moffett Federal Airfield and is commonly called Moffett Field. In 1939, the National Advisory Committee for Aeronautics (NACA, the forerunner of NASA) began research at Ames Laboratory.

Modern

During World War II, the war economy began a change from the fruit industry to the high-tech industry in Santa Clara County. The Joshua Hendy Iron Works built marine steam engines, naval guns, and rocket launchers to aid in the war effort. As the defense industry grew, a shortage of workers in the farm industry was created. Immigrants from Mexico came to Sunnyvale to fill this void of workers. Following the war, the fruit orchards and sweet corn farms were cleared to build homes, factories and offices. In 1956, the aircraft manufacturer Lockheed moved its headquarters to Sunnyvale. Since then, numerous high-tech companies have established offices and headquarters in Sunnyvale, including Advanced Micro Devices and Yahoo.

By 2002, the few remaining orchards were demolished and replaced with homes and shops. However, there are still city-owned orchards, such as the Heritage Orchard next to the Sunnyvale Community Center.

Project Site at the Present Time

The proposed project site is located along the banks of Steven Creek, a predominantly undeveloped stretch of bank along the creek drainage. The project consists of a single structure; the 60-inch corrugated metal pipe (CMP) outfall storm drain pipe and associated flap gate. At the base of the CMP, there is cement sack riprap which has been placed to assist drainage into the ground and into Stevens Creek. Adjacent to the site, on the west bank of the creek is an unidentified concrete pillar, which appears to support a drainage pipe, allowing water from the top of the bank at the west side of the site to drain into Stevens Creek. During a recent site visit, this structure appeared to be dilapidated and possibly non-functional. It is thought likely to be associated with drainage from State Route 85, adjacent to the creek.

Records Search Results

A record search conducted by the Northwest Information Center (NWIC) on January 24, 2019 indicated there are no known archaeological or historic resources within the project site or study area. The study area consisted of a 250-foot radius around a 0.5-mile length of Stevens Creek that passes through the project site. Two reports were identified as within the project site boundaries, and a further four were within the study area. Of these six reports, three were part of cultural surveys for improvements on State Route 85, one was for a Pacific Bell Mobile Services Facility, one was for a constraints analysis on the Stevens Creek Trail, and the final was an archaeological field reconnaissance of both banks of Stevens Creek.

The Native American Heritage Commission (NAHC) was contacted for a records search of the Sacred Lands Inventory. The results, returned on February 25, 2017, showed no known Tribal Cultural Resources within the project vicinity.

Tribal representatives identified by the NAHC as potentially having additional knowledge of the project area were contacted as an extension of the SLF on March 8, 2019. No replies were received.

3.5.2 Regulatory Setting

California Environmental Quality Act

Pursuant to CEQA, a historical resource is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. Per CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude a Lead Agency, as defined by CEQA, from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) Section 5024.1. CEQA applies to archaeological resources when (1) the archaeological resource satisfies the definition of a historical resource or (2) the archaeological resource satisfies the definition of a "unique archaeological resource." A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

Health and Safety Code, Sections 7050 and 7052

Health and Safety Code Section 7050.5 declares that, in the event of the discovery of human remains outside a dedicated cemetery, all ground disturbances must cease, and the county coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

Penal Code Section 622.5

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

Government Code Section 6254(r)

Government Code explicitly authorizes public agencies to withhold information from the public relating to Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission.

Government Code Section 6250 et. seq.

Records housed in the Information Centers of the California Historical Resources Information System (CHRIS) are exempt from the California Public Records Act.

3.5.3 Discussion

Would the project:

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

No Impact. There are no listed historic resources in the project area, as identified in the CHRIS search from the NWIC. The two structures on the site (the metal storm drain pipe and associated infrastructure and the unidentified concrete pillar) have not been formally evaluated for the CRHP. However, based on their function as ancillary features, lack of integrity, and lack of any distinguishing features, neither would be eligible for inclusion in the CRHP or NRHP. No impact would occur.

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

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

Less than Significant Impact (Responses b – c). There are no previously known archaeological resources, as identified in the CHRIS search from the NWIC, at the project site or within the Study Area. A previous archaeological survey along Stevens Creek, conducted by Holman and Associates in 1978, passed through the majority of the project site. No resources were identified within the section of Stevens Creek that forms the project site and study area during the survey.

The proposed project would consist of excavation beyond the artificially placed riprap and likely beyond prior depths of disturbance. The proposed project is therefore likely to encounter previously undisturbed, native, soils. Native American resources, including burials, are known to occur within creeks in the Bay Area. Although no known resources are within the project site or study area, there is potential for the discovery of prehistoric, or early historic, Native American archaeological resources, including human burials to be discovered during project excavation. Implementations of best management practices (BMPs) will safeguard archaeological resources and human remains in the event that they are discovered during excavation. With the implementation of BMPs and by following existing laws and regulations, impacts are kept at a less than significant level.

3.5.4 References

Holman & Associates, 1978. Report Number S-4492. Unpublished confidential report containing search results from site survey. On file at NWIC.

NAHC, 2019. Unpublished letter containing search results from Sacred Lands File search. Kept on file at NAHC and with MIG. Inc.

NWIC, 2019. Report number 18-1218. Unpublished confidential report containing search results from site specific survey. Kept on file at NWIC and with MIG. Inc.

Summerhill, 2019. Sunnyvale History. Accessed April 4, 2019 at https://summerhillmanagement.com/sunnyvale/.

3.6 ENERGY

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

3.6.1 Environmental Setting

Energy consumption is closely tied to the issues of air quality and GHG emissions, as the burning of fossil fuels and natural gas for energy has a negative impact on both, and petroleum and natural gas currently supply most of the energy consumed in California.

In general, California's per capita energy consumption is relatively low, in part due to mild weather that reduces energy demand for heating and cooling, and in part due to the government's proactive energy-efficiency programs and standards. According to the California Energy Commission's (CEC) 2015 Integrated Energy Policy Report, Californians consumed about 280,500 gigawatt hours (GWh) of electricity in 2014 and 13,240 million British thermal units (BTU) of natural gas in 2013. The CEC estimates that by 2025, California's electricity consumption will reach between 297,618 GWh and 322,266 GWh, an annual average growth rate of 0.54 to 1.27 percent (CEC 2015), and natural gas consumption is expected to reach between 12,673 million and 13,731 million BTU by 2024, an average annual growth rate of -0.4 to 0.33 percent (CEC 2015).

In 2017, total electricity use in Santa Clara County was 17,190 million kilowatt hours (kWh), including 13,139 million kWh of consumption for non-residential land uses (CEC 2019a). Natural gas consumption was 445 million therms in 2017, including 205 million therms from non-residential uses (CEC 2019b).

Energy conservation refers to efforts made to reduce energy consumption to preserve resources for the future and reduce pollution. It may involve diversifying energy sources to include renewable energy, such as solar power, wind power, wave power, geothermal power, and tidal power, as well as the adoption of technologies that improve energy efficiency and adoption of green building practices. Energy conservation can be achieved through increases in efficiency in conjunction with decreased energy consumption and/or reduced consumption from conventional energy sources.

3.6.2 Regulatory Setting

Since increased energy efficiency is so closely tied to the State's efforts to reduce GHG emissions and address global climate change, the regulations, policies, and action plans aimed at reducing GHG emissions also promote increased energy efficiency and the transition to renewable energy sources. The U.S. EPA and the State address climate change through numerous pieces of legislation, regulations, planning, policy-making, education, and implementation programs aimed at reducing energy consumption and the production of GHG.

The proposed project would not involve the development of facilities that include energy intensive equipment or operations. While there are numerous regulations that govern GHG emissions reductions through increased energy efficiency, the following regulatory setting description focuses only on regulations that: 1) provide the appropriate context for the proposed project's potential energy usage; and 2) may directly or indirecly govern or influence the amount of energy used to develop and operate the proposed improvements. For example, the project would not result in permanently occupied buildings and thus the State building code requirements pertaining to energy efficiency are not discussed below. See the Environmental and Regulatory Setting discussion in Section 3.8, Greenhouse Gas Emissions, for a description of the key regulations related to global climate change, energy efficiency, and GHG emission reductions.

CARB Low Carbon Fuel Standard Regulation (LCFSR)

CARB initially approved the LCFS regulation in 2009, identifying it as one of the nine discrete early action measures in its original 2008 Scoping Plan to reduce California's GHG emissions. Originally, the LCFS regulation required at least a 10% percent reduction in the carbon intensity of California's transportation fuels by 2020 (compared to a 2010 baseline). On September 27, 2018, CARB approved changes to the LCFS regulation that require a 20% reduction in carbon intensity by 2030. These regulatory changes exceed the assumption in CARB's 2017 Climate Change Scoping Plan, which targeted an 18% reduction in transportation fuel carbon intensity by 2030 as one of the primary measures for achieving the state's GHG 2030 target.

3.6.3 Discussion

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

No Impact The proposed project consists of the repair and replacement of existing storm drainage facilities. The construction activities would require the use of construction equipment and generate construction-related vehicle trips that would combust fuel, primarily diesel and gasoline. The use of this fuel energy is necessary to repair and replace the drainage facilities and is not wasteful. No impact would occur.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact Daily operation of the site does not use energy, renewable or otherwise, and therefore would not conflct with, or obstruct a plan for renewable energy or energy effficiancy.

3.6.1 References

California Energy Commission (CEC) 2015. 2015 Integrated Energy Policy Report. Sacramento, CA. 2015.

_____. 2019a. "Electricity Consumption by County." *Electricity Consumption by County.* CEC, Energy Consumption Database. n.d. Accessed February 21, 2019 at http://ecdms.energy.ca.gov/elecbycounty.aspx.

_____. 2019b. "Gas Consumption by County." *Gas Consumption by County.* CEC, Energy Consumption Database. n.d. Accessed February 21, 2019 at http://ecdms.energy.ca.gov/gasbycounty.aspx.

3.7 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? *Note: Refer to Division of Mines and Geology Special Publication 42.*	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

3.7.1 Environmental Setting

The following information is based on the Seismic Hazard Zone Report for the Cupertino 7.5-Minute Quadrangle (California Geological Survey, 2002a).

Regional Geologic Setting

The project site is located near in the southern portion of San Francisco Peninsula, on the northern part of the United States Geologic Survey (USGS) Cupertino 7.5' quadrangle, adjacent to Stevens Creek. The northeastern half of the Cupertino Quadrangle covers a part of the broad alluvial plain of Santa Clara Valley that slopes gently to the northeast. In the southwestern half of the

quadrangle, Adobe, Calabazas, Hale, Permanente, and Stevens creeks originate in the Santa Cruz Mountains. The creeks flow across the Santa Clara Valley into San Francisco Bay.

The underlying soils in the vicinity of the project site are formed of Holocene alluvial fan levee deposits, underlain by bedrock consisting of composite Mesozoic basement assemblage consisting of the Franciscan Complex, the Coast Range Ophiolite, and the Great Valley Sequence (California Geological Survey, 2002a).

3.7.2 Regulatory Setting

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act regulates development in California near known active faults due to hazards associated with surface fault ruptures. There are no Alquist-Priolo earthquake fault zones on the project site (California Geological Survey, 2002b).

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act was passed in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. The act directs the U.S. Department of Conservation to identify and map areas prone to the earthquake hazards of liquefaction, earthquake-induced landslides, and amplified ground shaking. The act requires site-specific geotechnical investigations to identify potential seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy within the Zones of Required Investigation.

California Building Code

The 2016 California Building Codes (CBC) covers grading and other geotechnical issues, building specifications, and non-building structures.

3.7.3 Discussion:

Consistent with the California Supreme Court decision in *California Building Industry Association v. Bay Area Air Quality Management District* (62 Cal. 4th 369; 2015), the impact discussion presented below focuses on the project's effect on geology and soils rather than the effect of geologic hazards and site conditions upon the proposed project. The project is evaluated to determine whether it would create or exacerbate soil or geologic conditions identified in each of the above significance threshold criteria.

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other significant evidence of a known fault?

Less Than Significant Impact. Study of geotechnical maps indicates there are no known faults that traverse the project site and the site is not within an Alquist-Priolo zone (California Geological Survey, 2002b).

ii) Strong seismic ground shaking?

Less Than Significant Impact. The project site is located in the San Francisco Bay Area which is considered one of the most seismically active regions in the United States. Significant earthquakes have occurred in this area and strong to violent ground-shaking in the project area

can be expected as a result of a major earthquake on one of the faults in the region. The storm drain shall be designed and constructed in accordance with the current California Building Code, where applicable. The project would not create potential for or exacerbate existing conditions related to seismic ground shaking. Compliance with the California Building Code would ensure the construction works are adequately protected during seismic events.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction occurs when loose, saturated sandy soils lose strength and flow like a liquid during earthquake shaking. Ground settlement often accompanies liquefaction. Soils most susceptible to liquefaction are saturated, loose, silty sands, and uniformly graded sands.

The proposed project is located in a liquefaction zone. Compliance with the California Building Code would ensure the construction works are designed to accommodate anticipated site conditions and liquefaction. The placement of the CIPP, would not affect the existing conditions at the site. Therefore, the project would have a less than significant impact related to seismic-related ground failure.

iv) Landslides?

No Impact. The Geologic and Seismic Hazards Evaluation states the project is not located within a landslide hazard zone. The project does not create significant new cut slopes that would be susceptible to landslide. The proposed project would not create or exacerbate landslide conditions on or adjacent to the site.

b) Result in significant soil erosion or the loss of topsoil?

Less Than Significant Impact. The project is designed to stabilize the channel bed and banks and help prevent long term erosion and loss of topsoil. Erosion control measures and fencing will be installed in the project area to prevent erosion during project construction. Though no water is anticipated to be present in the channel during construction, a 2-foot tall gravel bag coffer dam will be installed at the confluence of the outfall channel with Stevens Creek. Non-native material will be removed from the outfall channel, including segments of the existing outfall pipe, concrete debris, sack concrete, and other refuse. See Section 3.9 of this document for a complete discussion regarding erosion.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. The project is not located within a landslide hazard zone. (See response to question a) iv).

Subsidence is the sinking of the Earth's surface in response to geologic or man-induced causes. Potential settlement as a result of dynamic compaction of granular soils above the groundwater table is very low because the soils above groundwater are predominantly artificial fill.

Lateral spreading involves the lateral movement of a liquefied soil layer (and overlying layers) toward a free face. The site is in a liquefaction zone; as is the entire length of Stevens Creek in the project vicinity, so lateral spreading may take place if liquefaction occurs.

Grading would reduce the slope of existing channel banks and place new riprap to stabilize soils and assist with erosion control. The grading of an access ramp is temporary and would be returned to existing conditions when project construction is complete. Project construction would not increase the chance of liquefaction or lateral spreading in a seismic event. Grading of the

banks and placing additional riprap may reduce this risk because the bank would be graded to have a less steep angle and it would be contoured to reduce soil erosion.

As project construction would not exacerbate existing site conditions related to unstable geologic conditions, the project would have a less than significant impact on landslide potential, lateral spreading, subsidence, liquefaction or collapse.

d) Be located on expansive soil, as noted in the 2010 California Building Code, creating substantial direct or indirect risks to life or property?

Less Than Significant Impact. A geological report has not been completed for this project, and the plasticity of the soil, which generally corresponds to an expansion potential, is not known. However, given the limited amount of soil which would be disturbed by the proposed project, combined with the replacement of existing material, soils would not have the potential to expand significantly and thereby create a significant risk to life or property. Implementation of the proposed project would have a less than significant impact to expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact The proposed project consists of the repair and replacement of existing storm drainage facilities. There would be no septic tanks or alternative wastewater facilities included as part of the proposed project.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. The proposed project would consist of excavation beyond the artificially placed riprap and likely beyond prior depths of disturbance. Alluvial soils, such as deltas and along historic watersheds are not generally expected to contain fossils. However, due to excavation into previously undisturbed soils, the proposed project has the potential to encounter previously undisturbed paleontological resources. The implementations of best management practices (BMPs) presented in the Project Description will safeguard paleontological resources in the unlikely event that they are discovered during project work. With the implementation of BMPs, impacts are kept at a less than significant level.

3.7.4 References

California Geological Survey. 2002a. Seismic Hazard Zone Report for the Cupertino 7.5-Minute Quadrangle. Accessed April 4, 2019 at http://gmw.consrv.ca.gov/SHP/EZRIM/Reports/SHZR/SHZR_068_Cupertino.pdf.

_____2002b. Earthquake Zones of Required Investigation Cupertino Quadrangle. Accessed April 4, 2019 at http://gmw.conservation.ca.gov/SHP/EZRIM/Maps/CUPERTINO _EZRIM.pdf.

3.8 GREENHOUSE GAS EMISSIONS

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

3.8.1 Environmental Setting

Gases that trap heat in the atmosphere and affect regulation of the Earth's temperature are known as greenhouse gases (GHGs). Many chemical compounds found in the earth's atmosphere exhibit the GHG property. GHGs allow sunlight to enter the atmosphere freely. When sunlight strikes the earth's surface, it is either absorbed or reflected back toward space. Earth that has absorbed sunlight warms up and emits infrared radiation toward space. GHGs absorb this infrared radiation and "trap" the energy in the earth's atmosphere. Entrapment of too much infrared radiation produces an effect commonly referred to as "Global Warming", although the term "Global Climate Change" is preferred because effects are not just limited to higher global temperatures.

GHGs that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants because climate regulation is global in scale, both in terms of causes and effects. Some GHGs are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide), and off-gassing from low oxygen environments such as swamps or exposed permafrost (methane); however, GHG emissions from human activities such as fuel combustion (e.g., carbon dioxide) and refrigerants use (e.g., hydrofluorocarbons) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change.

Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880) and atmospheric carbon dioxide concentrations have increased from a pre-industrial value of 280 parts per million (ppm) in the early 1800's to 408 ppm in January 2018 (NOAA, 2018). The effects of increased GHG concentrations in the atmosphere include climate change (increasing temperature and shifts in precipitation patterns and amounts), reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific GHGs – carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride – and two groups of gases – hydrofluorocarbons and perfluorocarbons. These GHGs are the primary GHGs emitted into the atmosphere by human activities. The six common GHGs are described below.

Carbon Dioxide (CO_2). CO_2 is released to the atmosphere when fossil fuels (oil, gasoline, diesel, natural gas, and coal), solid waste, and wood or wood products are burned.

Methane (CH_4). CH_4 is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in municipal solid waste landfills and the raising of livestock.

Nitrous oxide (N_2O). N_2O is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels.

Sulfur hexafluoride (SF_6). SF_6 is commonly used as an electrical insulator in high voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.

Hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). HFCs and PFCs are generated in a variety of industrial processes.

GHG emissions from human activities contribute to overall GHG concentrations in the atmosphere and the corresponding effects of global climate change (e.g., rising temperatures, increased severe weather events such as drought and flooding). GHGs can remain in the atmosphere long after they are emitted. The potential for a GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHGs by their GWP determines their carbon dioxide equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions.

Existing GHG Emission Sources at the Project Site

As described in Air Quality 3.3, the project consists of the repair and replacement of an existing storm drain. There are no existing GHG emission sources at the project site.

3.8.2 Regulatory Setting

California Global Warming Solutions Act (AB32) and Related Legislation

California Air Resources Board (CARB) is the lead agency for implementing Assembly Bill (AB) 32, the California Global Warming Solutions Act adopted by the Legislature in 2006. AB 32 requires the CARB to prepare a Scoping Plan containing the main strategies that will be used to achieve reductions in GHG emissions in California.

In 2007, CARB approved a statewide 1990 emissions level and corresponding 2020 GHG emissions limit of 427 million metric tons of carbon dioxide equivalents ($MTCO_2e$) (CARB, 2007). In 2008, CARB adopted its *Climate Change Scoping Plan*, which projects, absent regulation or under a "business as usual" (BAU) scenario, 2020 statewide GHG emissions levels of 596 million $MTCO_2e$ and identifies the numerous measures (i.e., mandatory rules and regulations and voluntary measures) that will achieve at least 174 million $MTCO_2e$ of reductions and reduce statewide GHG emissions to 1990 levels by 2020 (CARB, 2009). In 2011, CARB released a supplement to the 2008 *Scoping Plan Functional Equivalent Document* (FED) that included an updated 2020 BAU statewide GHG emissions level projection of 507 million $MTCO_2e$ (CARB, 2011), and in 2014 CARB adopted its First Update to the Climate Change Scoping Plan (CARB, 2014).

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, sets a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. By directing state agencies to take measures consistent with their existing authority to reduce GHG emissions, this order establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.

To reinforce the goals established through Executive Order B-30-15, Governor Brown went on to sign SB-32 and AB-197 on September 8, 2016. SB-32 made the GHG reduction target to reduce GHG emissions by 40 percent below 1990 levels by 2030 a requirement as opposed to a goal. AB-197 gives the Legislature additional authority over CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the state's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

On December 14, 2017 CARB adopted the second update to the Scoping Plan, the *2017 Climate Change Scoping Plan Update* (*2017 Scoping Plan Update*). The primary objective of the *2017 Scoping Plan Update* is to identify the measures needed to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030), as established under Executive Order B-30-15 and SB 32. The *2017 Scoping Plan Update* identifies an increasing need for coordination among state, regional, and local governments to achieve the GHG emissions reductions that can be gained from local land use planning and decisions. It notes emission reduction targets set by more than one hundred local jurisdictions in the state could result in emissions reductions of up to 45 $MMTCO_2E$ and 83 $MMTCO_2E$ by 2020 and 2050, respectively. To achieve these goals, the *2017 Scoping Plan Update* includes a recommended plan-level efficiency threshold of six metric tons or less per capita by 2030 and no more than two metric tons by 2050.

The major elements of the *2017 Scoping Plan Update* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero emission vehicle (ZEV) buses and trucks;
- LCFS, with an increased stringency (18 percent by 2030);
- Implementation of SB 350, which expands the RPS to 50 percent and doubles energy efficiency savings by 2030;
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks;
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH_4 and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030;
- Continued implementation of SB 375;
- Post-2020 Cap-and-Trade Program that includes declining caps;
- 20 percent reduction in GHG emissions from refineries by 2030; and
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

BAAQMD 2017 Clean Air Plan

As discussed in Section 3.3, Air Quality, the BAAQMD's *2017 Clean Air Plan* is a multi-pollutant plan focused on protecting public health and the climate. The *2017 Clean Air Plan* lays the groundwork for a long-term effort to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, consistent with GHG reduction targets adopted by the state of California. As opposed to focusing solely on the nearer 2030 GHG reduction target, the *2017 Clean Air Plan* makes a concerted effort to imagine and plan for a successful and sustainable Bay Area in the year 2050. In 2050, the Bay area is envisioned as a region where:

- Energy efficient buildings are heated, cooled, and powered by renewable energy;
- The transportation network has been redeveloped with an emphasis on non-vehicular modes of transportation and mass-transit;

- The electricity grid is powered by 100 percent renewable energy; and
- Bay Area residents have adopted lower-carbon intensive lifestyles (e.g., purchasing low-carbon goods in addition to recycling and putting organic waste to productive use).

The *2017 Clean Air Plan* includes a comprehensive, multipollutant control strategy that is broken up into 85 distinct measures and categorized based on the same economic sector framework used by CARB for the AB 32 Scoping Plan Update.[1] The accumulation of all 85 control measures being implemented support the three overarching goals of the plan. These goals are:

- Attain all state and national air quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Reduce Bay Area GHG Emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

The City of Sunnyvale Climate Action Plan

In 2014, the City of Sunnyvale adopted a Climate Action Plan (CAP) to serve as a guiding document to identify methods that the City and community can implement to significantly reduce GHG emissions and work toward meeting Assembly Bill 32, the Governor's Order S-03-05, and Public Resources Code Section 21093.3. The CAP sets a reduction goal of 15 percent below 2008 levels by 2020, to reduce GHG emissions to 1990s level. It lays the groundwork for this reduction goal through the implementation of GHG reduction strategies focused on energy use, solid waste and recycling, and transportation and land use.

Sunnyvale Municipal Code

The Sunnyvale Municipal Code states that "the 2016 California Energy Code adopted by the State Building Standards Commission in California Code of Regulations (CCR) Title 24, Part 6 is hereby adopted by reference as the energy code of the City of Sunnyvale. (Ord. 3100-16 § 34; Ord. 3014-13 § 2)".

3.8.3 Discussion

Global climate change is the result of GHG emissions worldwide; individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG emissions is by nature a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. The proposed project would produce short-term GHG emissions from construction-related fuel combustion over an approximately four-month timeframe. Upon completion of the proposed project, no long-term operational emissions would be associated with the storm drain. Although the BAAQMD has not established a quantitative threshold for construction-related emissions, the BAAQMD does maintain a 1,100 $MTCO_2e$ operational GHG threshold for non-stationary sources. Since construction activities cease to emit GHG upon completion, they are typically amortized over the lifetime of the project, added to the operational

[1] The sectors included in the AB 32 Scoping Plan Update are: stationary (industrial) sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants.

emissions, and compared to the threshold. Since the project would not generate long-term, operational emissions and construction emissions would be limited to approximately four months with a limited amount of equipment, overall emissions when amortized across the life of the project would be substantially below the BAAQMD's operational GHG threshold of 1,100 MTCO2e. The proposed project, therefore, would not generate significant levels of GHG emissions. This impact would be less than significant.

b) Conflict with an applicable, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, including the City's Climate Action Plan and the BAAQMD *Clean Air Plan*. The policies contained in these plans generally apply to larger projects (e.g., commercial buildings, residential structures, etc.), and not to a storm drain repair project. No impact would occur.

3.9 HAZARDS AND HAZARDOUS MATERIALS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.9.1 Environmental Setting

The project is located on the banks of Stevens Creek along a stretch of bank that is undeveloped and has been left in its natural state. Stevens Creek runs through the parcel, and the storm drain discharges stormwater into the creek. The site is surrounded by residential properties to the east, and by Highway 85 to the west. To the north and south are further undeveloped parcels that act as an easement for Stevens Creek.

No hazardous materials are used or stored within the project boundaries.

3.9.2 Regulatory Setting

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (U.S. EPA) regulates the disposal of hazardous wastes under the Resource Conservation and Recovery Act (RCRA). The U.S. EPA maintains lists of federally regulated hazardous wastes which are generally characterized as ignitable, corrosive liquid, reactive, and toxic.

California Department of Toxic Substance Control

The California Department of Toxic Substance Control (DTSC) regulates the disposal of non-RCRA hazardous wastes in California (22 CCR §66261 et. al). California has adopted hazardous waste listings similar to the RCRA hazardous waste lists.

Waste classified as hazardous is managed for safe and protective handling for storage, transportation, treatment, and disposal.

Santa Clara County Emergency Operation Plan

The Santa Clara County Office of Emergency Services (OES) has adopted an Emergency Operations Plan (EOP), which identifies hazards, incidents, events, and emergencies believed to be important to the operational area. It is applicable to a wide variety of anticipated incident events, including wildland fires. As part of the EOP, fire agencies in the county have signed a countywide mutual aid agreement to ensure resources and personnel will be available to combat fires and other emergencies. If these resources within the county are not enough to meet the threat, fire resources from throughout California can be summoned under the State's Master Mutual Aid Agreement administered by the Cal OES. All fire agencies in Santa Clara County have signed the California Master Mutual Aid Agreement and participate in mutual aid operations as required.

3.9.3 Discussion

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The proposed project consists of the repair and replacement of existing storm drainage facilities. Project construction would involve the use of toxic and hazardous substances in the form of vehicle fuels and fluids, paints, coatings, CIPP chemicals, and other typical construction materials. The use, storage, and application of any toxic or hazardous substances would be regulated by federal, state, and local regulations. The compliance with existing hazardous materials regulations would reduce any chance of upset conditions to less than significant levels.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. The use of equipment during project construction has the potential to result in leaks of fuels, oils, and lubricants that could contaminate soil or storm water. City of Sunnyvale Heavy Equipment Operation best management practices (BMPs) for the safe use, handling, storage of materials, spill prevention and response would be implemented during project construction which would include measures such as designating specific storage areas, limiting quantities of hazardous materials stored on site, daily inspections of equipment for leaks and the on-site maintenance of adequate quantities of absorbent materials to clean up the largest foreseeable leak. With the compliance of applicable regulations and the implementation of standard construction hazardous materials BMPs, the proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving hazardous materials.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or hazardous waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. The proposed project is located approximately 550 feet to the east of Alta Vista High School, across the City boundary, in Mountain View. Mountain View High School is located adjacent to Alta Vista High School and is also within 0.25 miles of the site. There are no other schools with in a 0.25-mile radius of the project site.

There would be no hazardous emissions from project construction other than vehicle engines and portable generators which would not be significantly raised above background levels (see Section 3.3 Air Quality). Hazardous materials handled would include vehicle fuels and fluids, bonding agents, coatings, and other typical construction materials. No manufacturing or industrial uses involving hazardous materials are proposed as part of the project. With the compliance of applicable regulations and the implementation of the standard construction hazardous materials BMPs, the proposed project would not create a significant hazard to schools in the vicinity.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The Hazardous Waste and Substances Site List, also known as the Cortese List, is a planning document used by the State of California and its various local agencies including the Department of Toxic Substances Control (DTSC), to comply with CEQA requirements in providing information about the location of hazardous materials release site. Government Code Section 65962.5 requires CalEPA to develop at least annually an updated Cortese List. The proposed project site is not listed on the Cortese List pursuant to Government Code Section 65962.5 by the DTSC (DTSC, 2018). Additionally, there are no Cortese sites listed immediately adjacent to the project site. One known site is within 1,000 feet of the project, a Leaking Underground Storage Tank (LUST). The current status is 'Completed - Case Closed'. No impact would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact There are no airports within Sunnyvale, and no airports within two miles of the project site. The closest airport is Moffett Field, situated approximately 3.25 miles to the north of the project site, adjacent to the boundaries of Sunnyvale. The project site is not within its Airport Land Use Plan (ALUP) (Santa Clara County 2016). As such there would be no impact.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. Project construction would not block access to vehicles, including emergency vehicles, during construction activity and would not significantly impair or physically interfere with an adopted emergency evacuation plan. After project construction is completed, there would be no impediment to vehicular access at the intersection. Thus, the proposed project would have a less-than-significant impact to emergency plans.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No Impact. The project site is approximately 3.5 miles away from a state responsible area (SRA), and approximately 4 miles away from the nearest very high fire hazard zone (VHFHZ) (CalFire 2008), which is located at the south of the City of Cupertino, to the south of Sunnyvale. Because the site is not near to an SRA or VHFHZ, there is no impact.

3.9.4 References

CalFire 2008, Santa Clara County Very High Fire Severity Zones in LRA. Accessed February 20, 2019 at http://frap.fire.ca.gov/webdata/maps/santa_clara/fhszl_map.43.pdf.

California Department of Toxic Substances Control (DTSC). 2010. DTSC's Hazardous Waste and Substances Site List- Site Cleanup (Cortese List). Accessed March 26, 2019 at https://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm

_____2019a. *EnviroStor*. Accessed March 26, 2019 at https://www.envirostor.dtsc.ca.gov/public/.

_____2019b. *GeoTracker*. Accessed March 26, 2019 at https://geotracker.waterboards.ca.gov/.

Santa Clara County 2016. Moffett Field Airport Comprehensive Land Use Plan. Accessed March 26, 2019 at https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_NUQ_CLUP.pdf.

3.10 HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	☒
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
iv) Impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.10.1 Environmental Setting

Climate

The project is located in the City of Sunnyvale where the climate is Mediterranean, characterized by warm, dry summers and cool, wet winters. The average annual rainfall is approximately 15.7 inches of precipitation per year. Most of the precipitation occurs during the months of October through April. The average annual minimum temperature is 49 degrees and the average annual high is 70 degrees.

Local Watershed

Stevens Creek is a quasi-ephemeral stream with a 29-square mile watershed. Originating in the Santa Cruz Mountains, the stream flows into Stevens Creek Reservoir before traveling

approximately 12.5 miles to San Francisco Bay. Flows are released from Stevens Creek Reservoir during the dry season to maintain a wetted channel as far downstream as Fremont Ave, which is located approximately 0.5 mile upstream of the project site. Above the reservoir, the creek is surrounded by open space and agricultural land. In its downstream reaches, Stevens Creek is largely developed. Stevens Creek flows from south to north through the project area.

Site Drainage and Topography

The whole project site is undeveloped, entirely composed of pervious surfaces. The site slopes sharply up from the edge of Stevens Creek and rises to Highway 85 to the west, and the residential houses to the east.

The storm drain outfall proposed for repair sits at the northwest corner of an approximately 1.2-square mile catchment area associated with Stevens Creek. The catchment area is composed of 56 percent impervious surfaces and is surrounded by predominantly residential uses with some commercial land use.

3.10.2 Regulatory Setting

In addition to CEQA, other federal and state laws apply to the hydrology and water quality identified in this report. Each of these laws is identified and discussed below.

Federal Clean Water Act

The Clean Water Act (CWA) is the primary federal legislation governing water quality and forms the basis for several state and local laws throughout the nation. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Important and applicable section of the Act is:

- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), which is a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the U.S. In California, this permit program is administered by the RWQCBs, and is discussed in detail below.

National Pollutant Discharge Elimination System

The CWA has nationally regulated the discharge of pollutants to the waters of the U.S. from any point source since 1972. In 1987, amendments to the CWA added Section 402(p), which established a framework for regulating nonpoint source storm water discharges under the NPDES. The NPDES General Construction Permit requirements apply to clearing, grading, and disturbances to the ground such as excavation. Construction activities on one or more acres are subject to a series of permitting requirements contained in the NPDES General Construction Permit. This permit requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes Best Management Practices (BMPs) to be implemented during project construction. The project sponsor is also required to submit a Notice of Intent (NOI) with the State Water Resources Control Board Division of Water Quality. The NOI includes general information on the types of construction activities that would occur on the site. The project would not disturb one or more acres, and thus is not subject to the Construction General Permit.

Porter-Cologne Water Quality Control Act

The State's Porter-Cologne Water Quality Control Act, as revised in December 2007 (California Water Code Sections 13000-14290), provides for protection of the quality of all waters in the State of California for use and enjoyment by the people of California. It further provides that all activities that may affect the quality of waters of the state shall be regulated to obtain the highest water quality that is reasonable, considering all demands being made and to be made on those waters.

The Act also establishes provisions for a statewide program for the control of water quality, recognizing that waters of the state are increasingly influenced by interbasin water development projects and other statewide considerations, and that factors such as precipitation, topography, population, recreation, agriculture, industry, and economic development vary regionally within the State. The statewide program for water quality control is, therefore, administered most effectively on a local level with statewide oversight. Within this framework, the Act authorizes the State Water Resources Control Board and RWQCBs to oversee the coordination and control of water quality within California.

State Water Resources Control Board

Created by the California State Legislature in 1967, the State Water Resources Control Board holds authority over water resources allocation and water quality protection within the State. The five-member State Water Resources Control Board allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine RWQCBs. The mission of the State Water Resources Control Board is to, "preserve, enhance, and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations."

San Francisco Bay Regional Water Quality Control Board

The City of Sunnyvale is under the jurisdiction of the San Francisco Bay RWQCB. Activities that disturb one or more acres of soil (including all construction disturbance) are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling or excavation, but does not include regular maintenance activities. The Construction General Permit requires the development and implementation of a SWPPP. The SWPPP must list BMPs the discharger will use to protect storm water runoff and the placement of those BMPs. Furthermore, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.

Valley Water (formerly Santa Clara Valley Water District (SCVWD))

Valley Water is a water resources agency responsible for balancing flood protection needs with the protection of natural water courses and habitat in the Santa Clara Valley. Valley Water serves 16 cities and 1.8 million residents; providing wholesale water supply, operating three water treatment plants, and providing flood protection along the creeks and rivers within the county. Valley Water reviews plans for development projects near streams to ensure that the proposed storm drain systems and wastewater disposal systems will not adversely impact water quality in the streams. In addition, Valley Water reviews projects for conformance to Valley Water flood control design criteria, stream maintenance and protection plans, and groundwater protection programs.

On October 24, 2006, Valley Water adopted the Water Resources Protection Ordinance (Ordinance 06-1). This ordinance established the policy through which, beginning on February 28, 2007, Valley Water issues permits for modifications, entry, use, or access to Valley Water facilities or easements. This ordinance was adopted following the creation of the guidelines and standards for land use near streams by the Santa Clara Valley Water Resources Protection Collaborative (Collaborative). The Collaborative was formed in 2003 and includes Valley Water and representatives from the County of Santa Clara, the cities within the county (including the City of Sunnyvale), the Guadalupe-Coyote Resource Conservation District, the San Francisco Bay RWQCB, and representatives of various community interests.19 The Collaborative members

share the water and watershed resources protection goals of flood management, drinking water quality and adequate quantity, surface and groundwater quality and quantity, and habitat protection and enhancement throughout the county.

Santa Clara Valley Urban Runoff Pollution Prevention Program

The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) is an association of thirteen Cities and Towns in the Santa Clara Valley, together with the County of Santa Clara and Valley Water. The RWQCB has permitted Bay Area municipalities, including the member agencies of SCVURPPP, to implement storm water regulations. SCVURPPP incorporates regulatory, monitoring, and outreach measures aimed at improving the water quality of South San Francisco Bay and the streams of the Santa Clara Valley to reduce pollution in urban runoff to the "maximum extent practicable." SCVURPPP promotes storm water pollution prevention within that context.

Participating agencies (including the City of Sunnyvale) must meet the provisions of the Municipal Regional Stormwater Permit by ensuring that new development and redevelopment mitigate water quality impacts to storm water runoff both during the construction and operation of projects. In addition, other provisions of the Municipal Regional Stormwater Permit include construction site control, water quality monitoring program, pollutants of concern control programs (including litter, PCBs, mercury, pesticides, and copper), watershed management, illicit discharge detection and elimination, industrial and commercial site controls, municipal operations, and public information/participation.

The Municipal Regional Stormwater Permit also requires development of a Hydromodification Management Plan (HMP) to manage increased peak runoff flows and volumes and avoid erosion of stream channels and degradation of water quality caused by new and redevelopment projects. The permit was issued to cover "surface runoff generated from various land uses in all the hydrologic sub basins in the basin which discharge into watercourses, which in turn flow into South San Francisco Bay." Projects in susceptible areas, as defined by the HMP Applicability Map for Palo Alto, are subject to hydromodification management (HM) requirements.

3.10.3 Discussion

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. Potential water quality impacts during project construction and operation, and project compliance with applicable regulations to protect water quality, are discussed below.

Project Operation

The project would not create or replace 10,000 square feet or more of impervious surface area and thus is not subject to Provision C.3 of the Municipal Regional Permit, which requires projects to include source controls, site design measures, and treatment controls to minimize stormwater pollutant discharges (see Section 3.10.2 Regulatory Setting above). However, the project would comply with BMPs to protect stormwater required by Chapter 12.60.230 - Minimum Best Management Practices and source control measures for all dischargers of the City's Municipal Code.

The proposed project consists of the repair and replacement of existing storm drainage facilities. The project would not include a new source of water pollutants after construction. Thus, no water quality impacts are anticipated during operation of the proposed project after construction.

Project Construction

As part of the proposed project, the outfall channel area would be graded. During construction, approximately 307 CY of the hillside would be excavated. Additionally, the outfall channel banks will be graded to a 2:1 slope. Excavation of soil could lead to potential siltation in the outfall channel and Stevens Creek. Significant siltation could impact water quality.

Construction of the project may include the use of hazardous materials that are potentially harmful to water quality, such as vehicle fuels, fluids, adhesives, and other chemicals. Accidents or improper use of these materials could release contaminants to the environment. Additionally, oil and other petroleum products used to maintain and operate construction equipment could be accidentally released.

The total area that would be disturbed by the project is less than one acre, and therefore the project is not subject to the Construction General Permit and a SWPPP is not required. However, the project would comply with BMPs to protect stormwater required by Chapter 12.60.230 - Minimum Best Management Practices of the City's Municipal Code.

Standard Construction BMPs from the City would help protect water quality in the event of chemical spills. With the use of applicable BMPs, impacts would be a less than significant level.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. Water supply for the proposed project during project construction would be from local municipal sources. The proposed project consists of the repair and replacement of existing storm drainage facilities and would not use groundwater supplies. Completion of the project would allow excess stormwater to flow unimpeded into Stevens Creek and recharge groundwater basin. The project would not have an impact on groundwater supplies or groundwater recharge.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on- or off-site;

Less than Significant Impact. As part of the proposed project, the outfall channel area would be graded to plan specifications to repair existing erosion damage and restore the area to conditions found up and downstream of the Project site. After project construction is completed, erosion would be reduced, and the project would not result in substantial erosion or siltation. During construction, approximately 307 CY of the hillside would be excavated. Additionally, the outfall channel banks will be graded to a 2:1 slope. Grading of soil has the potential of siltation in the outfall channel and Stevens Creek. Standard Valley Water BMPs would keep impacts to a less than significant level.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

No Impact. There are no new impervious surfaces that would increase the rate or amount of surface runoff proposed as part of the project. The proposed project would fix the existing storm drain, allowing stormwater to drain into Stevens Creek. There would be no impact to surface runoff.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

No Impact. The existing site allows excess stormwater to drain into Stevens Creek. The proposed project would repair the existing pipe in order to restore full functionality. The project would not create or contribute to stormwater runoff, and would not change the area of stormwater captured, therefore would not provide additional sources of pollutants in water runoff. There would be no impact to additional runoff, or polluted runoff.

iv) Impede or redirect flood flows?

No Impact. The function of the site is to allow excess stormwater to drain into Stevens Creek. The repair of the existing site will not redirect or impede flood flows. The project would repair the outfall and prevent future erosion from occurring during heavy storm events.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than Significant Impact. The project site is in a Federal Emergency Management Agency (FEMA) Flood Hazard Zone A (FEMA 2019), and the City of Sunnyvale has determined the site is in a 1% Annual Chance (AC) of flood zone (City 2019).

A tsunami is a large tidal wave generated by an earthquake, landslide, or volcanic eruption. Tsunami inundation maps have been developed for the San Francisco Bay area. The project site is not within a tsunami inundation zone (California Department of Conservation 2009), and therefore, it would not be subject to flooding from a tsunami.

Seiches are waves that oscillate in enclosed water bodies, such as reservoirs, lakes, ponds, swimming pools, or semi-enclosed bodies of water, such as San Francisco Bay. Because the site is far from San Francisco Bay and there are no nearby reservoirs or lakes, it would not be subject to inundation from a seiche.

Other than during project construction, there are no pollutants stored at, or used, at the project site. Best Management Practices would be used for the storage of pollutants during project construction. There would be a less than significant impact from inundation.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. Because the proposed project would repair an existing storm drain, there would be no impact to groundwater sustainability. As stated above, ground disturbing activities are required to implement BMPs and Mitigation Measures to control sediment and erosion during construction The City has measures and policies are in place to protect water quality. The proposed project would not be a source of point pollution regulated under the CWA or the Porter-Cologne Act. Therefore, the project would not conflict or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.10.4 References

California Department of Conservation, 2009. Tsunami Inundation Map – Mountain View Quadrangle. Accessed April 4, 2019 at https://www.conservation.ca.gov/cgs/Documents/Tsunami/Maps/Tsunami_Inundation_MountainView_Quad_SantaClara.pdf.

City of Sunnyvale, 2019. Flood Zone Viewer. Accessed April 4, 2019 at http://gis.sunnyvale.ca.gov/portal/apps/webappviewer/index.html?id=422b694ef33a41138ad3305b2a65cb11.

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https://en.wikipedia.org/wiki/Stevens_Creek_(California)#:~:text=fated%20Donner%20Party).-,Watershed,Creek%20Shoreline%20Nature%20Study%20Area. Accessed 9/7/2020

3.11 LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.11.1 Environmental Setting

The project site is located on the eastern bank of Stevens Creek, along an undeveloped stretch of bank within the City of Sunnyvale, on the border of the City of Mountain View. The parcel of land is zoned as R2 - Low Medium Density Residential. The adjacent houses on Remington Court are also zoned R2. Houses to the north on Remington court are zoned R0 - Low Density Residential, and house on the east side of Remington Court are zoned R1 - Low Density Residential.

The proposed project is within the jurisdiction of several local, state, and federal agencies, including the Valley Water, California Department of Fish and Wildlife (CDFW), California Regional Water Quality Control Board (RWQCB), and U.S. Army Corps of Engineers (USACE).

3.11.2 Regulatory Setting

Valley Water (formerly Santa Clara Valley Water District) Guidelines and Standards for Land Use Near Streams. Valley Water provides guidelines and standards for work and land use in or near streams and watercourses. The following topics relevant to the proposed project are included in the manual:

- Riparian Corridor Protection
- Bank Stability/Streambed Conditions
- Encroachments between the Top of Bank
- Erosion Prevention and Repair
- Grading
- Outfalls, Pump Stations and Site Drainage
- Channelization
- Utility Encroachments
- Trail Construction
- Septic Systems
- Trash Control and Removal
- Protection of Water Quality
- Groundwater Protection
- Flood Protection

3.11.3 Discussion

Would the project:

a) Physically divide an established community?

No Impact. The project site is located on a parcel with no public access. It is fenced off behind residential housing. The project does not include any physical barriers such as roads or fences such that existing land use patterns would change resulting in a division of an established community.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact The proposed project is subject to Valley Water, CDFW, RWQCB, and USACE jurisdiction. The proposed project would follow all applicable regulations and policies as outlined by the requisite agencies. The proposed project consists of replacing existing infrastructure. There would be no conflict with a land use plan, policy, or regulation.

3.11.4 References

Santa Clara County Water District, 2006. Guidelines and Standards for Land Use Near Streams: A Manual of Tools, Standards, and Procedures to Protect Streams and Streamside Resources in Santa Clara County https://www.valleywater.org/contractors/doing-businesses-with-the-district/permits-for-working-on-district-land-or-easement/guidelines-and-standards-for-land-use-near-streams Accessed April 4, 2019.

3.12 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local -general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.12.1 Environmental Setting

The project site is an undeveloped area of land adjacent to a creek surrounded by residential and highway land uses. There are no mines or known mineral resources in the City of Sunnyvale (Santa Clara County, 1994).

3.12.2 Discussion

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact (Responses a – b). The whole of the City of Sunnyvale is classified as MRZ-1 by the California Geological Survey (CalGeo 1996 a&b). MRZ-1 is classified as an area where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence (California Department of Conservation 1999).

The project site has no potential for use in resource recovery and therefore, would have no impact on the availability of mineral resources.

3.12.3 References

California Department of Conservation, 1999. Guidelines for Classification and Designation of Mineral Lands. Accessed on February 20, 2019 at https://www.conservation.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf.

California Geological Survey, 1996a. Revised Mineral Classification Map, Plate 5. Accessed on February 20, 2019 at ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_96-03/.

_____1996b. Revised Mineral Classification Map, Plate 27. Accessed on February 20, 2019 at ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/OFR_96-03/.

Santa Clara County, 1994. General Plan Draft Environmental Impact Report. Accessed on February 20, 2019 at https://www.sccgov.org/sites/dpd/DocsForms/Documents/GP_1994_DEIR.pdf.

3.13 NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.13.1 Environmental Setting

Noise may be defined as loud, unpleasant, or unwanted sound. The frequency (pitch), amplitude (intensity or loudness), and duration of noise all contribute to the effect on a listener, or receptor, and whether the receptor perceives the noise as objectionable, disturbing, or annoying.

The Decibel Scale (dB)

The decibel scale (dB) is a unit of measurement that indicates the relative amplitude of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a tenfold increase in acoustic energy, while 20 dBs is 100 times more intense, 30 dBs is 1,000 more intense, and so on. In general, there is a relationship between the subjective noisiness, or loudness of a sound, and its amplitude, or intensity, with each 10 dB increase in sound level perceived as approximately a doubling of loudness.

Sound Characterization

There are several methods of characterizing sound. The most common method is the “A-weighted sound level,” or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is typically most sensitive. Thus, most environmental measurements are reported in dBA, meaning decibels on the A-scale.

Human hearing matches the logarithmic A-weighted scale, so that a sound of 60 dBA is perceived as twice as loud as a sound of 50 dBA. In a quiet environment, an increase of 3 dB is usually perceptible, however, in a complex noise environment such as along a busy street, a noise increase of less than 3 dB is usually not perceptible, and an increase of 5 dB is usually perceptible. Normal human speech is in the range from 50 to 65 dBA. Generally, as environmental noise exceeds 50 dBA, it becomes intrusive and above 65 dBA noise becomes excessive. Nighttime activities, including sleep, are more sensitive to noise and are considered affected over a range of 40 to 55 dBA. Table 3-3: Typical Outdoor and Indoor Noise Levels lists typical outdoor and indoor noise levels in terms of dBA.

Table 3-3: Typical Outdoor and Indoor Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	-110-	Rock Band
Jet flyover at 1,000 feet		
	-100-	
Gas lawn mower at 3 feet		
	-90-	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	-80-	Garbage disposal at 3 feet
Noise urban area, daytime		
Gas lawnmower, 100 feet	-70-	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	-60-	
		Large business office
Quiet urban daytime	-50	Dishwasher next room
Quite urban nighttime	-40-	Theater, large conference room (background)
Quiet suburban nighttime		
	-30-	Library
Quite rural nighttime		Bedroom at night
	-20-	
		Broadcast/recording studio
	-10-	
Lowest threshold of human hearing	-0-	Lowest threshold of human hearing

Source: Caltrans 2009

Sound levels are typically not steady and can vary over a short time period. The equivalent noise level (Leq) is used to represent the average character of the sound over a period of time. The Leq represents the level of steady noise that would have the same acoustical energy as the sum of the time-varying noise measured over a given time period. Leq is useful for evaluating shorter time periods over the course of a day. The most common Leq averaging period is hourly, but Leq can describe any series of noise events over a given time period.

Variable noise levels are values that are exceeded for a portion of the measured time period. Thus, L01 is the level exceeded one percent of the time and L90 is the level exceeded 90 percent of the time. The L90 value usually corresponds to the background sound level at the measurement location.

Noise exposure over the course of an entire day is described by the day/night average sound level, or Ldn, and the community noise equivalent level, or CNEL. Both descriptors represent the 24-hour noise impact on a community. For Ldn, the 24-hour day is divided into a 15-hour daytime

period (7 AM to 10 PM) and a nine-hour nighttime period (10 PM to 7 AM) and a 10 dB "penalty" is added to measure nighttime noise levels when calculating the 24-hour average noise level. For example, a 45 dBA nighttime sound level would contribute as much to the overall day-night average as a 55 dBA daytime sound level. The CNEL descriptor is similar to Ldn, except that it includes an additional 5 dBA penalty beyond the 10 dBA for sound events that occur during the evening time period (7 PM to 10 PM). The artificial penalties imposed during Ldn and CNEL calculations are intended to account for a receptor's increased sensitivity to sound levels during quieter nighttime periods.

Sound Propagation

The energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out and travels away from the noise generating source. Theoretically, the sound level of a point source attenuates, or decreases, by 6 dB with each doubling of distance from a point source. Sound levels are also affected by certain environmental factors, such as ground cover (asphalt vs. grass or trees), atmospheric absorption, and attenuation by barriers. Outdoor noise is also attenuated by the building envelope so that sound levels inside a residence are from 10 to 20 dB less than outside, depending mainly on whether windows are open for ventilation or not.

When more than one point source contributes to the sound pressure level at a receiver point, the overall sound level is determined by combining the contributions of each source. Decibels, however, are logarithmic units and cannot be directly added or subtracted together. Under the dB scale, a doubling of sound energy corresponds to a 3 dB increase in noise levels. For example, if one noise source produces a sound power level of 70 dB, two of the same sources would not produce 140 dB – rather, they would combine to produce 73 dB.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear can discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people can to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness.

Noise Effects

Noise effects on human beings are generally categorized as:

- Subjective effects of annoyance, nuisance, and/or dissatisfaction
- Interference with activities such as speech, sleep, learning, or relaxing
- Physiological effects such as startling and hearing loss

Most environmental noise levels produce subjective or interference effects; physiological effects are usually limited to high noise environments such as industrial manufacturing facilities or airports.

Predicting the subjective and interference effects of noise is difficult due to the wide variation in individual thresholds of annoyance and past experiences with noise; however, an accepted method to determine a person's subjective reaction to a new noise source is to compare it to the existing environment without the noise source, or the "ambient" noise environment. In general, the more a new noise source exceeds the ambient noise level, the more likely it is to be considered annoying and to disturb normal activities.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness that would almost certainly cause an adverse response from community noise receptors.

Existing Noise Environment

According to the City's General Plan, noise is a significant and inherent part of Sunnyvale's environment. The noise environment is a result of historical land use decisions, competing regional and community goals, geographic factors and limited local controls. The project site is located at the bottom of the steep banks of Stevens Creek, approximately 37 feet from the top of the creek bank. The primary source of noise is from traffic on State Route 85, approximately 150 feet west of the site, and approximately 180 feet from the residential homes on Remington Court. A study by the California Department of Transportation (CalTrans) placed a long-term noise monitor in the rear yard of 1105 Remington Court both directly adjacent, as well as the nearest house, to the project site. The loudest hour noise levels over the two-day measuring period ranged from 62 to 63 dBA (CalTrans.2012).

Sensitive Receptors

Noise sensitive receptors are areas where unwanted sound or increases in sound may have an adverse effect on people or land uses. Residential areas, hospitals, schools, and parks are examples of noise receptors that could be sensitive to changes in existing environmental noise levels. The closest noise sensitive receptors in proximity to the project site include the single-family residential homes immediately east of the site on Remington Court, which are approximately 50 feet east of where construction activities would be undertaken, and approximately 25 feet from the proposed staging area.

3.13.2 Regulatory Setting

Sunnyvale Municipal Code 19.42.030.

Relevant parts of the Sunnyvale Municipal Code Section 19.42.030 states:

(b) Powered equipment used on a temporary, occasional or infrequent basis which produces a noise greater than the applicable operational noise limit set forth in subsection (a) shall be used only during daytime hours when used adjacent to a property with a residential zoning district. Powered equipment used on other than a temporary, occasional or infrequent basis shall comply with the operational noise requirements. For the purpose of this section, powered equipment does not include leaf blowers. Construction activity regulated by Title 16 of this code shall not be governed by this section.

Sunnyvale Municipal Code 19.42.030.

The City of Sunnyvale Municipal Code Section 19.42.030 limits construction activities to following hours:

- Monday through Friday: 7:00 AM to 6:00 PM
- Saturday: 8:00 AM to 5:00 PM
- Sunday and Holidays: No construction

3.13.3 Discussion

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Less than Significant Impact The project is approximately 150 feet from State Route 85, which is the primary source of noise for sensitive receptors in the vicinity. Sunnyvale General Plan (City of Sunnyvale,2017), lists freeway noise at 100 feet as being 80 decibels. A study by CalTrans placed a long-term noise monitor in the rear yard of 1105 Remington Court both directly adjacent, as well as the nearest house, to the project site. The worst hour noise levels over the two-day measuring period ranged from 62 to 63 dBA (CalTrans.2012).

Project construction and development would temporarily increase noise levels at residences surrounding the site and along roadways used to access the site. The noise would occur mainly from equipment operations such as a wood chipper, a long-reach and a short-reach excavator, dump trucks, plate compactors, and a skid loader or small bulldozer. Equipment would generally be used at a distance of approximately 50' from the nearest residential property. Typical equipment noise levels are presented below in Table 3-4.

Table 3-4: Typical Construction Equipment Noise Levels

Equipment	Noise Level at 50 feet (Lmax)(A)	Percent Usage Factor(B)	Predicted Equipment Noise Levels (Leq)(C)					
			50 Feet	100 Feet	150 Feet	200 Feet	250 Feet	300 Feet
Backhoe	80	40	76	70	66	64	62	60
Bulldozer	85	40	81	75	71	69	67	65
Crane	85	16	77	71	67	65	63	61
Excavator	85	40	81	75	71	69	67	65
Pneumatic tools	85	50	82	76	72	70	68	66
Delivery Truck	85	40	81	75	71	69	67	65
Vibratory Roller	80	20	73	67	63	61	59	57

Sources: Caltrans, 2009; FHWA, 2010.

(A) L_{max} noise levels based on manufacturer's specifications.

(B) Usage factor refers to the amount (percent) of time the equipment produces noise over the time period

(C) Estimate does not account for any atmospheric or ground attenuation factors. Calculated noise levels based on Caltrans, 2009: L_{eq} (hourly) = L_{max} at 50 feet – 20log (D/50) + 10log (UF), where: L_{max} = reference L_{max} from manufacturer or other source; D = distance of interest; UF = usage fraction or fraction of time period of interest equipment is in use.

As indicated in Table 3-4, the worst case Leq and Lmax construction equipment noise levels associated with the project are predicted to be approximately 82 and 85 dBA, respectively, at 50 feet. When two or more pieces of equipment (e.g., two excavators and a bulldozer) are operating in close proximity, construction noise levels could be approximately 85 dBA Leq and 90 dBA Lmax. These are considered to be worst-case noise levels, as the actual magnitude of the project's temporary and periodic increase in ambient noise levels would depend on the nature of the construction activity (i.e., excavating, bulldozing, etc.) and the distance between the construction activity and sensitive receptor areas.

As described in Section 3.13.1, long-term noise monitoring conducted by Caltrans at residences adjacent to the project site showed that daytime noise levels in the project vicinity generally range

from approximately 62 to 63 dBA. Under a worst-case scenario, where three pieces of equipment could be operating approximately 50 feet from the nearest residential receptor, noise levels could approach approximately 85 dBA. This increase, which would be approximately 22 to 23 dBA above the ambient noise level, is not considered significant for the following reasons.

1) Construction noise levels would be intermittent, occurring only when equipment is in operation (between the hours of 7:00 AM to 6:00 PM on Monday through Friday, and 8:00 AM to 5:00 PM on Saturday).
2) The noise generated from project construction would be temporary (construction would last approximately 4 months) and would not produce the same sound levels every day.
3) Noise levels are likely to be far less than 80 dBA, due to site constraints for equipment access, and other areas of the site the equipment would operate, further from sensitive receptor locations and below the top of the creek bank which would shield the Remington Court residences from some of the construction noise generated at the bottom of the outfall channel.

In addition, construction noise would not be in of excess of standards established by the City of Sunnyvale, since Municipal Code Section 19.42.030 exempts noise generated by construction as long as the construction complies with Title 16 of the Municipal Code, which the project does. Furthermore, the proposed project does not have an operational component. Therefore, the project would not conflict with any City standards, nor would it permanently increase noise levels in the vicinity of the project. This impact would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Vibration is the movement of particles within a medium or object such as the ground or a building. As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared, in inches per second (in/sec). PPV represents the maximum instantaneous positive or negative peak of a vibration signal and is most appropriate for evaluating the potential for building damage. Human response to groundborne vibration is subjective and varies from person to person. The Caltrans *Transportation and Construction Vibration Guidance Manual* provides a summary of vibration criteria that have been reported by researchers, organizations, and governmental agencies (Caltrans, 2013). Chapters six and seven of this manual summarize vibration detection and annoyance criteria from various agencies and provide Caltrans' recommended guidelines and thresholds for evaluating potential vibration impacts on buildings and humans from transportation and construction projects. These thresholds are summarized in Table 3-5 and Table 3-6.

Table 3-5: Caltrans' Vibration Threshold Criteria for Building Damage

Structural Integrity	Maximum PPV (in/sec)	
	Transient	Continuous
Extremely fragile buildings, ruins, monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some older buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial and commercial structures	2.00	0.50
Source: Caltrans, 2013		

Table 3-6: Caltrans' Vibration Threshold Criteria for Human Response

Human Response	Maximum PPV (in/sec)	
	Transient	Continuous
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.90	0.10
Severely perceptible	2.00	0.40
Source: Caltrans, 2013		

The types of equipment that would be used are a woodchipper, a long-reach and a short-reach excavator, dump trucks, plate compactors, and a skid loader or small bulldozer.

Table 3-7 lists the estimated vibratory motion for the type of equipment which is considered similar in vibration that would be used for project construction. Estimates are provided for a reference distance of 25 feet, and 50 feet, which is the approximate distance between the nearest construction area that would involve earth moving and the closest residential structure on Remington Court. The vibration generated during operation a bulldozer is similar to an excavator.

Table 3-7: Groundborne Vibration Estimates

Equipment	Reference PPV at 25 feet (inches/second)	Reference Lv at 25 feet (dBV)	Estimated PPV at 50 feet (inches/second)	Estimated Lv at 50 feet (dBV)
Vibratory roller	0.21	94.0	0.098	85.0
Large bulldozer	0.089	87.0	0.042	78.0
Small bulldozer	0.003	58.0	0.014	49.0
Loaded truck	0.076	86.0	0.035	77.0
Jackhammer	0.035	79.0	0.016	70.0
Source: Caltrans, 2013, FTA, 2006. Notes: Estimated PPV calculated as: PPV(D)= PPVref*(25/D)^1.1 where PPV(D)= Estimated PPV @ Distance, PPVref=Reference PPV @ 25 feet, D=Distance from equipment to receiver, and 1.1=ground attenuation rate Estimated Lv calculated as: Lv(D)=Lv(25 feet)-30log(D/25) where Lv(D)=velocity level in decibels, and v=RMS velocity amplitude @ 25 feet				

The operation of vibration producing equipment would occur intermittently during daytime hours. Construction activities would generally be limited to grading banks, moving of spoil, moving the outfall pipe liner, compaction of soil and other similar activities. The most comparable level of vibration associated with these activities is best reflected by the operation of a large bulldozer at a distance of 50 feet (0.042 PPV), which based on the criteria for transient vibration presented in Table 3-7, would be barely perceptible.

Although some vibration associated with construction activities may be felt by the residences on Remington Court, it is not considered significant because it would be intermittent (occurring only when equipment was in operation), infrequent (equipment would not operate every day), and at no time would vibration from project construction damage buildings or structures. This impact would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact There are no airports within Sunnyvale, and no airports within two miles of the project site. The closest airport is Moffett Field, situated approximately 3.25 miles to the north of the project site, adjacent to the boundaries of Sunnyvale. The project site is not within its Airport Land Use Plan (ALUP) (Santa Clara County 2016). As such, there would be no impact.

3.13.4 References

California Department of Transportation (Caltrans). 2009. *Technical Noise Supplement*. Prepared by ICF Jones and Stokes for Caltrans Division of Environmental Analysis. Sacramento, CA. November 2009.

_____2012. Noise Study Report, State Route 85 Express Lanes Project. Accessed on February 21, 2019 at http://www.dot.ca.gov/dist4/documents/85ExpressLanesProject/ea_4a7900_sr_85_el_noise_study_report.pdf.

_____2013. *Transportation and Construction Vibration Guidance Manual*. Prepared by the California Department of Transportation: Division of Environmental Analysis Environmental Engineering – Hazardous Waste, Air, Noise, Paleontology Office. Report No. CT-HWANP-RT-13-069.25.3. Sacramento, CA. September 2013.

City of Sunnyvale, 2017. General Plan, Safety and Noise Element. Accessed on February 21, 2019 at https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?blobid=23733.

Santa Clara County 2016. Moffett Field Airport Comprehensive Land Use Plan. Accessed February 21, 2019 at https://www.sccgov.org/sites/dpd/DocsForms/Documents/ALUC_NUQ_CLUP.pdf.

U.S. Federal Highway Administration (FHWA) 2010. "Construction Noise Handbook, Chapter 9 Construction Equipment Noise Levels and Ranges." *U.S. Department of Transportation FHWA*. August 24, 2017. Accessed April 1, 2018 at: http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm.

U.S. Federal Transit Administration (FTA) 2006. *Transit Noise and Vibration Assessment*. FTA-VA-90-1003-06. Washington, DC. May 2006.

3.14 POPULATION AND HOUSING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce a substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Environmental Setting

The City of Sunnyvale's estimated population was 140,060 in 2010, and in 2017 had an estimated population of 153,656 (US Census Bureau, 2018).

3.14.2 Discussion

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. (Responses a – b). The proposed project would not remove any existing housing, nor would it displace any people necessitating the construction of replacement housing elsewhere. No impact would occur.

3.14.3 References

US Census Bureau, 2018. City of Sunnyvale. Accessed on February 20, 2019 at https://www.census.gov/quickfacts/sunnyvalecitycalifornia.

3.15 PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) 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:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

3.15.1 Environmental Setting

Fire and police protection in addition to emergency medical services are all provided by the Sunnyvale Department of Public Safety, located at 700 All America Way. The department is a fully integrated police, fire, and emergency medical service provider of safety and services to the City within a single department. The Sunnyvale Department of Public Safety is the largest fully integrated department in the country (City of Sunnyvale, 2019a).

The nearest fire station is Fire Station 3, located at 910 Ticonderoga Drive, approximately 0.7 miles northwest of the site (Google Earth Pro 2019).

The project site is in the Fremont Union High School District, and the Sunnyvale Elementary School District. The closest schools to the site within the City are Sunnyvale Middle School (6-8), approximately 0.5 mile east of the site; Cherry Chase Elementary (K-5), approximately 0.5 miles northeast of the site; and Stratford Preschool and Elementary School (a private school, not part of a school district, grades: pre-K-5), approximately 0.45 mile east of the site (School District Finder 2019). Alta Vista High School is approximately 550 feet to the west of the site, in Mountainview, and Mountain View High School is located approximately 0.25 miles east of the site.

The nearest parks to the project site include: De Anza Park, approximately 0.4 miles to the east of the site; and Mango Park, approximately 0.45 miles to the east (Google Earth Pro 2019).

Other public services in the City of Sunnyvale includes Adult Community Centers, the Sunnyvale Public Library, and a Theatre and Performing Arts Center (City of Sunnyvale 2019b).

3.15.2 Discussion

Would the project:

a) 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:

i) Fire protection?

ii) Police?

iii) Schools?

iv) Parks?

v) Other public facilities?

No Impact. The proposed project consists of the repair and replacement of existing storm drainage facilities. The project does not include new homes, or businesses, and would not cause population or employment growth in the project area. Therefore, the project would not increase demand for fire protection or police protection, increase enrollment at local schools, or increase the use of local parks or other public facilities. Therefore, the project would not impact public services.

3.15.3 References

City of Sunnyvale 2019a. Public Safety. Accessed on February 20, 2019 at https://sunnyvale.ca.gov/government/safety/default.htm.

_____2019b. Recreation. Accessed on February 20, 2019 at https://sunnyvale.ca.gov/community/default.htm.

Google Earth Pro, 2019. Accessed on February 20, 2019.

School District Finder 2019. School Districts. Accessed on February 20, 2019 at https://schooldistrictfinder.com/.

3.16 RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 Environmental Setting

Sunnyvale's park system includes 772 acres of parks and open space located in neighborhoods throughout the City. Many parks include picnic areas, playgrounds and sports fields or other facilities (City of Sunnyvale 2019).

The nearest parks to the project site include: De Anza Park, approximately 0.4 miles to the east of the site; and Mango Park, approximately 0.45 miles to the east (Google Earth Pro 2019).

3.16.2 Discussion

Would the project:

a) Increase the use of existing neighborhood or regional parks or other recreational facilities such that significant physical deterioration of the facility would occur or be accelerated?

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. (Responses a – b). The proposed project consists of the repair and replacement of existing storm drainage facilities. The project does not include new homes or businesses and would not cause an increase in the use of neighborhood parks or recreational facilities, nor would it include or require the construction of recreational facilities. Therefore, the project would not impact recreation.

3.16.3 References

City of Sunnyvale 2019. Parks. Accessed on February 20, 2019 at https://sunnyvale.ca.gov/community/parks/default.htm.

Google Earth Pro, 2019. Accessed on February 20, 2019.

3.17 TRANSPORTATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☐	☒

3.17.1 Environmental Setting

The project site entrance gate is located off Remington Court in Sunnyvale. Remington Court is a minor two-lane residential road with no through access, situated at the intersection of West Remington Drive and Robin Way. Near the project site, Remington Court is approximately 30 feet wide and allows for parallel parking on the west side of the road for most of its length. There is also bay parking on the east side of the road. Sidewalks are present on both sides of the road. There is a turnabout at the terminus of Remington Court.

Existing traffic on Remington Court consists of residents who live on the road, and City employees and contractors performing checks on the existing storm water drainage. The traffic to the project site occurs during working hours and is minimal.

3.17.2 Regulatory Setting

Sunnyvale Municipal Code 16.08.030.

Relevant parts of the Sunnyvale municipal code state that:

Construction activity shall be permitted between the hours of seven a.m. and six p.m. daily Monday through Friday. Saturday hours of operation shall be between eight a.m. and five p.m. There shall be no construction activity on Sunday or federal holidays when city offices are closed.

No loud environmentally disruptive noises, such as air compressors without mufflers, continuously running motors or generators, loud playing musical instruments, radios, etc., will be allowed where such noises may be a nuisance to adjacent residential neighborhoods.

3.17.3 Discussion

Would the project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less Than Significant Impact. The proposed project consists of the repair and replacement of existing storm drainage facilities. As such, the proposed project would not generate a permanent increase in traffic on the local or regional road network and would therefore not conflict with any plan, ordinance, or policy establishing performance standards for transportation and circulation system.

Project construction would add temporary vehicle trips to Remington Court from construction crews, and delivery of equipment and materials. Anticipated heavy equipment includes a wood chipper, a long-reach and a short-reach excavator, at least two dump trucks, plate compactors, and a skid loader or small bulldozer.

Project construction-related vehicle trips would be temporary and intermittent, occurring throughout the day, but also during the AM (7 AM – 9 AM) and PM (4 PM – 6 PM) peak hour time periods.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?

Less Than Significant Impact. The project would not generate new permanent traffic on the local or regional road network as there are no on-site employees associated with tank operations. Operational traffic related to the repaired storm drain would be associated with maintenance and would not change significantly from existing maintenance activities at the site. The site does not provide housing or employees, nor would maintenance activities significantly change vehicle miles traveled. Therefore, the impact is considered less than significant.

c) 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. The proposed project would involve the repair and replacement of existing storm drainage facilities. Access to the site is located off a quiet residential road with no through access. The only non-construction traffic would be residents on Remington Court and associated deliveries, and residential repair workers. Robin Way is a quiet residential street, and the intersection is not anticipated to be dangerous.

d) Result in inadequate emergency access?

No Impact. The project will not change existing access to the site or the surrounding areas.

3.18 TRIBAL CULTURAL RESOURCES

	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 resources, 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:				
i) 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)?	☐	☐	☒	☐
ii) 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.	☐	☐	☒	☐

3.18.1 Environmental Setting

The land surrounding the project site is in the traditional territory of the Ohlone (or Costanoans as they were known by the Spanish) Native American Tribe. The Ohlone lived in tribelets or nations that were dialect distinct from each other, autonomous, and territorially separated from each other. Each tribelet consisted of one or more permanent villages, with various seasonal temporary encampments located throughout their territory for the gathering of raw material resources, hunting and fishing. The Ohlone lived in extended family units in domed dwellings constructed from tule, grass, wild alfalfa, and ferns. The subsistence practices included the consumption of plant resources such acorns, buckeyes, and seeds that were supplemented with the hunting of elk, deer, grizzly bear, mountain lions, sea lions, whales, and waterfowl. The Costanoan peoples practiced controlled burning on an annual basis throughout their territory as a form of land management to insure plant and animal yields for the coming year (Levy, 1987).

The first Europeans to reach the San Francisco area were Spanish explorers in 1769 as part of the Portolá expedition. In 1774, the de Anza expedition had set out to convert the Native American tribes to Christianity, resulting in the establishment of (among others) Mission San Francisco de Asis (Mission Dolores) (founded in 1776), Mission Santa Clara de Asis (founded in 1777) and Mission San José (founded in 1779). The El Camino Real (which runs through Sunnyvale) became a heavily traveled route between the 21 California Missions. This route led to the establishment of inns and roadhouses to serve travelers along the way. In this historic period, the Ohlone people were subjugated and absorbed into the mission system for compulsory baptism

and conversion to Christianity that resulted in the loss of their freedom of movement, their culture, and customs.

In 1844, a land grant was given to Lupe Yñigo, one of the few Native Americans to hold land grants. His land grant was first called Rancho Posolmi, named in honor of Posolmi village of the Ohlone that once stood in the area. Rancho Posolmi was later known as Rancho Ynigo.

3.18.2 Regulatory Setting

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

Native American Heritage Commission, Public Resources Code Sections 5097.9 – 5097.991

Section 5097.91 of the Public Resources Code (PRC) established the Native American Heritage Commission (NAHC), whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Under Section 5097.9 of the PRC, a state policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites or sacred shrines located on public property. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner. Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

California Native American Graves Protection and Repatriation Act of 2001

Codified in the California Health and Safety Code Sections 8010–8030, the California Native American Graves Protection Act (NAGPRA) is consistent with the federal NAGPRA. Intended to "provide a seamless and consistent state policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect," the California NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this process. The act also provides a process for non–federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

Assembly Bill 52

Assembly Bill (AB) 52 specifies that a project that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment. AB 52 requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requests in writing to the lead agency, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project.

No Native American tribes contacted the City under AB52, and thus AB52 consultation was not required as part of the project.

3.18.3 Discussion

Would the project:

a) Cause a substantial adverse change in the significance of a tribal cultural resources, 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:

i) 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)?

ii) 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?

a) Less Than Significant. There are no known archaeological resources, as identified in the CHRIS search from the NWIC, at the project site, or within the Study Area. A previous archaeological survey along Stevens Creek, conducted by Holman and Associates in 1978, passed through the majority of the project site. No resources were identified within the section of Stevens Creek that forms the project site and study area during the survey.

The proposed project would consist of excavation beyond the artificially placed riprap and likely beyond prior depths of disturbance. The proposed project is therefore likely to encounter previously undisturbed, native, soils. Native American resources, including burials, are known to occur within creeks in the Bay Area. Although no known resources are within the project site or study area, there is potential for the discovery Native American archaeological resources during project excavation. Implementations of best management practices (BMPs) as described in the Project Description will safeguard TCRs in the event that they are discovered during excavation. As archaeological artifacts or sites may not meet the criteria for being a “unique archaeological resource” and therefore not considered significant under CEQA, it is possible for a lead agency to determine that an artifact is considered significant to a local tribe, and thus considered a significant resource under CEQA. Thus, the BMPs include language that all Native American tribal finds are to be considered significant until the lead agency has enough evidence to make a determination of significance.

With the implementation of BMPs, impacts are kept at a less than significant level.

3.18.4 References

NWIC, 2019. Report number 18-1218. Unpublished confidential report containing search results from site specific survey. Kept on file at NWIC and with MIG. Inc.

3.19 UTILITIES AND SERVICE SYSTEMS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Environmental Setting

There is no potable water, or electric, gas and telecommunications services at the site, nor does the site produce wastewater or solid waste during normal operations. Solid waste (other than construction and demolition debris) is not anticipated to be produced during project construction.

The storm drain outfall is located at the northwest corner of an approximately 1.2-square mile catchment area associated with Stevens Creek.

There are a number of landfills available for construction and demolition debris, although it is not known which landfill will be used. However, the nearest Landfill in Santa Clara County is the Zanker Road Landfill, 7.85 miles to the north east of the site. This is a Class III landfill and a major full service, resource management, composting and recycling facility and landfill. The Zanker Facilities also include demolition debris recycling, and concrete recycling.

The next nearest to the site is the Newby Island Landfill, 9.7 miles to the north east of the site. This is one of the largest active landfills on the shores of the San Francisco Bay. It is the terminus for waste from San Jose, Milpitas, and other cities. The 342-acre site is 30 feet from its permitted height of 120 feet and has decades to go before it is scheduled to close (Center for Land Use Interpretation 2019).

3.19.2 Regulatory Setting

County of Santa Clara Department of Environmental Health. The Hazardous Materials Compliance Division of the County of Santa Clara Department of Environmental Health is the State-certified Local Enforcement Agency (LEA) for solid waste in Santa Clara County. The LEA regulates all facilities and operations for the collection, handling, transportation, storage, and disposal of solid waste, including construction and demolition debris, in the County.

3.19.3 Discussion

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?

No Impact. The proposed project consists of the repair and replacement of existing storm drainage facilities. Thus, there are no new or expanded water, wastewater treatment, electric power, natural gas, or telecommunication facilities included as part of the project. The existing stormwater drainage would be replaced and repaired in place and would not be increased in size or relocated. Therefore, the project would have no impact.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. (Responses b - c). No additional water supply is needed for the project. Water demand by construction workers and construction uses would be negligible. Operation of the proposed project would not result in any permanent increase in water demand.

During project construction, portable toilets would be provided by the contractor which would be processed at a local facility, in accordance with State and local regulations. The wastewater created from portable toilets used during project constriction is also negligible

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e) Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. (Responses d - e). Construction debris would be minimal as much of the existing facilities will be kept in place. Broken concrete and damaged infrastructure would be removed and properly disposed of in accordance with all applicable regulations at a landfill with construction debris recycling facilities to ensure that solid waste is kept to a minimum.

3.19.4 References

Center for Land Use Interpretation, 2019. Newby Island Landfill, California. Accessed on January 30, 2019. http://clui.org/ludb/site/newby-island-landfill

3.20 WILDFIRE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Is the project located near state responsibility areas or lands classified as very high fire hazard severity zones?	☐ Yes		☒ No	
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 Environmental Setting

The project site is situated within the incorporated City of Sunnyvale, roughly adjacent to the City of Mountain View. Sunnyvale is a heavily urbanized city, in a large sprawl of other cities that make up the region generally known as Silicon Valley.

3.20.2 Discussion

Would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The project site is approximately 3.5 miles away from a state responsible area (SRA), and approximately 4 miles away from the nearest very high fire hazard zone (VHFHZ) (CalFire 2008), which is located at the south of the City of Cupertino, to the south of Sunnyvale. Because the site is not near to an SRA or VHFHZ, there is no impact.

3.20.3 References

CalFire 2008, Santa Clara County Very High Fire Severity Zones in LRA. http://frap.fire.ca.gov/webdata/maps/santa_clara/fhszl_map.43.pdf Accessed on February 20, 2019.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the efforts of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.21.1 Discussion

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation. The proposed project would not 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. Mitigation Measures BIO-1 would prevent impacts to special status species, sensitive natural communities, and wetlands with the introduction of AMMs.

Construction of the proposed project would generate criteria air pollutant emissions from fuel combustion in heavy-duty construction equipment, motor vehicles, and area sources such as landscaping equipment, etc. Mitigation measure AIR-1 has been incorporated into the project to reduce these impacts to less than significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the efforts of past

projects, the effects of other current projects, and the effects of probable future projects)?

Less Than Significant. The proposed project would consist of the repair of an existing storm drain outfall. The project would generate limited project specific impacts, but they would not be cumulatively considerable. This impact would be less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant with Mitigation. Project construction could result in adverse short-term construction impacts. The project would have potentially significant impacts on biological resources, and air quality. Mitigation measures have been identified and included in the project to reduce these impacts to less-than-significant levels. The project would have a less than significant impact on all other resource areas

Chapter 4. List of Preparers

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Rehabilitation of Storm Drain Outfall at Remington Court Project
(UY-17-01)

Appendices for the Initial Study / Mitigated Negative Declaration

City of Sunnyvale

Department of Public Works

456 W. Olive Avenue, Sunnyvale, CA 94086

October 2020

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Appendix A: Basis of Design Report

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REMINGTON DRIVE OUTFALL REPAIRS
Basis of Design Report

City of Sunnyvale, California

January 28, 2018

Prepared for:
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650 West Olive Avenue
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APPENDICES

A. Introduction

The City of Sunnyvale (City) has retained BKF Engineers (BKF) to review the condition of a 60-inch storm drain (Outfall) that currently discharges to Stevens Creek (Creek) at the end of West Remington Drive, and to evaluate rehabilitation alternatives and to prepare construction documents for the preferred alternative.

The Outfall, which was built in 1957, serves a large portion of urban drainage area and is in disrepair. The Outfall is made up of roughly 40-feet of 60-inch Corrugated Metal Pipe (CMP) that daylights into a low-flow channel connected to the Creek. Recent inspections conducted by the City staff has shown that the Outfall pipe has deteriorated and a small portion at the end of the pipe has fallen into the low-flow channel. The portion of the pipe that fell into the low flow channel includes an iron flap gate and two short pipe segments used to connect the flap gate to the rest of the pipe that is currently intact. The pipe that is currently intact extends 40-feet into the existing embankment slope to the last manhole on top of the slope. The project is a result of those field observations. Refer to Figure 1 for project location.

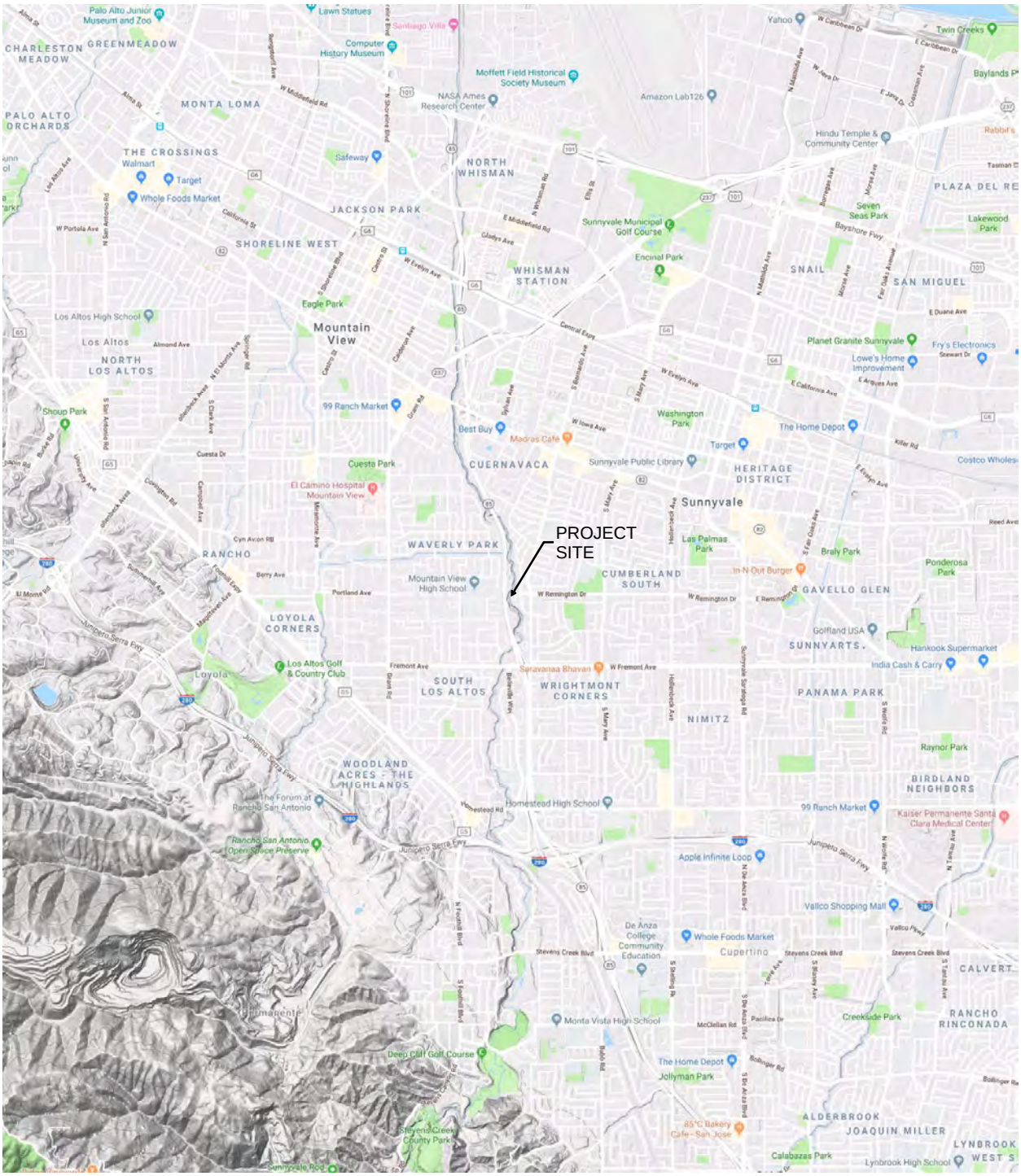
The purpose of this report is to document,

a) The condition and the capacity of the existing 60-inch storm drain outfall,
b) The evaluation of improvement alternatives to protect the embankment slope while minimizing impacts to the natural habitat, and
c) The recommendations to rehabilitate the 60-inch pipe and to protect the downstream low-flow channel.

B. Background

The Outfall is located on Stevens Creek which is considered environmentally sensitive as it provides habitat for federally listed threatened species. The Santa Clara Valley Water District (District) is responsible for maintaining and preserving the natural state of the Creek and the City is responsible for maintaining the storm drainage system that falls within City's jurisdiction. Even though the Outfall is located within the District's maintenance authority, the City is responsible for the storm drain system up to its terminus and for repairing any damage caused by their drainage system because the pipes carry runoff generated from City's jurisdiction. The City jurisdictional boundary generally follows the Creek thalweg.

Figure 1 – Vicinity Map



C. Existing Conditions Evaluation

The Outfall is currently situated on the eastern bank of Stevens Creek and the top of the bank is roughly 37-feet above the Creek flow line. The upper portion of the eastern bank, where the Outfall currently daylights, is roughly 25-feet tall and 42-feet wide (i.e., a slope of 1.7 horizontal to 1 vertical). The lower portion of the bank is made up of a gently sloping 50-foot wide terrace area that transitions into a steep sloped bank as it approaches the Creek flow line. The low-flow channel to which the Outfall discharges cuts the gently sloping terrace area and it appears that the low-flow channel has deepened over the past 60-years due to lack of proper erosion protection.

The existing Outfall improvements include, a) a 60-inch CMP pipe buried in the upper portion of the eastern bank slope, b) a manhole on top of the eastern bank where the 60-inch CMP pipe begins and a 60-inch reinforced concrete pipe ends, c) an iron flap gate attachment where the 60-inch pipe ends and daylights, d) cement sack bags around the pipe where the pipe daylights, and, e) a low-flow channel with broken concrete and rubble downstream of the pipe discharge. The design team conducted multiple site visits to evaluate the Outfall and the surrounding site conditions. The following presents our findings.

A) 60-inch Outfall Pipe

The 60-inch Outfall pipe has three broken end section pieces in addition to the detached flap gate. All three pieces lay on top of the concrete debris at the bottom of the low-flow channel. One of the pieces is a coupling that was used to attach the last section of the pipe with the flap gate to the other collapsed pipe section. The last section of the collapsed pipe still has the iron flap still attached to it. The two collapsed pipe sections have endured significant corrosion of the pipe invert to the extent that perforations were visible. Refer to Figure 2 below showing the collapsed pipe sections.

Figure 2 – Collapsed Pipe Sections

During our site visits, we also surveyed the inside section of the buried 60-inch pipe to observe structural deficiencies. We noticed that the asphalt lining used to extend the life of the CMP pipe had some minor deterioration which included alligator cracking and spalling. The 60-inch pipe was also observed to be slightly oblique along its interior with the lateral diameter slightly larger than the vertical diameter. At the discharge point, a more uniform but obscured diameter was noted. Our tape measurements show the height of the pipe to range between 4.2-feet to 5-feet and the horizontal diameter to range between 4.4-feet to 5.5-feet. We also noticed that the pipe was mostly clear from rock and debris deposits which suggest that the Outfall pipe is not subjected to debris entering from the Creek during high-flow and that the velocity in the pipe is sufficiently large for it to be considered self-cleaning. Refer to the Figure 3 for inside view of the 60-inch CMP pipe.

Figure 3 – Inside View of 60-inch CMP Pipe

B) Manhole

As noted previously, there is a manhole on top of the bank where the 60-inch reinforced concrete pipe from West Remington Drive ends and the 60-inch CMP Outfall pipe begins. The manhole was not readily visible during our site visits as it was fully covered with dirt. Upon clearing the dirt, we noticed a large tree root from an adjacent 34-inch Coast Live Oak tree covering a significant portion of the manhole and therefore was not accessible. However, during our survey of the inside of the Outfall pipe, we were able to access the manhole and noticed a High-density Polyethylene (HDPE) pipe entering the manhole close to the rim as seen in the photo below. Based on our review of the as-built plans, the alignment of the HDPE correlates to the alignment of the storm drain pipe that is shown to be connected to the two existing catch-basins in

Remington Court and one catch-basin in the area behind the fence. However, we were unable to locate the catch-basin within the fenced area. The as-built also notes that the pipe is an existing 15-inch CMP and not a HDPE as observed in the field. So, it is likely that the existing pipe and catch-basin was replaced with an HDPE pipe.

Figure 4 – Inside View and Surface View of Manhole

C) Iron Flap Gate

The iron flap gate attached to the end piece of the pipe is heavy and is one of the reasons for the collapse of the 60-inch Outfall pipe end sections.

D) Cement Sacks

The as-built plan shows cement sack bags around the pipe and for the entire length of the low-flow channel. However, we did not notice any cement sack bags within the low-flow channel except near the collapsed pipe section. It is likely that the lack of proper erosion protection at the discharge point may have accelerated the undermining of the pipe bedding and foundation and as a result the pipe has collapsed under the weight of the flap gate. During our site visits, we also noticed a 4-foot deep scour at the discharge point and that the undermining of pipe bedding extended back roughly 10 feet into the bank beneath the Outfall pipe.

We also noticed that the backfill on the sides of the Outfall pipe consisted of a combination of soil and dislodged cement sack bags. The backfill and cement sacks were loose and unstable over an area extending roughly 15 feet upslope of the discharge and about 10 to 15 feet from the sides of the Outfall discharge.

E) Low-Flow Channel

The predominant feature at the site is the low-flow channel that extends through the terrace area to the bottom of the Creek. The low-flow channel has a width of about 15- to 30-feet, a depth of up to about 8-feet, and a length of about 50-feet. The bottom of the low-flow channel is covered mostly with randomly-placed concrete debris estimated to be on the order of about 2- to 3-feet thick. Some of the debris reaches up to 8-feet in length, and we did not observe any type of filter material beneath the concrete debris. The south bank of the low-flow channel is about 6- to 8-feet in height and nearly vertical. It exposes mostly dense to very dense cobble-gravel-sand mixture with little fines with relatively thin clayey sand with gravel present on the top of the wall. The north bank of the low-flow channel has gentle gradient and covered with debris and vegetation.

Figure 5 – Low-Flow Channel Looking Downstream

During the site visits, we also noticed a 12-inch concrete encased metal pipe entering from the north bank of the low-flow channel just downstream of the Outfall. We believe that this pipe may be abandoned as we did not see any drain inlets on top of the bank in the area behind the fence that may be connected to it. We also observed similar pieces of concrete encased pipe laying in other areas near the Creek flow line. So, it is likely that this is also a broken piece buried into the slope. Further investigation is needed to confirm that the pipe is abandoned.

Figure 6 – 12-inch Concrete Encased Pipe

D. Hydraulic Capacity

The hydraulic capacity of the Outfall pipe and the storm drain system upstream of it was evaluated as part of the 2015 Wastewater Collection System Master Plan (Master Plan). The Master Plan identified the storm drain system feeding the Outfall as "Line 19". The Master Plan analyses show that the upstream storm drain system that feeds into the 60-inch CMP is undersized for a 10-year design storm. The analyses show that all of the flooding associated with undersized storm drain system occurs south of West Freemont Avenue in the Wrightmont Corners neighborhood. Refer to Excerpt A and B under Appendix A for flooding location. As such, the Master Plan recommended upsizing the entire storm drain length including the Outfall. The size recommended for the Outfall pipe was 72-inches even though the hydraulic profile shows no meaningful benefit of upsizing the Outfall. This is evident by comparing the Master Plan analyses' existing and proposed hydraulic profiles which are provided as Excerpt C and D under Appendix A.

In order to further demonstrate that upsizing the 60-inch CMP Outfall pipe will not provide a meaningful benefit when compared to the cost ramifications, we have conducted our own calculations. Our calculations

show that the headloss through the 40-foot section of the 60-inch CMP Outfall pipe is 0.96-feet using the Master Plan projected flow rate of 262 cubic feet per second (cfs). The headloss through a 72-inch pipe using the same flow rate is calculated to be 0.36-feet. If the 60-inch CMP pipe is rehabilitated using a plastic liner as described in the following section, the headloss will be 0.41-feet which is only a difference of 0.05-feet compared to the Master Plan proposed pipe size (i.e., 72-inch pipe). We therefore recommend rehabilitating the existing Outfall pipe instead of replacing it to minimize cost and most importantly reduce environmental impacts.

E. Alternative Analyses

The root cause for the failure of the Outfall pipe and erosion at the site can be attributed to the deteriorated 60-inch CMP Outfall pipe, and the lack of proper erosion control measures to withstand energy dissipated at the Outfall discharge. As such, it is essential to address these issues without significantly impacting the vegetation and habitat in the project vicinity. In order to achieve this, we have evaluated alternatives to, 1) rehabilitate the 60-inch CMP Outfall pipe buried into the slope, and, 2) repair existing low-flow channel to provide adequate reinforcement to prevent future erosion. The following section describes in detail the underlying issues and mitigation measures.

1.0 Outfall Pipe Rehabilitation

One of the reasons associated with the collapse of a portion of the 60-inch pipe is the undermining of the pipe bedding and foundation that once supported the pipe in place. Due to severe corrosion of the collapsed section of the CMP pipe, water that was flowing through the Outfall pipe had migrated out into the bedding through the corroded pipe invert and eroded the underlying soil which, in turn, undermined the pipe support. Additionally, the lack of proper energy dissipation at the discharge point has accelerated the undermining process resulting in the failure of the Outfall pipe end sections. Although the Outfall pipe that is buried into the slope did not endure corrosion to the same extent as the collapsed section, this will occur in the near future if not addressed now. There are a few alternatives to prevent the CMP pipe from corroding and these include installation of one of the following:

A) Cure-In-Place-Pipe (CIPP) liner,
B) Slip lining,
C) Shotcrete lining,
D) Concrete invert paving,
E) Steel armor plating of CMP invert, and
F) Traditional open-cut replacement.

In addition to corrosion, the existing pipe has also suffered deformation due to uneven loading which may have also resulted from undermining of bedding that extends 10-feet into slope below the pipe. In order to mitigate for this condition, the support provided by the bedding shall be restored and the pipe wall must be structurally supported from inside.

In order to restore the pipe support, it is necessary to fill the void space that was left below the pipe invert due to undermining. This can be achieved by filling the space with self-leveling cement slurry such as a Controlled Density fill (CDF). Doing so will eliminate the need for removal of the existing pipe and minimize excavation.

To bolster the structural strength of the pipe wall, the pipe will need to be fully rehabilitated. The alternatives that can achieve this include alternatives A, B, C and F only. To identify a preferred alternative, we have further evaluated these four alternatives by taking into consideration the following:

1) Hydraulic capacity impacts,
2) Site and access constraints,
3) Constructability,
4) Impacts on natural communities, plant and animal habitat, and
5) Water quality impacts during construction.

Our evaluation concluded that the impacts associated with Alternatives A, B, and C are generally the same except for the magnitude of impact on the existing pipe hydraulic capacity. In general, all alternatives reduce the diameter of the host pipe because of the addition of a layer of new pipe inside the host pipe to provide full structural strength independent of host pipe's residual structural strength. However, Alternatives B and C reduce the diameter of the host pipe by more than 12-inches which has significant impact on the hydraulic capacity. Whereas, Alternative A only reduces the diameter by 2-inches. Additionally, Alternative A reduces the pipe roughness compared to the existing conditions which compensates for reduction in pipe size and thereby essentially eliminating reduction in hydraulic capacity. Since Alternative A does not require removal of the existing pipe as required for Alternative F, we recommend using CIPP rehabilitation for correcting the existing pipe deficiency. The following provides a brief discussion on implementation of pipe rehabilitation using CIPP lining.

1.1 Cure-In-Place-Pipe Rehabilitation

The CIPP method offers structural capacity sufficient for traffic loading and is thin-walled, which results in lower losses in hydraulic capacity than other rehabilitation methods. It is estimated that the CIPP liner would need to be 1 inches thick, resulting in a smallest possible reduction in pipe diameter to 58-inches.

Project implementation will require temporary dewatering of the work area for approximately one week. An inflatable rubber coffer dam or clean gravel bags will be constructed approximately 5 ft upstream of the last manhole with a pump system to periodically dewater the impounded water. The discharge line will be pulled out of the manhole and placed over the embankment and will be terminated downstream into the Creek. The entire cofferdam and dewatering system will be removed once the CIPP liner is complete.

Once the existing culvert has been prepared, a styrene-free resin-saturated felt tube is pulled into the host pipe from the mahole. Steam is used to cure the resin and form a tight-fitting, jointless and corrosion-resistant replacement pipe. A semi-truck trailer mounted boiler will be used to heat the curing water/steam. The trailer will be parked near the last manhole on top of the embankment. The condensate from curing

will not be allowed to discharge into the Creek and shall be collected and properly disposed of. No equipment will be operated within the Creek during this process.

Installation of the CIPP would occur from the existing upstream manhole, which will be protected and maintained. As part of this process, the existing 34-inch diameter Oak tree that currently covers the manhole access lid will need to be removed, not only to allow installation of the liner but also to allow for maintenance access after completion of the work.

1.2 Flap Gate

The iron flap gate attached to the end piece of the pipe is heavy and is one of the reasons for the collapse of the 60-inch end pipe section. Additionally, the flap gate requires a certain amount of head to fully open which adds to the system headloss and increases the hydraulic grade line upstream. A flap gate is generally required when there is, a) potential for flooding of the streets due to flow backing up into the pipe from the Creek, b) potential for debris, sediment and rock deposits, c) potential for wildlife entering the system, and, d) potential for transient homeless population living.

Based on our review of the Creek flow and the hydraulic model provided by the District, the Outfall will not be submerged during a 10-year design event but will be fully submerged during a 50-year or above design storm. Also, based on our site observation, the pipe is clear from debris and sediment or rock. Therefore, a flap gate is not needed for the above mentioned flooding or debris conditions. However, if the City is concerned or has logged complaints about wildlife and homeless population, it is recommended to add a flap gate that is light weight such as a Tideflex Check Valve or a Tideflex Inline Check Valve.

2.0 Stabilization of Low-Flow Channel

Due to the upstream storm drain system capacity issues, the Outfall pipe currently receives a maximum flow rate of 162-cfs. The velocity in the pipe and the exit velocity associated with this flow rate is roughly 8-feet per second (fps), which is considered erosive for an unreinforced soil. Therefore, the low-flow open channel, to which the Outfall discharge to, must be armored to withstand the hydraulic forces and to prevent future erosion.

Since the low-flow channel is within the jurisdiction of several local, state, and federal agencies, the alternatives available for low-flow channel reinforcement are greatly limited by the requirement placed by these permitting agencies. The agencies with jurisdiction include the California Department of Fish and Wildlife (CDFW), California Regional Water Quality Control Board (RWQCB), and U.S. Army Corps of Engineers (USACE) and the District.

In general, the permitting agencies will require use of ecological stabilization measures that promote vegetation and dependent habitat. As such, use of concrete or artificial soil reinforcement methods are discouraged. The most commonly permitted channel stabilization methods include a combination of:

1) Vegetated geogrid or compacted soil lifts,
2) Live cribwalls for banks,
3) Planted Rock or riprap,

4) Brushmattress, and
5) Erosion control blankets.

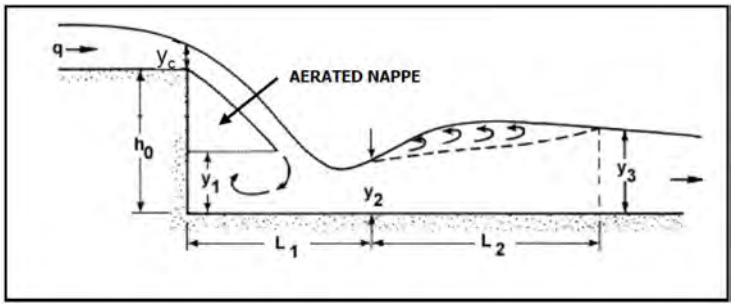
The stabilization measures noted above apply to channel banks. For channel bed and toe reinforcements, rock with different gradation is typically used as the channel bed is subjected to hydraulic forces more frequently than the channel banks.

Similar to the Outfall pipe rehabilitation alternatives analyses, the alternatives evaluated for channel stabilization considered constraints such as: site access, environmental impacts and cost. As noted previously, there are several methods to protect outfalls and channels but the available options are primarily limited to the type of improvements allowed by resource agencies. Based on our experience with similar projects, we believe that the use of rock apron or a stilling basin, to dissipate the energy of the flow at the Outfall discharge point, can be permitted and are feasible from a constructability stand point. As such, the two alternatives evaluated included, 1) Rock Apron armoring, and, 2) Concrete Headwall with stilling basin.

Alternative 1 includes the use of large rock boulders for channel bed and banks at the Outfall discharge followed by large rock boulders for channel bed and double layer fabric reinforcement for banks. The rock apron is a common erosion protection measure which operates by reducing velocity through increased channel roughness. An addition of planting in between rocks on banks and the potential for vegetation to grow through the void spaces makes this option ecologically friendly.

Alternative 2 includes use of a Caltrans standard concrete headwall combined with rock gabion to create a stilling basin to dissipate energy right at Outfall discharge location before releasing the flow to a lightly armored low-flow channel. This alternative uses the drop between the pipe invert and stilling basin to dissipate energy and to reduce velocity. As such, armoring the channel invert up to the Creek to reduce velocity is not needed. Alternative 2 minimizes the impact of rock placement compared to Alternative 1. Please refer to Exhibit 1 and 2 for Alternative 1 and 2, respectively.

The size of rock and stilling basin design is governed by the hydraulic design of energy dissipater for culverts and channels published in the Federal Highway Administration (FHA) HEC 14 manual. The Outfall pipe can currently receive a maximum flow rate of 162-cfs due to the upstream storm drain system capacity issues. But if the City undertakes the Master Plan recommended improvements in future, i.e., if the upstream pipes are upsized, the Outfall will receive a maximum flow rate of 262-cfs. This is considered the maximum flow rate because at this flow rate the hydraulic grade line is slightly above ground near Mandarin Drive. Any additional flow will not be able to enter the system even during storms larger than a 10-year. We therefore used this as the design flow rate to size the energy dissipation devices to address present and future condition.



Excerpt 1: Flow Geometry of Straight Drop Spillway – FHWA HEC-14

Improvements associated with both alternatives include: 1) removing existing broken concrete pieces, cement sack bags, and grubbing to remove loose rock/soil, 2) minor grading to shape the low-flow channel north and south banks, 3) excavation to place bedding material for rock and other improvements adequately sized to withstand hydraulic forces associated with the design flow. The extent of surface disturbance will remain the same for both alternatives.

2.1 Low-Flow Channel Construction

It is anticipated that a long reach excavator can operate form the location of the existing 34-inch Oak tree, once it is removed, to lower material and small equipment in to the low-flow channel. However, during the detail design and after consulting with contractors, if it is determined that the operation of a long reach excavator from the top of the bank is not adequate to do all the necessary improvements, then provisions for a temporary ramp will need to be added. The approximate location of this temporary access ramp is shown on Exhibit 3.

The existing driveway access and fence gate opening is roughly 10-feet wide. This width can accommodate dump trucks that will be used on this project to off-haul debris and to import dirt and rock. But to accommodate heavy equipment such as a long reach excavator, it is necessary that a portion of the wooden fence be removed and replaced, and a portion of landscaping restored after completion of work. The open space behind the existing fence will be used as staging area.

The existing power lines near the fence are very high and will not be in conflict with the operation of the long reach excavator which will be the largest and tallest of all the equipment that will be operated for this work. We did not find any other utilities that will be in conflict with the proposed work.

The proposed work will be performed during the dry period (i.e., from April 15 to October 15) when the Creek has absolutely no flow as was observed during our site visits in October and November of 2018. Even during out site visit in February of 2018, we observed very little flow of 2- to 3-inches deep. Nevertheless, we propose to install a temporary coffer dam using clean gravel bags where the low-flow channel meets the Creek to prevent any incidental flow from entering the proposed excavation of low-flow channel. Additionally, the contractor may use a sump pump as a stand-by to periodically dewater the excavated area if groundwater seepage is encountered. Refer to Exhibit 1 and 2 for location of the temporary coffer dam.

2.2 Permitting and Revegetation

As noted previously, the project will require permits from several resources agencies. The permits required include,

a) an Encroachment Permit from the District,
b) a Lake and Streambed Alteration Agreement with CDFW,
c) the Clean Water Act 404 Nationwide Permit from USACE, and,
d) the Clean Water Act 401 Water Quality Certification from RWQCB.

Additionally, because of the presence of federally listed species and Critical Habitat (i.e., the central California coast steelhead and the California red-legged frog), the USACE is required to consult with the National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) and the U.S. Fish and Wildlife Services (USFWS) under Section 7 of the Endangered Species Act. NOAA Fisheries has the responsibility to consult on steelhead, whereas the USFWS is responsible for consulting on the California red-legged frog. The permitting agencies involved and the permits required from these agencies is the same for both Alternatives 1 and 2.

Although the proposed alternatives incorporate use of vegetation in between rock boulders for the repair of low-flow channel banks, the permitting agencies may require that additional areas be planted depending on the total area of impact. Additionally, if a temporary access path is deemed to be necessary after consulting with contractors, then the permitting agencies will require the access path to be restored and replanted at the end of the project. The agencies will also require the project to mitigate for ay trees removed. In this case, we will need to mitigate for the 34-inch Oak tree. The ratio that is usually applied for mitigation is 3:1 i.e., 3 trees for every tree removed.

Drip irrigation or hand watering will be required until the proposed willow poles and other planted trees get established. In general, the plant establishment period is the first two years. Additionally, monitoring will be required and the typical period for monitoring period is five years. There will be performance standards regarding the total vegetative cover in the restoration area, whether from planted trees or from natural recruitment.

F. Conclusion

The deterioration of the 60-inch CMP pipe and the lack of proper erosion control measures at the discharge point and further downstream of the low-flow channel are the key reasons for the failure of the Outfall pipe and the deepening of the low-flow channel. Due to the presence of sensitive habitat within Stevens Creek, the agencies with jurisdiction over the Creek will require the low-flow channel improvements to be ecologically friendly. The agencies will also require the project to mitigate for all temporary and permanent impacts.

Based on our prior experience on other projects, we believe that the alternatives evaluated present a balanced approach to meeting the agencies requirement to be ecologically friendly while addressing the underlying erosion issues and the overall constructability of the project. The cost of construction for

Alternatives 1 and 2 including the cost of rehabilitating the Outfall pipe using CIPP will be roughly $290,000 and $380,000, respectively. The cost provided includes 20% bid contingency.

Following City's review and selection of the preferred alternative, an interagency coordination meeting between the project Consultants, the City, USACE, CDFW, and the RWQCB, should be set up to present the schematic design and to get permitting agencies' feedback prior to preparing construction documents. In general, Alternative 1 is less expensive and will likely be the preferred choice of the permitting agencies.

G. References

i) Caltrans, 2016, Highway Design Manual, July 15, 2016.

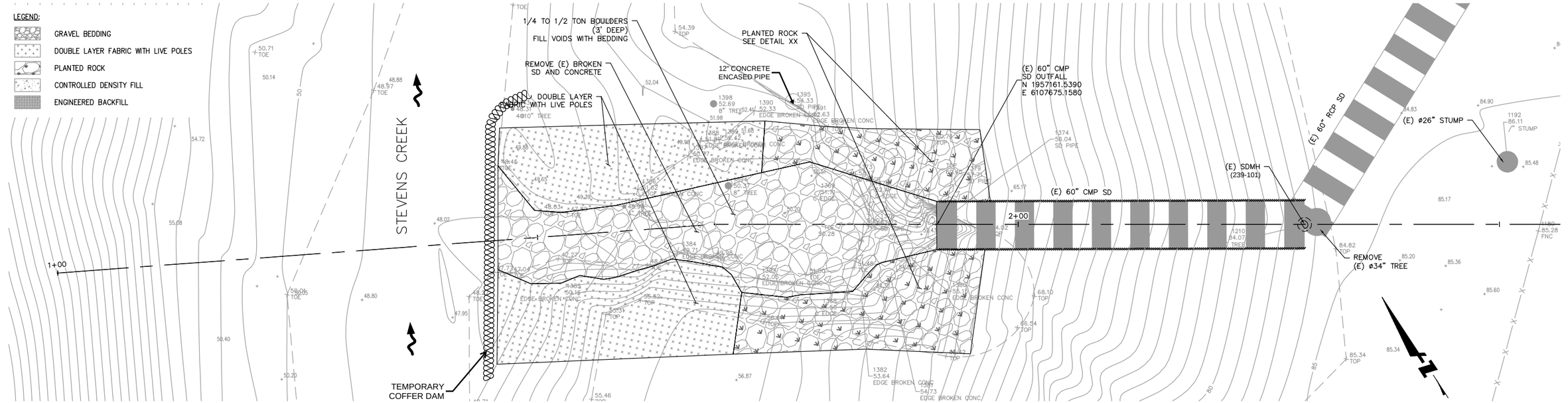
ii) Federal Highway Administration, 2001, Hydraulic Design of Highway Culverts, Hydraulic Design Series Number 5, September 2001.

iii) Federal Highway Administration, 2006, Hydraulic Design of Energy Dissipators for Culverts and Channels, Hydraulic Engineering Circular Number 14, Third Edition, July 2006.

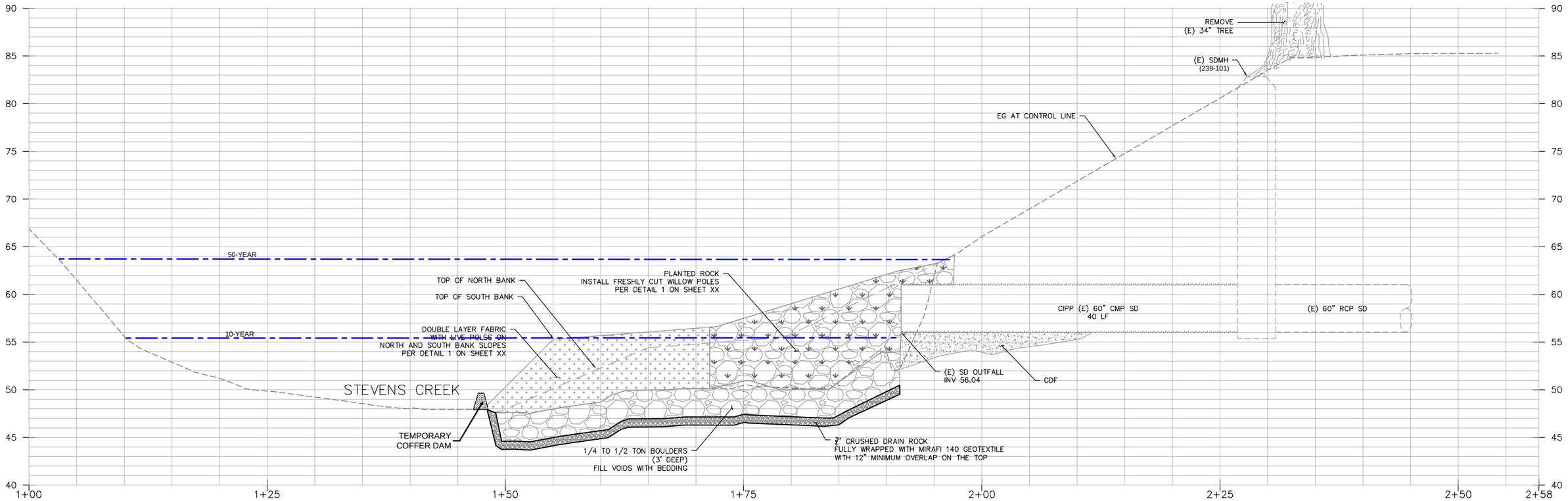
iv) Federal Highway Administration, 2009, Urban Drainage Design Manual, Hydraulic Engineering Circular Number 22, Third Edition, December 15, 2009.

v) City of Sunnyvale, Wastewater Master Plan, December 2015.

ATTACHMENTS



PLAN VIEW
SCALE: HORIZONTAL 1" = 20'

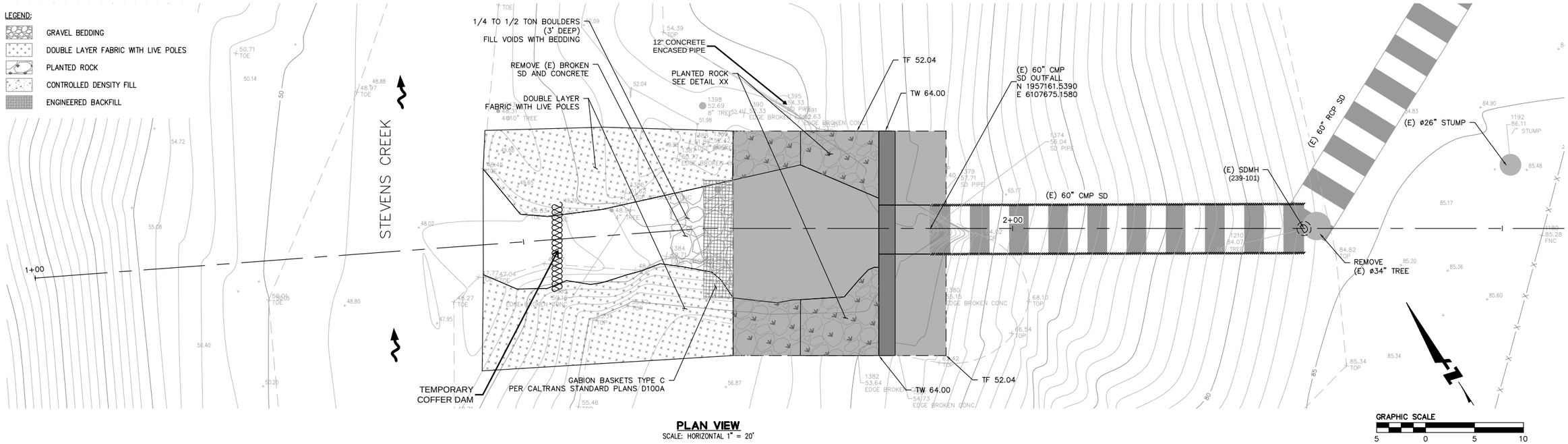


PROFILE VIEW
SCALE: HORIZONTAL 1" = 20'

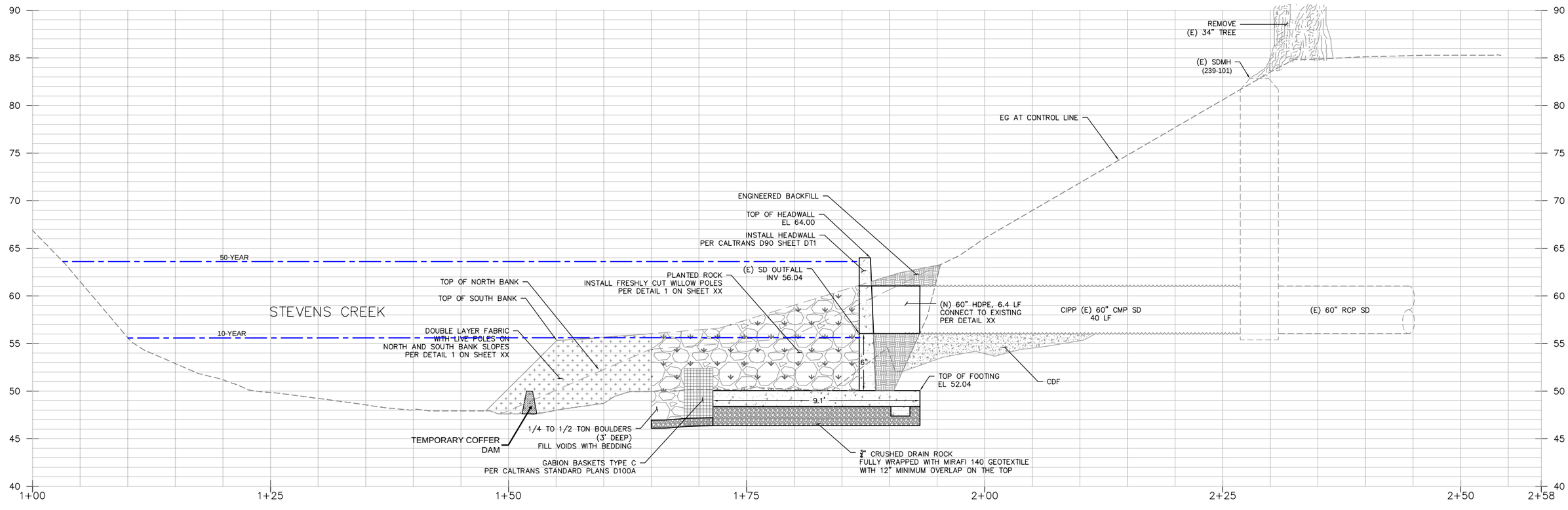
EXHIBIT 1: ROCK APRON - ALTERNATIVE 1

REMINGTON DRIVE OUTFALL REHABILIATION, SUNNYVALE

BKF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS



PLAN VIEW
SCALE: HORIZONTAL 1" = 20'



PROFILE VIEW
SCALE: HORIZONTAL 1" = 20'

EXHIBIT 2: HEADWALL - ALTERNATIVE 2

REMINGTON DRIVE OUTFALL REHABILIATION, SUNNYVALE

BKF 100+ YEARS
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EXHIBIT 3: LOCATION OF TEMPORARY ACCESS RAMP

REMINGTON DRIVE OUTFALL REHABILIATION, SUNNYVALE

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS

12" pipe (Abandoned?)

60" CMP

15" HDPE

Manhole

15" RCP

60" RCP

12" RCP

N

SCALE 1"= 20'

EXHIBIT 4: TOPOGRAPHIC SURVEY MAP

REMINGTON DRIVE OUTFALL REHABILIATION, SUNNYVALE

BkF 100+ YEARS
ENGINEERS . SURVEYORS . PLANNERS

APPENDIX A

(Excerpts from Wastewater Collection System Master Plan)

EXCERPT A: FLOODING LOCATION

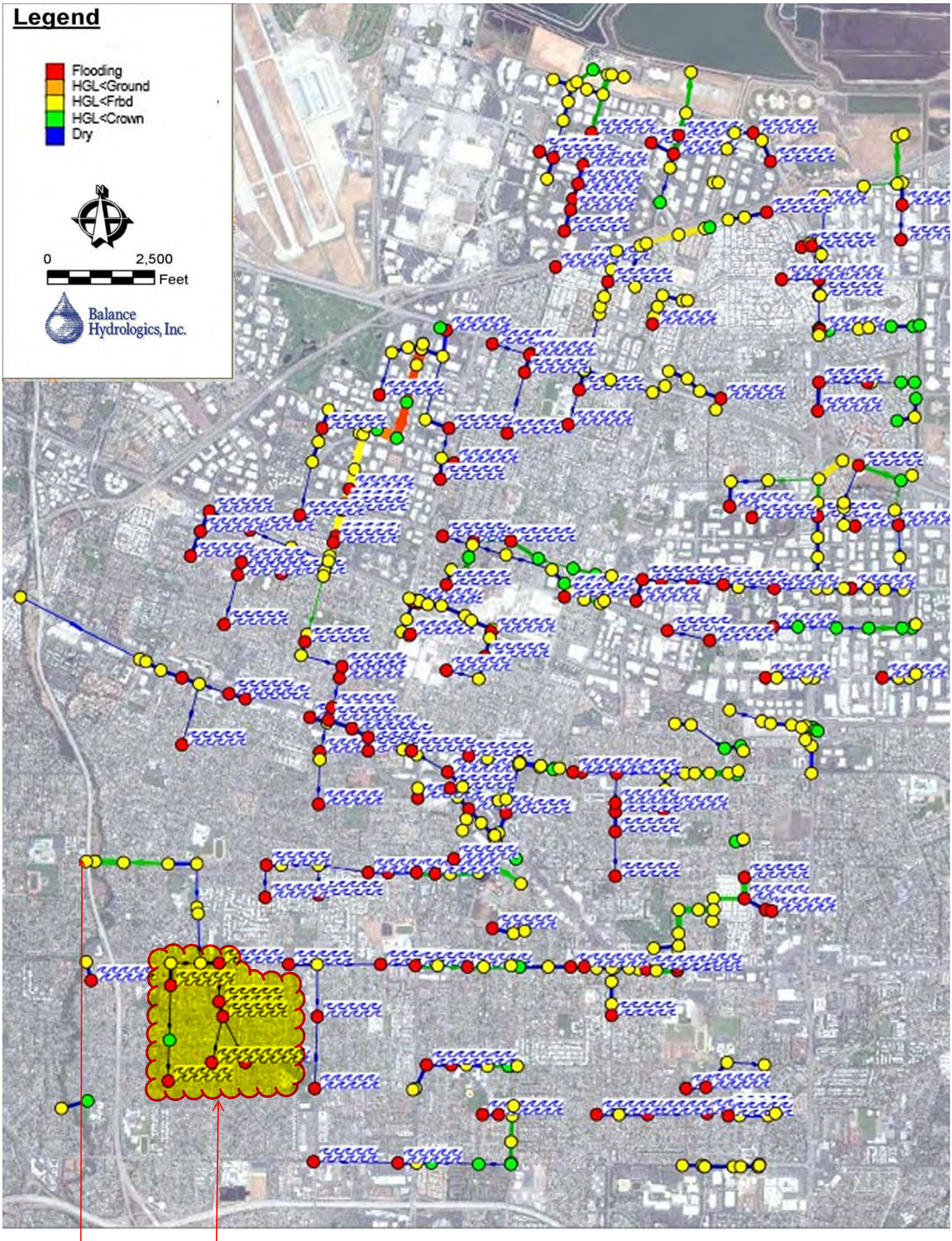


Figure 5-12 Hydraulic Grade Line Elevations Versus Ground Surface at the Time of Peak Runoff

EXCERPT B: FLOOD VOLUME

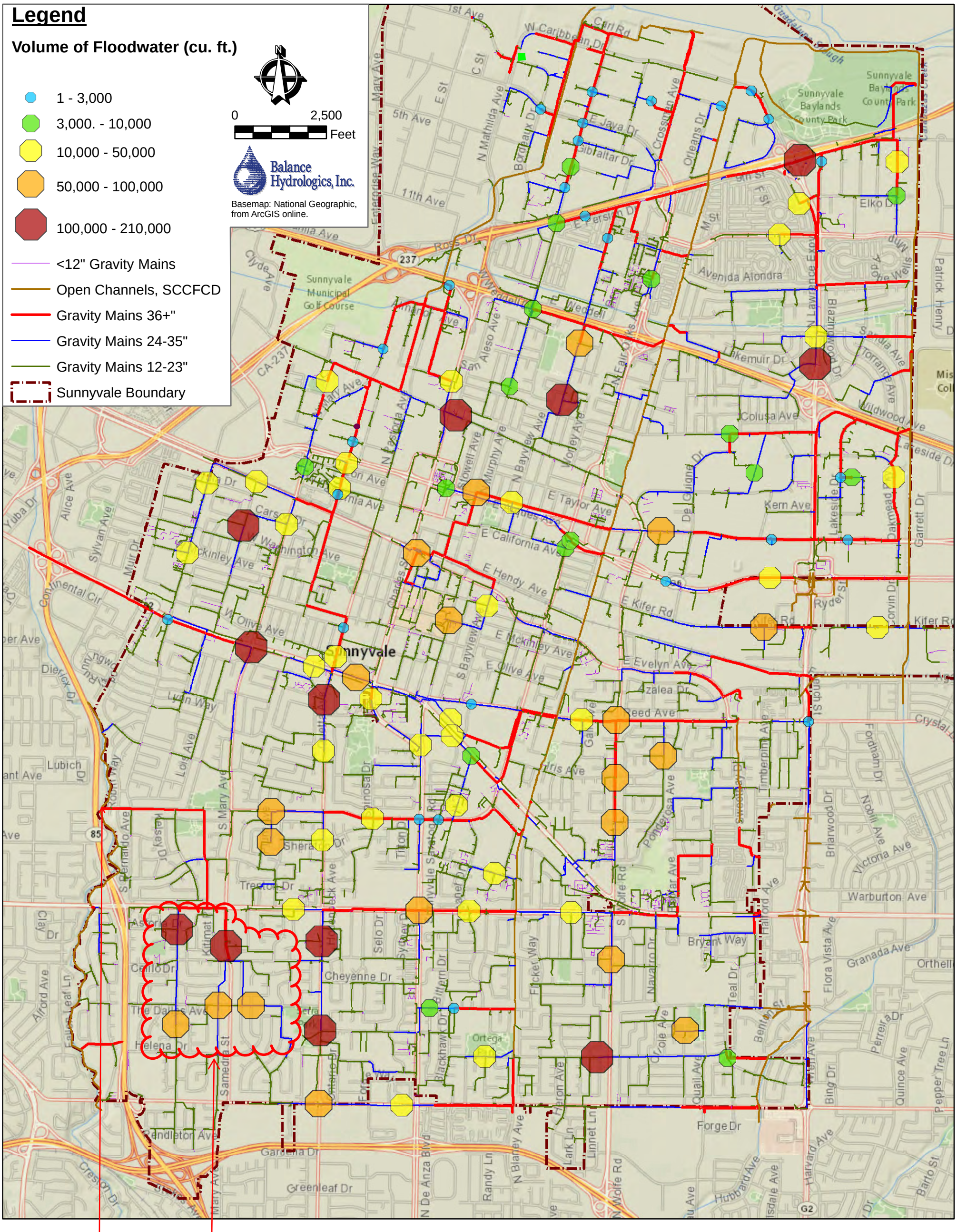
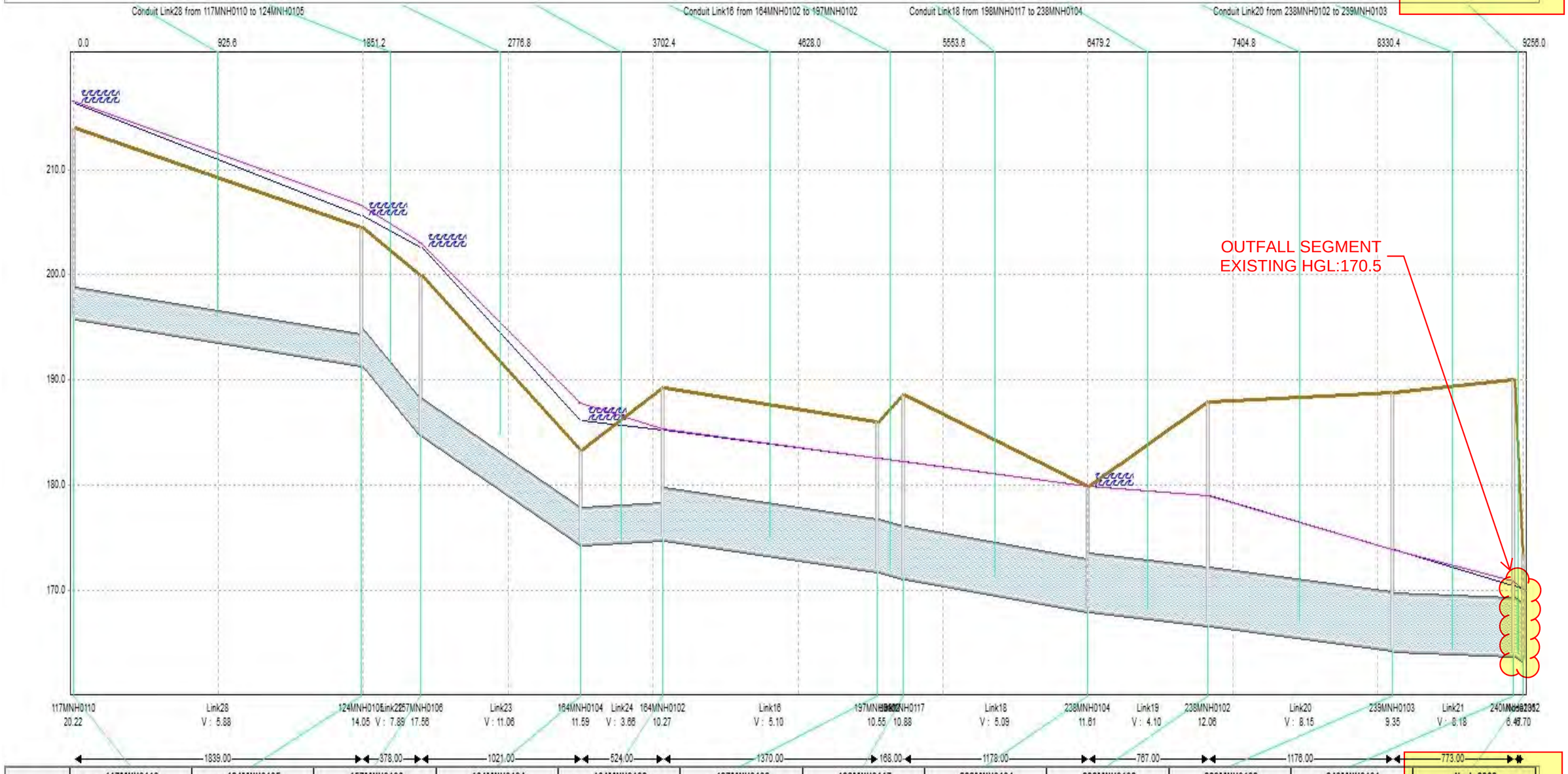


Figure 5-14 Manhole Overflows at Time of Peak Runoff

Links

	Link28	Link22	Link23	Link24	Link16	Link17	Link18	Link19	Link20	Link21	Link496
Diameter (He	2.500	3.000	3.000	3.000	4.500	4.500	4.500	5.000	5.000	5.000	5.000
Max Velocity	5.890	9.760	11.070	9.940	6.460	6.520	6.470	5.250	8.150	8.180	8.210
Max Flow	30.150	64.629	80.552	71.678	103.478	103.480	103.482	103.484	161.429	161.429	161.429
Length	1839.000	378.000	1021.000	524.000	1370.000	168.000	1178.000	767.000	1176.000	773.000	62.000
Time of Peak	6.467	3.700	6.467	9.900	9.133	3.417	9.150	9.150	6.600	6.600	6.600



	117MNH0110	124MNH0105	157MNH0106	164MNH0104	164MNH0102	197MNH0102	198MNH0117	238MNH0104	238MNH0102	239MNH0103	240MNH0101	Node2362
EGL Relative	-2.491	-2.900	-4.290	-6.077	3.029	3.000	5.935	-0.415	8.679	13.923	18.486	2.254
Invert Elevati	196.020	191.570	185.000	174.600	175.000	172.010	171.350	168.300	167.000	164.550	164.000	163.500
Volume of Po	64598.660	43363.620	132012.360	480290.700	0.000	0.000	0.000	57.330	0.000	0.000	0.000	0.000
Node Inflow	849678.449	0.000	1005078.490	0.000	0.000	0.000	0.000	0.000	1225266.080	0.000	0.000	48660.807

Figure 5-13c Hydraulic Profile for Line 19 – Dalles-Mary-Remington Line

xpstorm 2014 - [Dynamic Long Section]

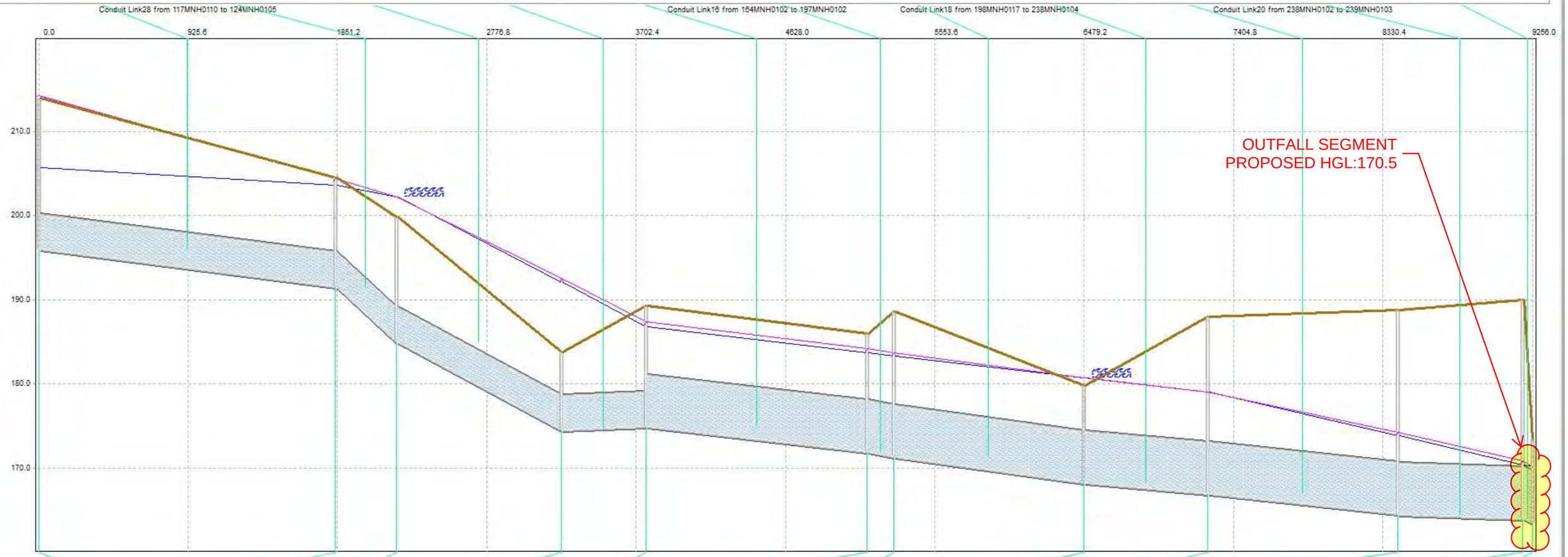
File View Window

Base Scenario | Active Subcatchments | Close

CC #15 - Hollandbeck to Old SF
Day [0] Time 06:40:00 Step 400

Links

	Link28	Link22	Link23	Link24	Link16	Link17	Link18	Link19	Link20	Link21	Link496
Diameter (He	4.000	4.000	4.000	4.000	6.000	6.000	6.000	6.000	6.000	6.000	6.000
Max Velocity	7.460	11.980	11.980	12.010	7.700	8.260	6.920	6.890	9.220	9.220	8.970
Max Flow	95.263	134.644	153.199	152.848	203.870	192.607	192.586	196.105	262.315	262.315	262.316
Length	1839.000	378.000	1021.000	524.000	1370.000	168.000	1178.000	767.000	1176.000	773.000	62.000
Time of Peak	6.317	7.750	6.317	6.317	6.267	6.233	6.250	7.017	6.683	6.683	6.683



	117MNH0110	124MNH0105	157MNH0106	164MNH0104	164MNH0102	197MNH0102	198MNH0117	238MNH0104	238MNH0102	239MNH0103	240MNH0101	Node2362
EGL Relative	-0.205	-0.460	-3.028	-10.017	1.606	1.552	4.532	-1.505	8.323	13.693	18.245	2.051
Invert Elevati	196.020	191.570	185.000	174.600	175.000	172.010	171.350	168.300	167.000	164.550	164.000	163.500
Volume of Po	142.500	0.000	48080.600	458.370	0.000	0.000	0.000	7464.390	0.000	0.000	0.000	0.000
Node Inflow	849677.293	0.000	1005077.030	0.000	0.000	0.000	0.000	0.000	1225263.390	0.000	0.000	64490.950

Nodes

Figure 5-16c Hydraulic Profile for Line 19 with Suggested Upgrades

APPENDIX B

(Geotechnical Report)

(DRAFT) MEMORANDUM

To: Sravan Paladugu, P.E.
BKF Engineers

November 30, 2018

From: Michael Matusich, G.E.
BAGG Engineers

BAGG Job No. BKFEN-39-00

Subject: Geotechnical Consultation
Remington Stormdrain Outfall Repair
West End of Remington Drive
Sunnyvale, California

INTRODUCTION

This memorandum presents the results of our geotechnical consultation for the Remington Stormdrain Outfall repair located at the west of end of Remington Drive in Sunnyvale, California. The site location is shown on the attached Plate 1, Vicinity Map. Our services included a review of available geologic and geotechnical literature and as-built drawings, field meetings with BKF, site reconnaissance by a registered geotechnical engineer, and preparation of this memorandum.

SITE AND PROJECT DESCRIPTION

The subject project area consists of the northeast bank of Stevens Creek from which protrudes a corregated metal outfall pipe with a nominal diameter of 5 feet. The upper portion of the bank has an average gradient of about 1½ horizontal to 1 vertical (1.7H:1V) with a height of about 25 feet and the lower terrace varies in width from 10 to 20 feet before dropping about 5 feet vertically over a gradient of about 1.5H:1V. The invert of the outfall is at about terrace-level; however, over time an erosion scar has developed through the terrace deposits and a portion of the outfall pipe had collapsed into the erosion channel. The site layout including the

outfall discharge and erosion scar are shown, approximately, on the attached Plate 2, Site Plan, which utilizes a topographic base provided by BKF Engineers.

The proposed project will consist of restoring the outfall structure. Additionally, preventative measures to control erosion will be incorporated into the project as well.

PURPOSE AND SCOPE OF SERVICES

The purpose of our services was to provide geotechnical reviews and reconnaissance of the subject site in order to develop geotechnical recommendations to address the impacted stormdrain outfall. Our services included review of available as-built drawings and geologic literature pertinent to the site area, consultation with the project civil engineer, site reconnaissance, engineering analyses and preparation of this memorandum. The results of our reviews of available geologic literature, site reconnaissance, conclusions and recommendations are presented as follows.

GEOLOGY

The site is situated on the eastern bank of Stevens Creek, approximately 4.5 miles south of the San Francisco Bay shore. Based on a review of the *Geology of Palo Alto 30 x 60 Minute Quadrangle, California, by E.E. Brabb, R.W. Graymer, and D.L. Jones, 1998* the site is at the interface between Holocene age stream channel deposits (Qhsc) and Holocene age natural levee deposits described as follows.

> ***Stream Channel Deposits (Holocene)*** *- Poorly to well-sorted sand, silt, silty sand, or sandy gravel with minor cobbles. Cobbles are more common in the mountainous valleys. Many stream channels are presently lined with concrete or rip rap. Engineering works such as diversion dams, drop structures, energy dissipaters and percolation ponds also modify the original channel. Many stream channels have been straightened, and these are labeled Qhasc. This straightening is especially prevalent in the lower reaches of major creeks entering the estuary. The mapped distribution of stream channel deposits is controlled by the depiction of major creeks on the most recent U.S. Geological Survey 7.5-*

Minute Quadrangles. Only those deposits related to major creeks are mapped. In some places these deposits are under shallow water for some or all of the year, as a result of reservoir release and annual variation in rainfall.

***Natural Levee Deposits (Holocene)** - Loose, moderately to well-sorted sandy or clayey silt grading to sandy or silty clay. These deposits are porous and permeable and provide conduits for transport of groundwater. Levee deposits border stream channels, usually both banks, and slope away to flatter floodplains and basins.*

SITE RECONNAISSANCE

The site is situated on the eastern bank of Stevens Creek, at the west end of Remington Drive in Sunnyvale, California, as shown on the attached Vicinity Map, Plate 2. The eastern bank consists of a 25-foot-tall 1.7H:1V slope for the upper portion, and a gently sloping 50-foot-wide terrace area at the lower portion along the bottom of the creek. The terrace area has an average gradient of about 6H:1V which increases at its west end where it slopes down to the bottom of the creek with a localized gradient of roughly 2H:1V and height of about 6 feet. The total height from the bottom of the creek to the top of the bank at the site area is about 37 feet.

The predominant site feature is a deep erosion scar at the outfall pipe discharge that extends through the terrace area to the bottom of the creek channel. The erosion scar is depicted on the attached Plate 2, Site Plan, containing debris on the flat lower portion and unstable backfill materials in its upper portion. The erosion scar has a width of about 15 to 30 feet, a depth of up to about 8 feet, and a length of about 50 feet. The width of the erosion rill is greatest at the pipe discharge. The bottom of the erosion rill is covered mostly with randomly-placed concrete debris estimated to be on the order of about 2 to 3 feet thick. Some of the debris reaches up to 8 feet in length, and there did not appear to be any type of filter material beneath the concrete debris. The south wall of the erosion rill is about 6 to 8 feet in height and roughly vertical. It exposes mostly dense to very dense cobble-gravel-sand mixture with little fines with relatively thin clayey sand with gravel present at the top of the erosion rill side wall. The cobble-gravel-

sand mixture is generally consistent with the Qhsc material described by Brabb, et al, 1998. The north side of the erosion rill was a bit shorter with a more gentle gradient and covered with debris and vegetation. A 12-inch diameter concrete-lined metal pipe was noted protruding from the north side of the erosion scar; the approximate location of the 12-inch pipe discharge is included on the attached Plate 2, Site Plan.

Roughly 8 feet of the existing outfall pipe was detached and lay on top of the concrete debris at the bottom of the erosion scar. One detached 5-foot section of pipe lay axis roughly horizontal nearest to the existing outfall discharge point and the another detached 3-foot section lay roughly vertical just downstream of the horizontal section. The 3-foot section had an iron flood gate attached to it. The outfall discharge, detached piping and debris are depicted in Cross Sections A-A' and C-C' on the attached Plate 3, Idealized Cross Sections, and in Photo 1 on Plate 4, Site Photos.

The intact portion of the outfall pipe appears to be slightly oblique along its interior with the lateral diameter slightly larger than the vertical. At the discharge point, a more uniform but obscured diameter was noted. The outfall pipe invert has experienced corrosion and appears to have undergone rehabilitation over the years based on noted bitumen and concrete lining present along the bottom portion of the pipe interior. These observations are shown in Photos 2 and 3 on Plate 3, Site Photos.

The outfall pipe is undermined by 4 feet at the discharge point. The undermining extends back roughly 10 feet into the bank beneath the outfall pipe as shown in Cross Section A-A' on Plate 4, Idealized Cross Sections. The backfill on the sides of the outfall pipe consisted of a combination of soil and dislodged cement sacks. The backfill and cement sacks were loose and unstable over an area extending roughly 15 feet upslope of the discharge and about 10 to 15 feet extended from the sides of the outfall discharge. The approximate limits of the loose, unstable materials are depicted Plate 2, Site Plan, and Cross Section B-B' on Plate 4, Idealized Cross Sections.

Native clayey sand with gravel was noted adjacent to the sides of the backfill. Beneath the backfill, dense granular soils were present, consist with the sidewalls of the erosion rill.

CONCLUSIONS AND RECOMMENDATIONS

General

It is our opinion that the primary factor associated with the erosion issues at the site is the corroded invert of the outfall pipe. Corrosion was noted on the invert at the end of the intact portion of CMP as well as the sections that had fallen into the erosion scar area. Water that flows through the outfall pipe migrates through the corroded invert and erodes the underlying soil which, in turn, undermines the pipe and adjacent backfill material. Additionally, large, random concrete debris within the lower portion of the erosion provides some erosion protection but the lack of filter material allows for erosion of soil through the voids of the large concrete debris.

The apparent oblique shape on the interior of the CMP may be attributed to the corrosion of the CMP invert in combination with the surcharge pressure of the pipe backfill. Past rehabilitative measures consisting of bitumen and grout lining along the pipe invert have been implemented to keep the CMP functional. A specialist should be consulted regarding continued rehabilitative and maintenance measures to keep the CMP functional for the life of the project.

We also noted that the root of a mature oak tree situated near the top of the creek bank is blocking the manhole that is supposed to access the upstream end of the CMP outfall. The root will need to be removed to allow for access to the pipe and future maintenance. Because the root is rather large, its removal may have an impact on the tree. Therefore, an arborist should be consulted unless it is planned to removed the tree entirely.

In summary, primary geotechnical constraints associated with the subject stormdrain outfall are continued erosion along the bottom of the erosion scar due to inadequate riprap and filter

material; the presence of loose, unstable backfill and debris along the sides of the existing outfall; the structural integrity of the existing pipe, and blocked manhole access at the top of the bank due to an existing oak tree root. As such, the following minimum recommendations should be implemented to address the impacted stormdrain outfall.

- The concrete debris at the base of the erosion scar, and the loose backfill and debris on the sides of the outfall pipe on the upper portion of the erosion scar should be overexcavated down to competent undisturbed material.

- The undermining of the pipe should be backfilled with control density fill (CDF) material up to the spring line of the pipe, and remaining exposed surfaces within the overexcavation should be lined with a minimum 1-foot thick filter blanket of ¾-inch drainrock entirely ecapsulated in Mirafi 140 Geotextile (or approved equivalent) Mirafi 600X fabric and covered with a minimum 3 foot thick layer of ¼ to ½ ton riprap. The filter blanket should cover all soil surfaces where riprap will be placed and should extend at least 12 inches beyond the native soil/CDF juncture. The recommended filter blanket and riprap are shown on the attached Plate 5, Schematic Remedial Grading. We note that more environmentally friendly erosion protection measures consisting of a combination of filter aggregate, riprap, fresh tree branches, amended soils, etc., may be used pending review by this office.

- Erosion protection should be included along the side slopes of the erosion scar. The south wall of the erosion scar will need to be laid back to no steeper than 1.5H:1V to facilitate the stacking of riprap or installation of other means of erosion control. The riprap should be stacked up to the level of the outfall invert and the finish riprap surface should slope at a uniform gradient from the invert to the bottom of creek channel.

- The tree root covering the manhole at the top of the bank be cut off in order to allow for manhole access; the root is rather large and may require complete tree removal.

- The existing CMP outfall appears to have undergone some deformation due to a combination of corrosion and surcharge pressures from the pipe backfill. As a minimum the structural integrity of the pipe should be confirmed, and rehabilitative measures should be incorporated, as needed.

- If a new head wall is desired, then it should have a footing embedded at least 1 foot into native soil along the bottom and sides of the erosion scar. A drainage blanket consisting of a minimum 1 foot wide blanket of Caltrans Class 2 permeable material should be included along the backside of the headwall, and drain via weepholes included near the bottom portion of the head wall of the head wall. The weepholes should be a minimum 3-inches in diameter and spaced no further than 5 feet apart center to center.

- For design purposes, an allowable bearing pressure of 2,500 psf may be assumed for the design of the headwall footing. The headwall should be designed to resist a sloping backfill active pressure of 70 pounds per cubic foot for drained conditions. Lateral resistance may be in the form of a base friction coefficient of 0.35 acting between the bottom of the footing and underlying material, and a passive pressure of 450 pounds per cubic foot (equivalent fluid pressure) acting between the front of the footing and adjacent native soil and engineered fill material.

- Means and methods of achieving the remedial measures discussed above are the responsibility of the contractor performing the work.

Plan Review

It is recommended that the Geotechnical Engineer (BAGG Engineers) be retained to review the final grading, foundation, and drainage plans. This review is to assess general suitability of the earthwork, foundation, and drainage recommendations contained in this report and to verify the appropriate implementation of our recommendations into the project plans and specifications.

Geotechnical Observation and Testing

It is recommended that the Geotechnical Engineer (BAGG) be retained to provide observation and testing services during site demolition, grading, excavation, backfilling, and foundation construction phases of work. This is intended to verify that the work in the field is performed as recommended and in accordance with the approved plans and specifications, as well as

verify that subsurface conditions encountered during construction are similar to those anticipated during the design phase.

LIMITATIONS

This memorandum has been prepared in accordance with generally-accepted engineering practices for the strict use by BKF Engineers, and other professionals associated with the specific project described in this report. The recommendations presented in this memorandum are based on our understanding of the proposed construction as described herein, and on observations made during our site reconnaissance

The conclusions and recommendations contained in this memorandum are based on a site reconnaissance, a review of available geotechnical and geologic literature pertaining to the project site, and review of available as-built plans. It is not uncommon for unanticipated conditions to be encountered during site grading and foundation installation and it is not possible for all such variations to be found by a field exploration program appropriate for this type of project. The recommendations contained in this report are therefore contingent upon the review of the final grading, drainage, and foundation plans by this office, and upon geotechnical observation and testing by BAGG of all pertinent aspects of site grading, including demolition, placement of fills and backfills, and foundation construction.

Subsurface conditions and standards of practice change with time. Therefore, we should be consulted to update this memorandum, if the construction does not commence within 18 months from the date this report is submitted. Additionally, the recommendations of this report are only valid for the proposed project as described herein. If the proposed project is modified, our recommendations should be reviewed and approved or modified by this office in writing.

We appreciate the opportunity to provide these services to you. If you have any questions or require additional information, please do not hesitate to contact us.

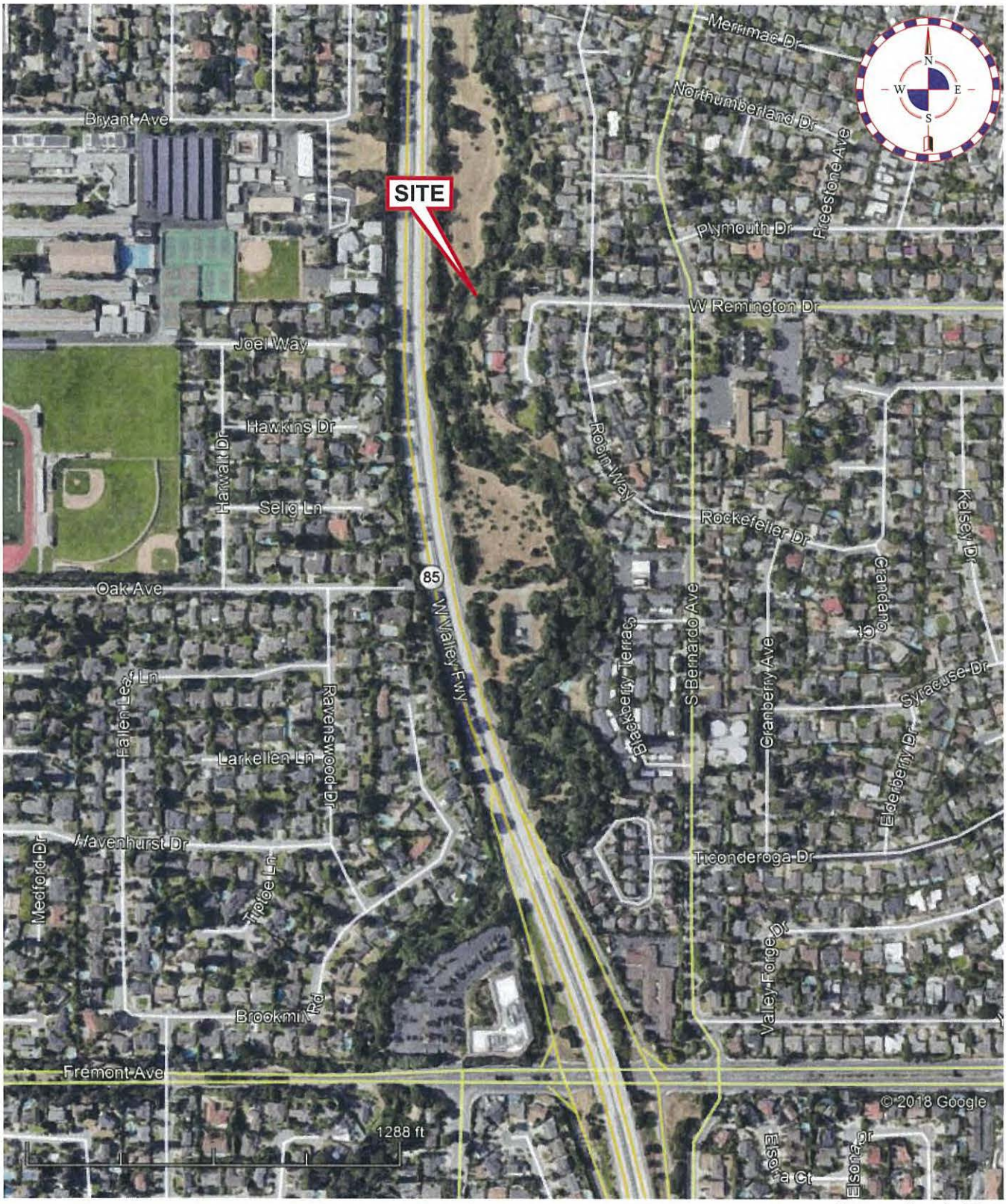
Very Truly Yours

BAGG Engineers

Mike Matusich, GE #3013
Senior Engineer

Attachments:

Plate 1	Vicinity Map
Plate 2	Site Plan
Plate 3	Idealized Cross Sections
Plate 4	Site Photos
Plate 5	Schematic Remedial Grading



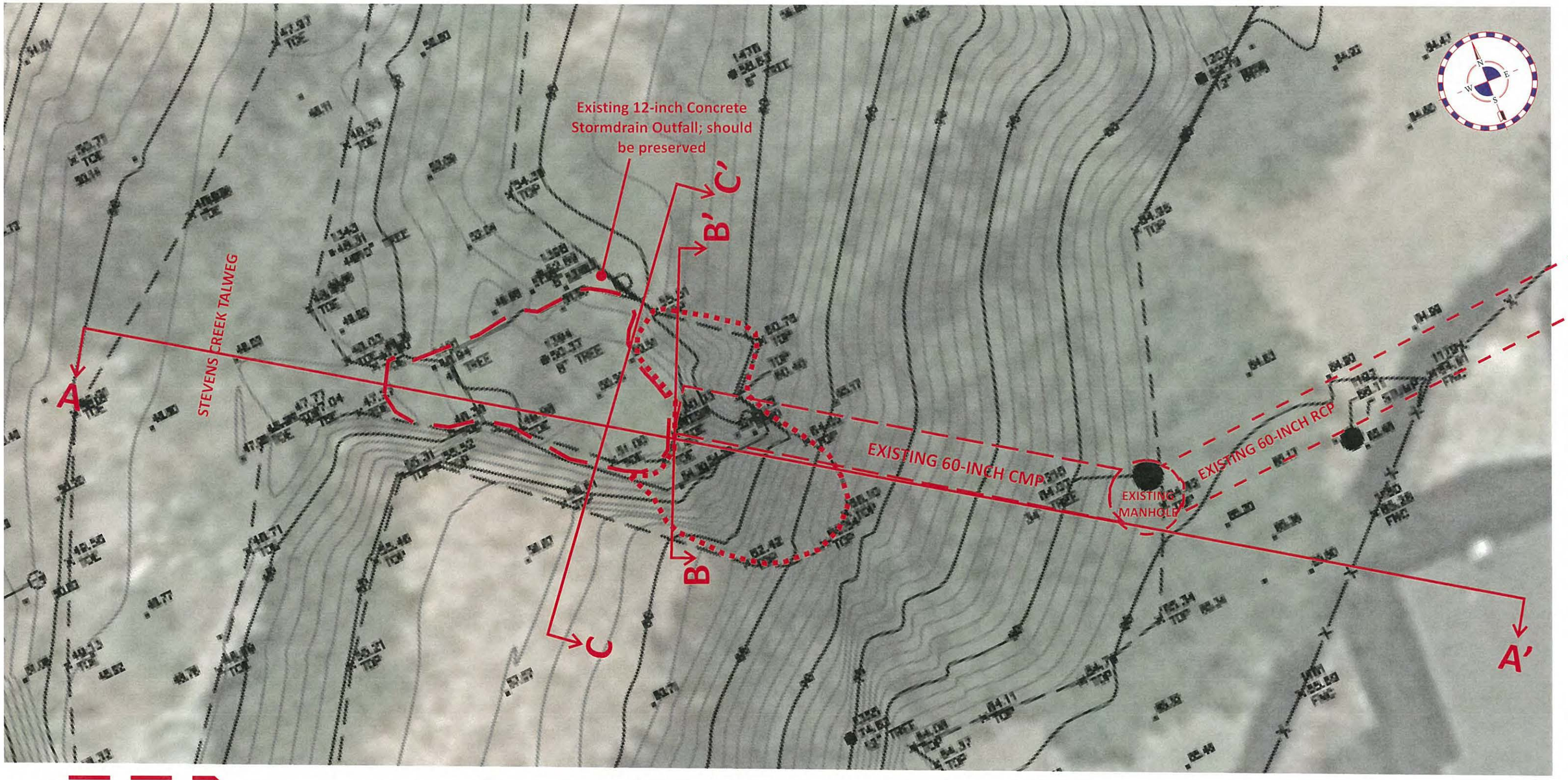
Source: Google Maps

GEOTECHNICAL CONSULTATION
REMINGTON STORM DRAIN OUTFALL REPAIR
WEST END OF REMINGTON DRIVE,
SUNNYVALE, CALIFORNIA

VICINITY MAP

DATE:	JOB NUMBER:	PLATE
November 2018	BKFEN-39-00	1

BAGG ENGINEERS



Lower limits of erosion scar; contains oversize concrete and other debris

Upper limits of erosion scar; contains unstable backfill and concrete debris

Cross Section

Note: Existing CMP location is based on review of 1956 as-built plan and rough field measurements and should be considered approximate.

GEOTECHNICAL CONSULTATION
REMINGTON STORM DRAIN OUTFALL REPAIR
WEST END OF REMINGTON DRIVE
SUNNYVALE, CALIFORNIA

BAGG ENGINEERS

PRELIMINARY SITE PLAN

JOB NUMBER:	SCALE:	DATE:	PLATE
BKFEN-39-00	-NTS-	November 2018	2

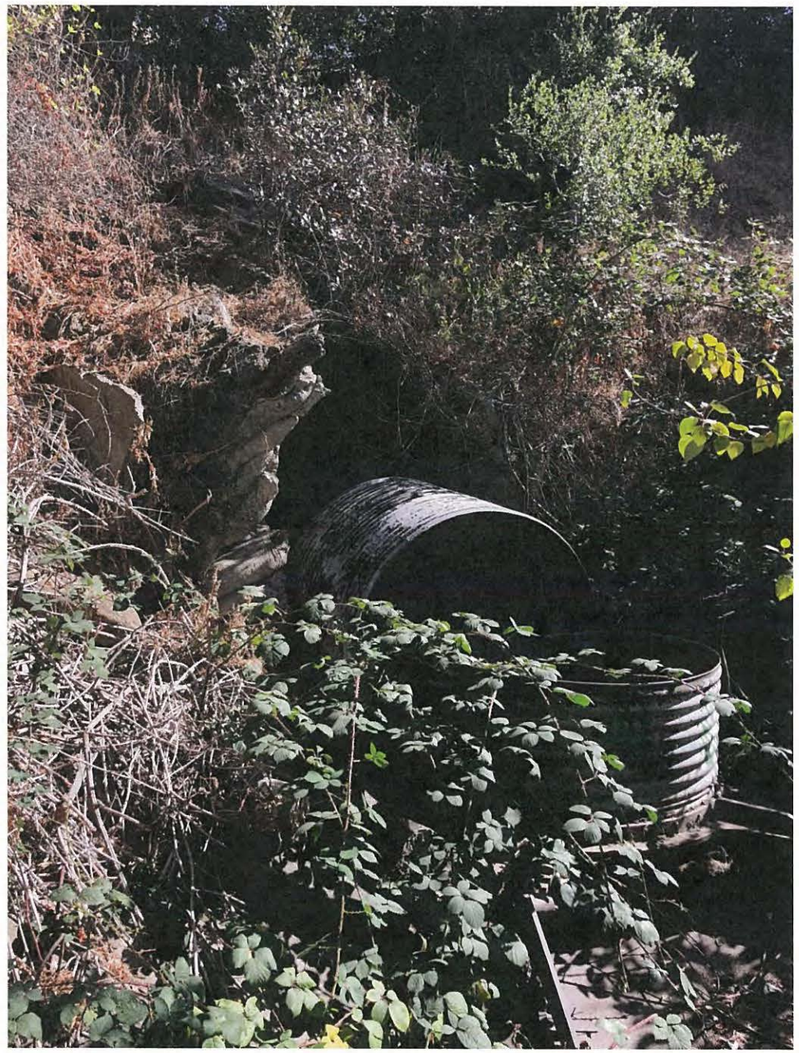


Photo 1:
Segments of 60-inch CMP which were undermined by erosion and collapsed into the erosion scar area; corrosion was noted on the inverts of the collapsed segments of CMP.

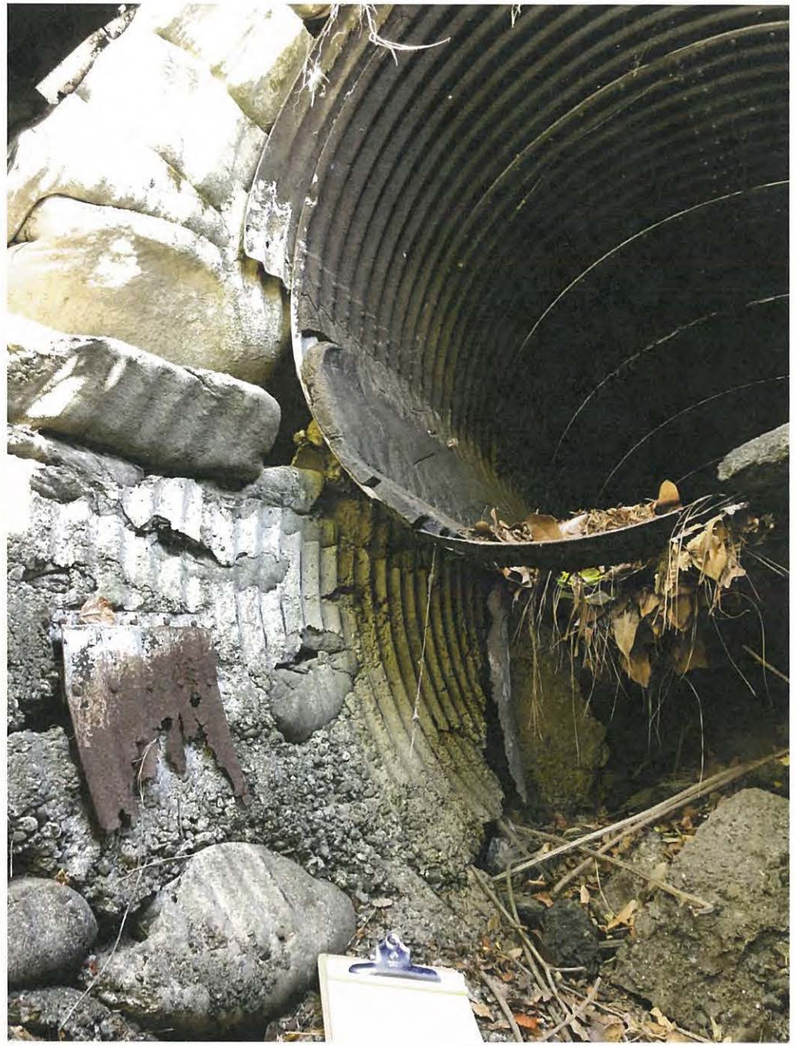


Photo 2:
Corrosion of CMP invert at discharge; note leaves and mulch deposited through the corroded invert, and significant void beneath the pipe caused by migration of water through the corroded opening

Photo 3:
Remaining segment of 60-inch CMP; slightly oblique with vertical diameter less than horizontal diameter; apparent rehabilitation measures include bitumen-type material to the left and grout to the right.

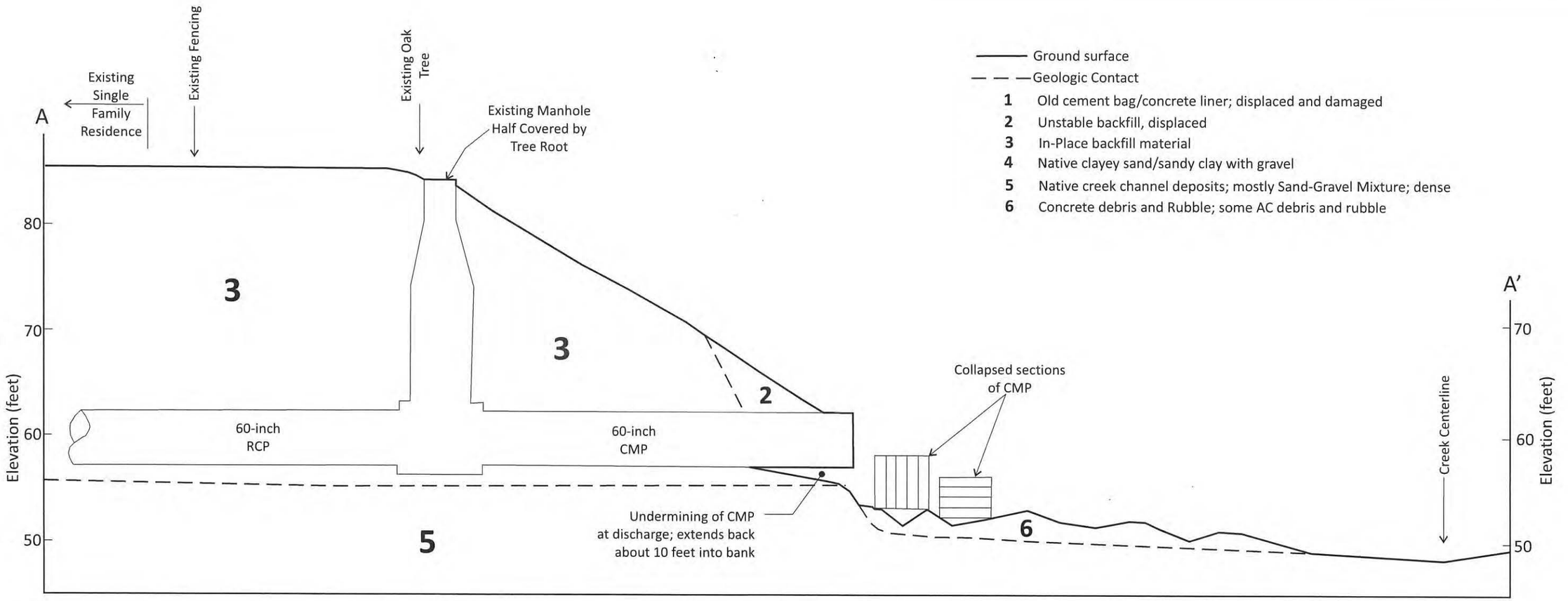
Notes:
Photos 1 and 2 taken during site reconnaissance by BAGG Engineers on October 2018. Photo 3 provided by BKF prior to the BAGG reconnaissance.

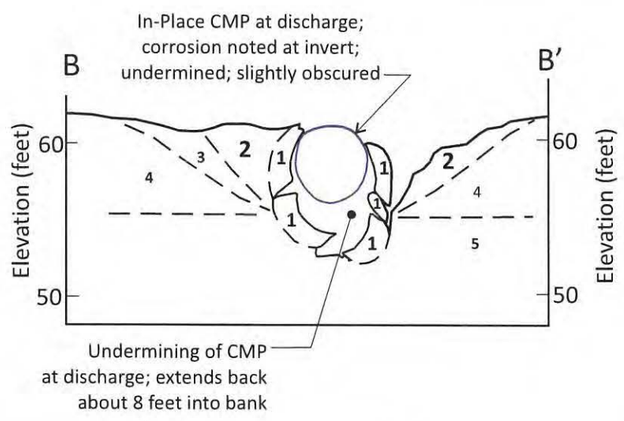
GEOTECHNICAL CONSULTATION
REMINGTON STORM DRAIN OUTFALL REPAIR
WEST END OF REMINGTON DRIVE
SUNNYVALE, CALIFORNIA

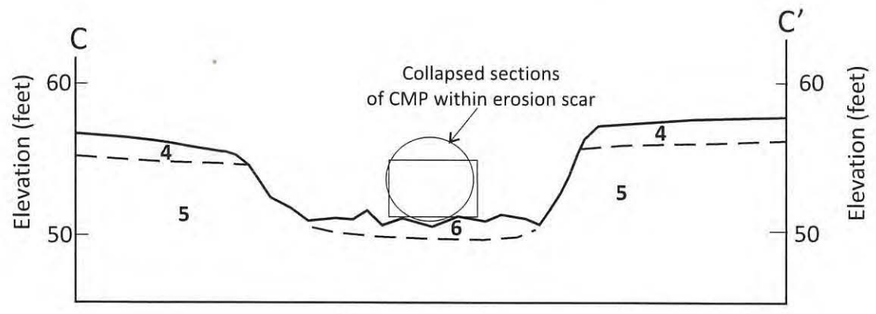
BAGG ENGINEERS

SITE PHOTOS

JOB NUMBER:	SCALE:	DATE:	PLATE
BKFEN-39-00	-NTS-	November 2018	3







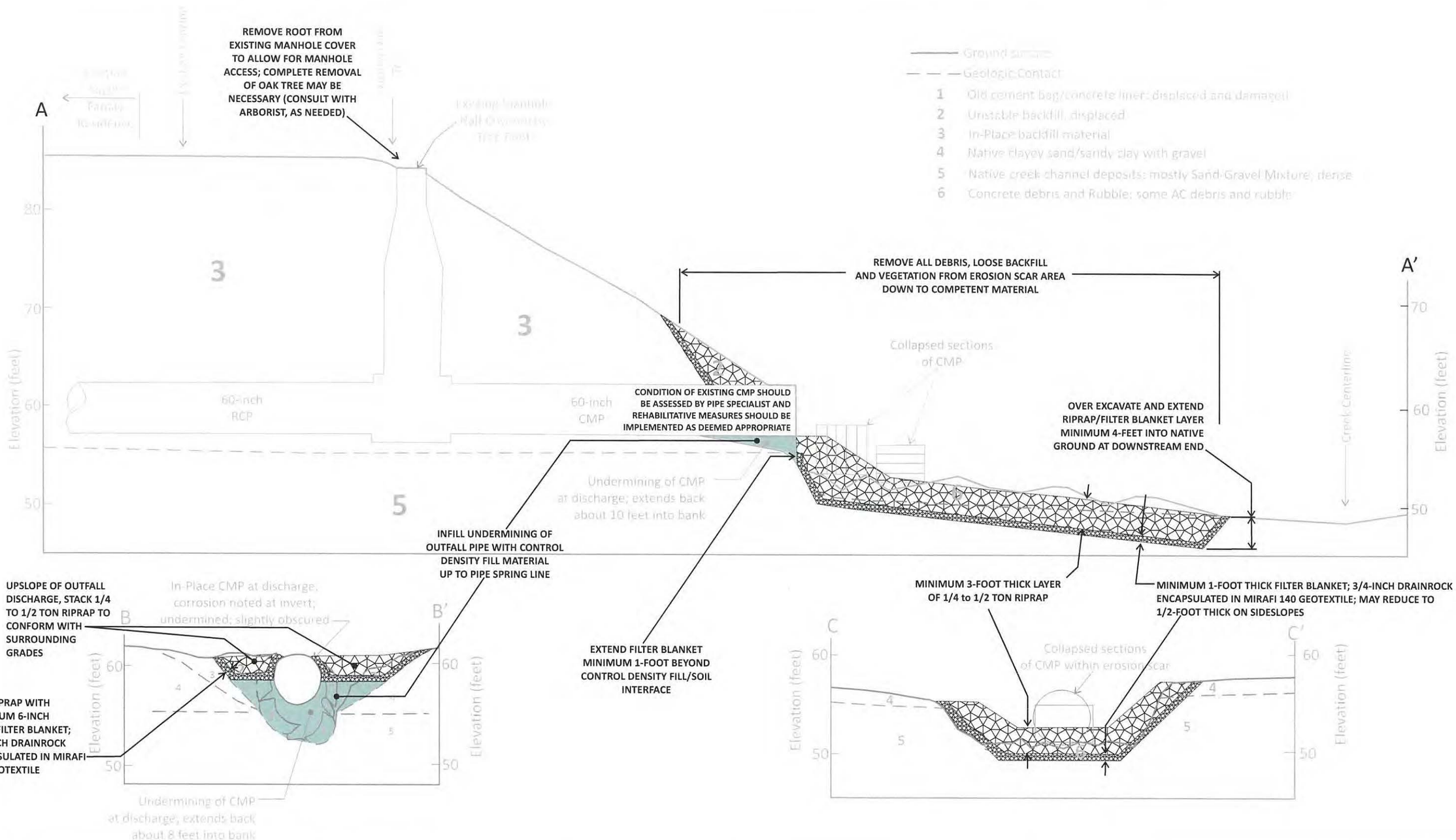
Notes:
Cross sections are approximate; based on preliminary topographic information from BKF and observations made during site recaonnaissance.

GEOTECHNICAL CONSULTATION
REMINGTON STORM DRAIN OUTFALL REPAIR
WEST END OF REMINGTON DRIVE
SUNNYVALE, CALIFORNIA

BAGG ENGINEERS

IDEALIZED CROSS SECTIONS

JOB NUMBER:	SCALE:	DATE:	PLATE
BKFEN-39-00	-NTS-	November 2018	4



Notes:
Cross sections are approximate; based on preliminary topographic information from BKF and observations made during site recaonnaissance.

GEOTECHNICAL CONSULTATION
REMINGTON STORM DRAIN OUTFALL REPAIR
WEST END OF REMINGTON DRIVE
SUNNYVALE, CALIFORNIA

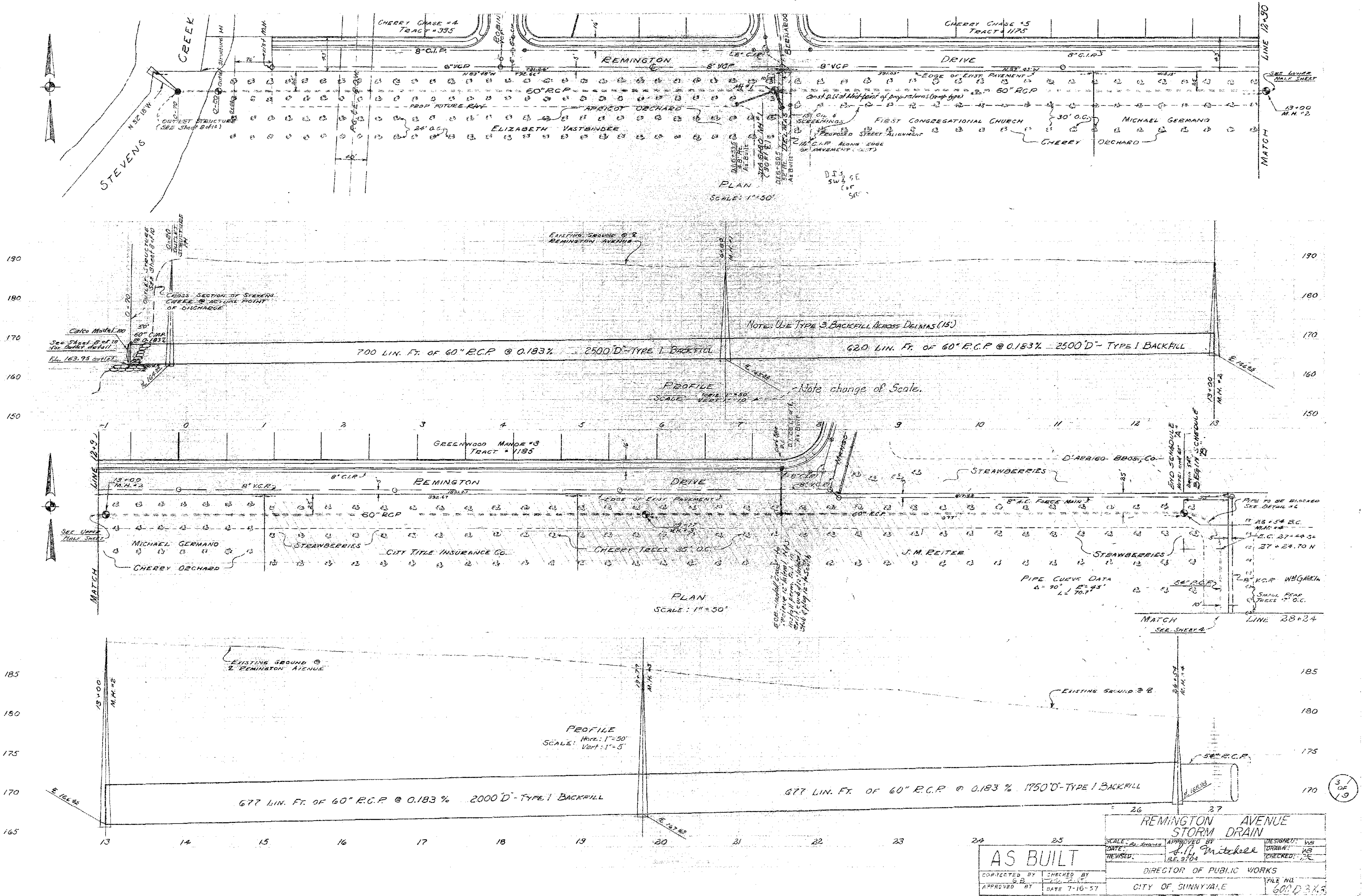
BAGG ENGINEERS

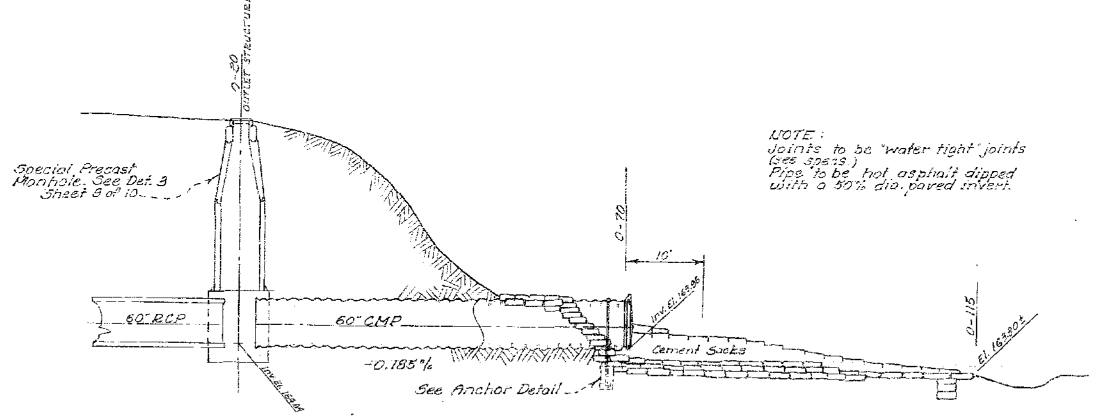
SCHEMATIC REMEDIAL MEASURES

JOB NUMBER:	SCALE:	DATE:	PLATE
BKFEN-39-00	-NTS-	November 2018	5

APPENDIX C

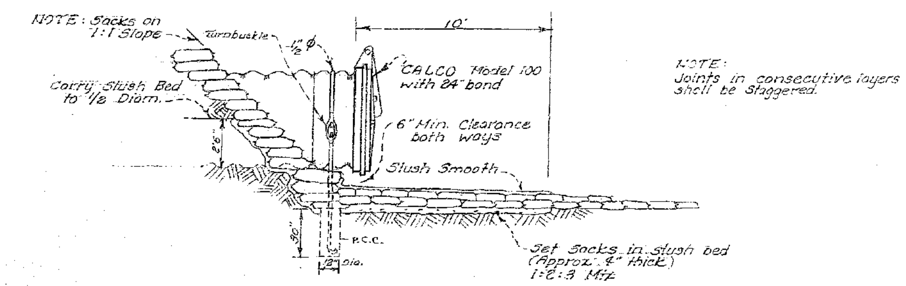
(As-built Drawings)


CHERRY CHASE #4 TRACT #335
CHERRY CHASE #5 TRACT #1175
REMINGTON DRIVE
STEVENS CREEK
60" RCP
APRICOT ORCHARD
ELIZABETH VASTBINDER
FIRST CONGREGATIONAL CHURCH
MICHAEL GERMANO
CHERRY ORCHARD
OUTLET STRUCTURE (SEE Sheet 8 of 10)
PROPOSED STREET ALIGNMENT
MATCH LINE 12+90
13+00 M.H. #2
PLAN SCALE: 1"=50'
EXISTING GROUND @ ℄ REMINGTON AVENUE
CROSS SECTION OF STEVENS CREEK @ ACTUAL POINT OF DISCHARGE
Calco Model 100
See Sheet 8 of 10 for outlet detail
Note: Use Type 3 Backfill Across Delmas (15)
700 LIN. FT. OF 60" R.C.P. @ 0.183% 2500'D'-TYPE 1 BACKFILL
620 LIN. FT. OF 60" R.C.P. @ 0.183% 2500'D'-TYPE 1 BACKFILL
PROFILE SCALE: HORIZ. 1"=50' VERT. 1"=10'
Note change of Scale.
GREENWOOD MANOR #3 TRACT #1185
D'ARRIGO BROS. CO.
STRAWBERRIES
CITY TITLE INSURANCE CO.
CHERRY TREES 35' O.C.
J. M. REITER
8" A.C. FORCE MAIN
PIPE CURVE DATA Δ = 90° R = 45' L = 70.7'
MATCH LINE 28+24 SEE SHEET 4
PLAN SCALE: 1"=50'
EXISTING GROUND @ ℄ REMINGTON AVENUE
PROFILE SCALE: Horiz: 1"=50' Vert: 1"=5'
677 LIN. FT. OF 60" R.C.P. @ 0.183% 2000'D'-TYPE 1 BACKFILL
677 LIN. FT. OF 60" R.C.P. @ 0.183% 1750'D'-TYPE 1 BACKFILL
54" R.C.P.
3 OF 19
REMINGTON AVENUE STORM DRAIN
APPROVED BY J. H. Mitchell R.E. 9704
DIRECTOR OF PUBLIC WORKS
CITY OF SUNNYVALE
AS BUILT
DATE 7-16-57
SD-38-3



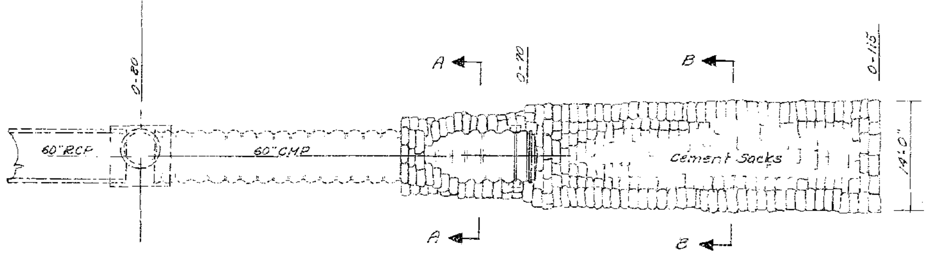
NOTE:
Joints to be "water tight" joints (see specs.)
Pipe to be hot asphalt dipped with a 50% dia. paved invert.

SECTION AT OUTLET STRUCTURE
No Scale

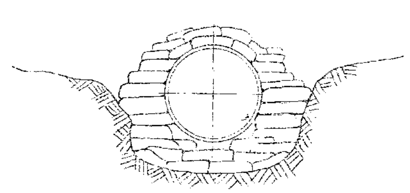


NOTE:
Joints in consecutive layers shall be staggered.

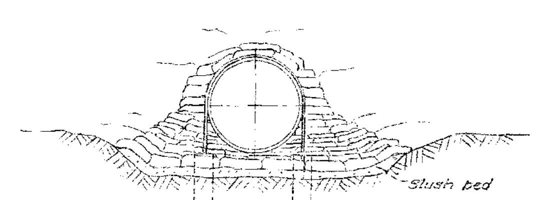
DETAIL AT OUTLET STRUCTURE
No Scale



PLAN VIEW AT OUTLET STRUCTURE
No Scale



SECTION A-A
No Scale



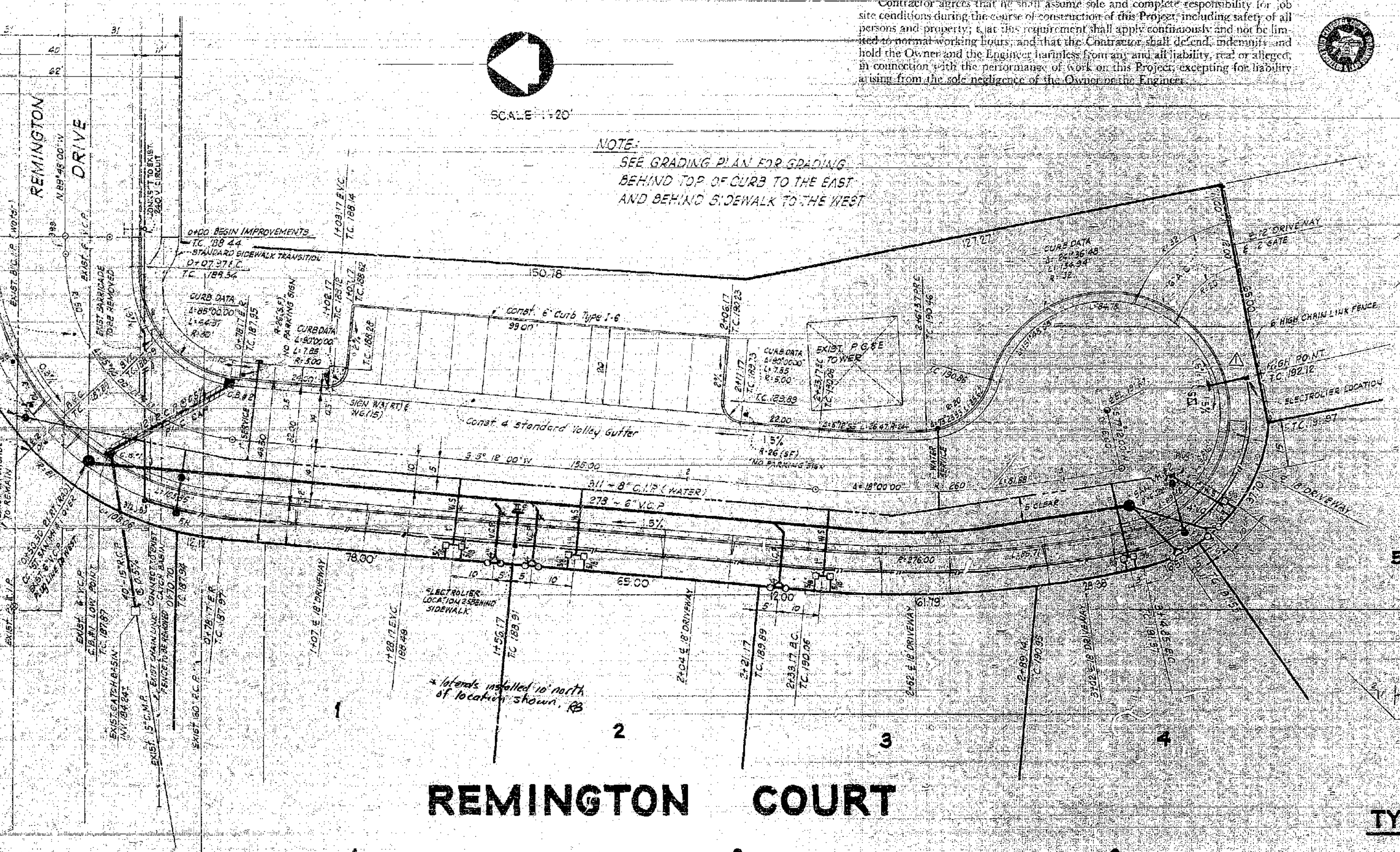
SECTION B-B
No Scale

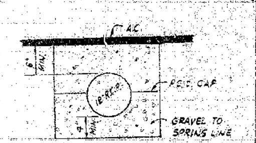
8 of 9

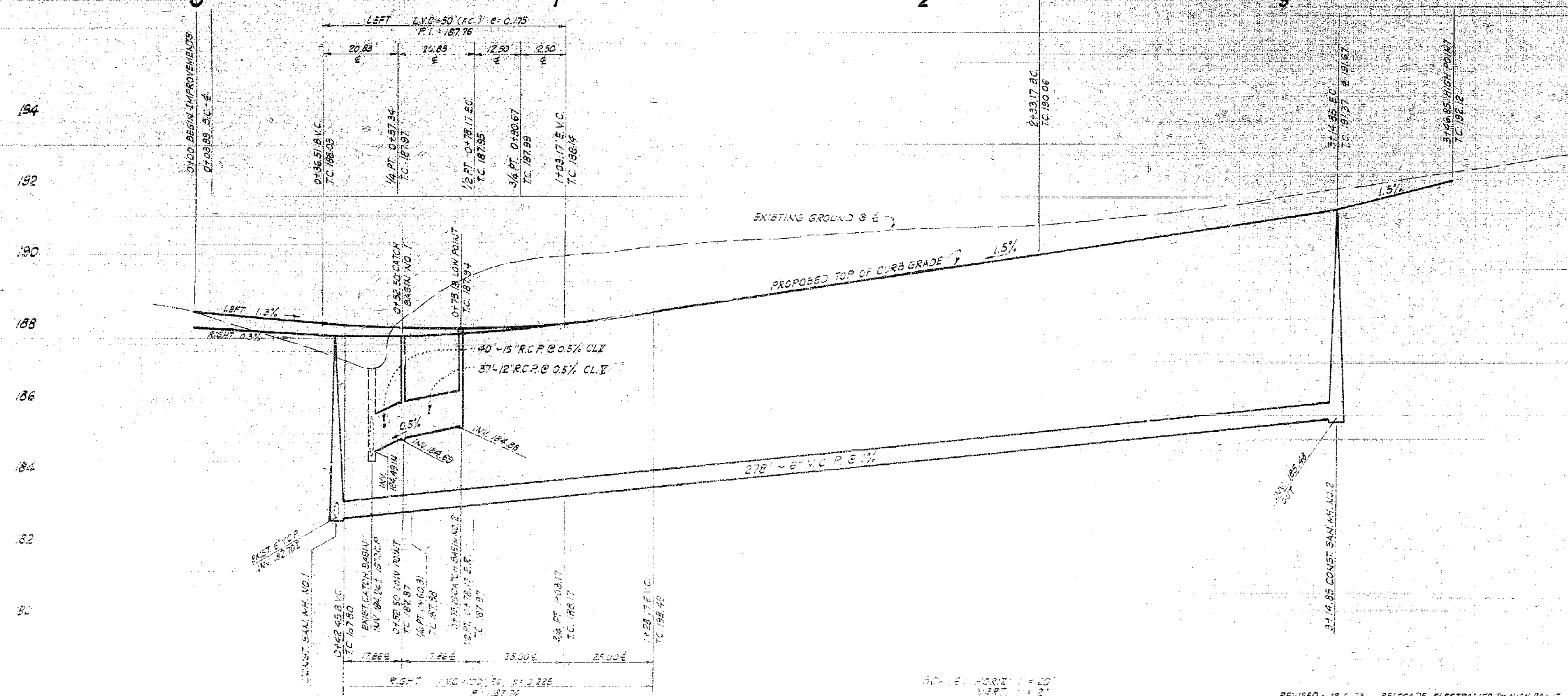
REMINGTON AVENUE STORM DRAIN		
SCALE: As Shown / DATE: 6- -56	APPROVED BY: [signature]	DRAWN BY: ILIS / REVISED:
DIRECTOR OF PUBLIC WORKS		
CITY OF SUNNYVALE		DRAWING NUMBER 6000-38.8

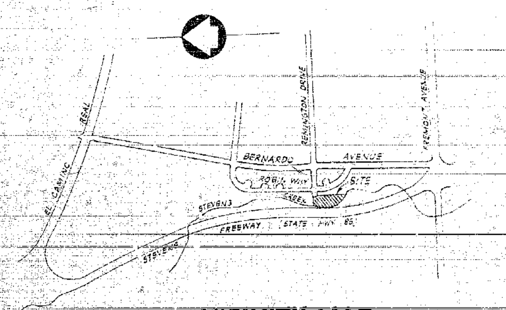
SD-38.9

Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this Project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours, and that the Contractor shall defend, indemnify and hold the Owner and the Engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this Project, excepting for liability arising from the sole negligence of the Owner or the Engineer.



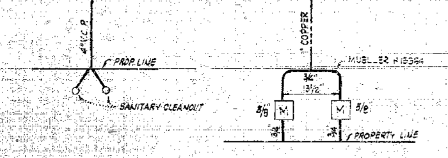






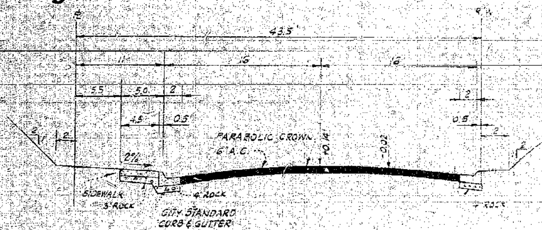
VICINITY MAP

NO SCALE



SEWER AND WATER CONNECTIONS

NO SCALE



TYPICAL STREET SECTION - REMINGTON COURT

NO SCALE

CONSTRUCTION NOTES

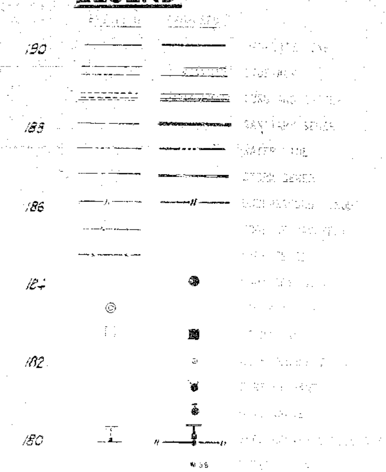
1. ALL MATERIAL AND WORKMANSHIP SHALL FULLY CONFORM WITH THE LATEST SPECIFICATIONS, STANDARDS AND ORDINANCES OF THE CITY OF SUNNYVALE AND THE LATEST REVISION OF THE STANDARD DETAIL BOOKLET.
2. ALL ELEVATIONS SHOWN ARE ON CITY OF SUNNYVALE DATUM.
3. ALL STANDARD STREET MONUMENTS, LOT CORNER PIPES, AND OTHER PERMANENT MONUMENTS DISTURBED DURING THE PROCESS OF CONSTRUCTION SHALL BE REPLACED BEFORE ACCEPTANCE OF THE IMPROVEMENTS BY THE CITY OF SUNNYVALE.
4. SEWER CONTRACTOR SHALL LOCATE SEWER LATERAL WYES (IN MAIN TRUNK) IN REFERENCE TO DISTANCES FROM MANHOLES AND SHALL FURNISH THE CITY FIELD ENGINEER WITH A PLAN OF THE LOCATIONS PRIOR TO THE ACCEPTANCE OF THE IMPROVEMENTS.
5. MANHOLES SHALL BE TYPE I UNLESS OTHERWISE SPECIFIED.
6. MANHOLE FRAMES AND COVERS SHALL BE BROUGHT TO GRADE BEFORE FINISHED PAVING.
7. DRAIN INLETS SHALL BE STANDARD 24" CURB DROP INLETS UNLESS OTHERWISE SPECIFIED.
8. GRADE BREAKS ON CURBS AND SIDEWALKS TO BE ROUNDED OFF IN FORM WORK AND FINISHED SURFACING.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL THE EXISTING UTILITIES WITH THE APPROPRIATE AGENCIES.
10. ALL WATER SERVICES SHALL BE 1" COPPER. ALL TAPS TO WATER MAINS UNDER PRESSURE THAT ARE EXISTING PRIOR TO THIS CONTRACT SHALL BE MADE BY THE CITY OF SUNNYVALE AT THE EXPENSE OF THE CONTRACTOR. VALVES EXISTING PRIOR TO THIS CONTRACT SHALL BE OPERATED ONLY BY THE CITY OF SUNNYVALE. THIS INCLUDES THE OPERATION OF VALVES REQUIRED TO PERMIT THE FILLING OF THE SYSTEM INSTALLED BY THE CONTRACTOR.
11. WATER FACILITIES SHALL NOT BE INSTALLED PRIOR TO INSTALLATION OF CURB AND UNLESS OTHERWISE SPECIFIED.
12. ALL WATER VALVE BOXES SHALL BE 3HS CHRISTY OR EQUAL.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND/OR DEVELOPER TO CONNECT THE ELECTROLIERS TO THE NEAREST EXISTING CIRCUIT.
14. ALL ELECTROLIERS SHALL BE OPERATING PRIOR TO ACCEPTANCE BY THE CITY OF SUNNYVALE.
15. THE CITY FIELD ENGINEER SHALL HAVE 24 HOUR NOTICE FOR INSPECTION.
16. APPROVAL OF THESE PLANS DOES NOT RELIEVE THE DEVELOPER OF THE RESPONSIBILITY FOR CORRECTION OF MISTAKES, ERRORS OR OMISSIONS.
17. IF DURING THE COURSE OF CONSTRUCTION OF THE IMPROVEMENTS THE PUBLIC INTEREST REQUIRES MODIFICATION OF OR A DEPARTURE FROM THE CITY'S SPECIFICATIONS, DETAILS OR THESE IMPROVEMENTS PLANS, THE CITY ENGINEER (DIRECTOR OF PUBLIC WORKS) SHALL REQUIRE IN WRITING SUCH MODIFICATION OR DEPARTURE AND TO SPECIFY THE MANNER IN WHICH SAME IS TO BE DONE.
18. THE CITY WILL FURNISH AND INSTALL THE 5/8" METER AND BOX AT THE DEVELOPER'S EXPENSE. CONTRACTOR FURNISHES AND INSTALLS ALL PIPING.

BENCH MARK

CITY OF SUNNYVALE BENCH MARK ... HYDRANT AT S.W. CORNER OF ... AND REMINGTON DRIVE.

ELEVATION = 169.73 ... DATUM

LEGEND



APPROVALS

DATE: 11-15 1973
APPROVED: ________ DIRECTOR OF PUBLIC WORKS

DATE: 11-15 1973
APPROVED: ________ ASSISTANT CITY ENGINEER

DATE: 11-15 1973
APPROVED: ________ TRAFFIC ENGINEER

DATE: ________ 1973
APPROVED: ________ ENGINEERING CONSTRUCTION SUPERVISION

DATE: ________ 1973
APPROVED: ________ CHIEF OF PUBLIC SAFETY

△ REVISED ELECTROLIER LOCATION @ END OF CUL-DE-SAC. 12-7-73

REVISED - 12-6-73 - RELOCATE ELECTROLIER TO HIGH POINT

SANDIS AND ASSOCIATES
CONSULTING CIVIL ENGINEERS
... CASTRO STREET
MOUNTAIN VIEW CALIF 94040
415 ... 0127

OCT 1973 | 1" = 20' | 27274

APPROVED: 11/9/1973

TIMOTHY D. SANDIS R.C.E. 15290

PLANS FOR THE IMPROVEMENTS OF

TRACT NO. 5464 ·· REMINGTON PARK WEST

SUNNYVALE CALIFORNIA

SHEET 1 OF 1

OFFICE OF COUNTY ASSESSOR, SANTA CLARA COUNTY, CALIFORNIA

TR N° 5464 CC 488639

BOOK	PAGE
202	39

REMINGTON PARK WEST

W. REMINGTON DRIVE

198 / 43

REMINGTON COURT

ROBIN COURT

ROBIN WAY

S. BERNARDO AVENUE

ROCKEFELLER DRIVE

STEVENS CREEK FREEWAY

85

197 / 5

CITY OF SUNNYVALE

CITY OF MT. VIEW

(STEVENS CREEK PARK CHAIN)

42

4.20 AC.

S.C.V.W.D. ESMT.

2.479 AC.

S.C.V.W.D. ESMT

0.32 AC.

CITY OF SUNNYVALE

43' ESMT.

CREEK

OAK AVE.

1" = 100'

34

36

38

TRACT NO. 2550
REMINGTON PARK

R.O.S. 210-M-30

SBE 084

LAWRENCE E. STONE – ASSESSOR
Cadastral map for assessment purposes only.
Compiled under R. & T. Code, Sec. 327.
Effective Roll Year 2016–2017

OWNER'S CERTIFICATE

We hereby certify that we are the owners of or have some right, title, or interest in and to the real property included within the subdivision shown on this map and that we are the only persons whose consent is necessary to pass a clear title to said property and we consent to the making of said map and subdivision as shown within the colored border lines and to the recording thereof and we hereby offer for dedication to public use all streets and portions of streets not heretofore existing as public streets as shown on said map within said subdivision.

We also hereby dedicate to public use easements for public utilities, under, on or over those certain strips of land lying between the front and/or side lines of lots and the dashed lines each designated as "P.U.E." (Public Utility Easement). Said Public Utility Easements to be kept open and free from buildings and structures of any kind except utility structures.

OWNER: VALLEY TITLE COMPANY, a California Corporation

Peter Borello
Asst Vice Pres.

CITY CLERK'S CERTIFICATE

I hereby certify that the within the final map of Tract No. 5464 was approved at a regular and duly authorized meeting of the City Council of the City of Sunnyvale held on the 11th day of December, 1973; that said Council did, at said meeting, accept on behalf of the public all streets, portions of streets, easements and other parcels of land for dedication to public use in conformity with the terms of the offer of dedication.

JOHN E. DEVER
CITY CLERK AND EX-OFFICIO CLERK OF THE CITY COUNCIL OF THE CITY OF SUNNYVALE

By Carol Ann Butler
DEPUTY

ENGINEER'S CERTIFICATE

I, Timothy D. Sandis, hereby certify that I am Registered Civil Engineer in the State of California; that the map consisting of two (2) sheets, correctly represents a survey made by me or under my supervision on AUGUST, 1973; that the survey is true and complete as shown; that all monuments shown hereon exist as shown or will be placed before AUGUST 1974 and that the positions are sufficient to enable the survey to be retraced.

Dated: 11/9/73

Timothy D. Sandis
TIMOTHY D. SANDIS RCE 5230

COUNTY RECORDER'S CERTIFICATE

File No. 41990 Fee 7.00 Paid

Accepted for record and recorded in Book 334 of Maps at pages 17-18 in the office of the County Recorder of Santa Clara County, California, this 22nd day of January, 1974, at 58 minutes past 12 o'clock in the P. M.

GEORGE A. MANN, County Recorder

By Lynn Almond
DEPUTY

CITY ENGINEER'S CERTIFICATE

I hereby certify that I have examined the final map of Tract No. 5464, that the subdivision shown thereon is substantially the same as it appeared on the approved tentative map and any approved alterations thereof; that all provisions of the Subdivision Map Act and any local ordinance applicable at the time of the tentative map have been complied with and that I am satisfied that said map is technically correct.

Dated: Jan 8, 1974

Donald A. Johnson
CITY ENGINEER OF THE CITY OF SUNNYVALE

ACKNOWLEDGEMENTS

STATE OF CALIFORNIA } ss
COUNTY OF SANTA CLARA }

On this ___ day of ___, 197_, before me, the undersigned, a Notary Public in and for said County and State personally appeared ___ and ___ known to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same, as Owners.

Witness my hand and official seal.

My commission expires ___

NOTARY PUBLIC IN AND FOR THE COUNTY OF SANTA CLARA, STATE OF CALIFORNIA

STATE OF CALIFORNIA } ss
COUNTY OF SANTA CLARA }

On this 14 day of November, 1973, before me, the undersigned, a Notary Public in and for said County and State, personally appeared Peter Borello, known to me to be the Asst Vice Pres. ~~known to me to be the~~ ~~Secretary~~ of the corporation that executed the within instrument, known to me to be the persons who executed the within instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the within instrument pursuant to its by-laws or a resolution of its board of directors.

[illegible]

SOILS REPORT

A Soils Report has been prepared by the firm of Civil and Construction Consultants, Inc. dated October 25, 1973 and signed by C.O. Beck, Registered Civil Engineer Certificate No. 12342, State of California

TRACT NO. 5464
REMINGTON PARK WEST

BEING A PORTION OF SECTION 8, T7S, R 2 W, M.D.B. & M.

SUNNYVALE, CALIFORNIA

DATE

SANDIS AND ASSOCIATES INC
ENGINEERS SURVEYORS AND PLANNERS
[illegible]

BASIS OF BEARINGS

The bearing S.89°48'00"E of the centerline of Remington Drive as shown on the map of Tract No. 2550 "Remington Park", recorded in Book 154 of Maps at pages 48 and 49, Santa Clara County Records, was taken as the basis of bearings shown on this map.

NOTES AND LEGEND

All distances and dimensions are shown in feet and decimals thereof
The blue border line indicates the boundary of the land subdivided by this map
3/4" Iron Pipe to be set at all lot corners
◎ Indicates Found Standard City Monument
◎ Indicates Set Standard City Monument
● Indicates Found 3/4" Iron Pipe unless otherwise noted
○ Indicates Set 3/4" Iron Pipe
[illegible] subdivided area within blue border line = [illegible] Ac
[illegible] dedicated to the City of Sunnyvale = [illegible] Ac

TRACT NO. 5464
REMINGTON PARK WEST

BEING A PORTION OF SECTION 3, T.7S., R.2W., M.D.B.&M.

SUNNYVALE, CALIFORNIA

DATE

SANDIS AND ASSOCIATES INC.
ENGINEERS, SURVEYORS AND PLANNERS
[illegible] STREET
[illegible] CALIFORNIA 94040
[illegible]

SHEET 2 OF [illegible]

Appendix B: Preliminary Jurisdictional Determination Report

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Rehabilitation of Storm Drain Outfall at Remington Court Project (UY-17-01)
General Biological Resources Assessment

Prepared for:
BKF Engineers

Prepared by:

MIG
2635 N First Street, Suite 149
San Jose, CA 95134
(650) 400-5767

October 2019

Project Number: 16150

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List of Abbreviated Terms

AMM	Avoidance and Minimization Measure
BMP	Best Management Practice
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFP	California Fully-Protected Species
CFR	Code of Federal Regulations
CMP	corrugated metal pipe
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CSSC	California Species of Special Concern
CWA	Clean Water Act
EPA	Environmental Protection Agency
ESU	Evolutionary Significant Unit
FESA	Federal Environmental Quality Act
HCP	Habitat Conservation Plan
IPaC	Information for Planning and Consultation
LSAA	Lake and Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
NOAA	National Oceanic Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NPPA	California Native Plant Protection Act
PJD	Preliminary Jurisdictional Determination
RWQCB	Regional Water Quality Control Board
SCVWD	Santa Clara Valley Water District
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Regional Control Board
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey

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Introduction

MIG, Inc. was retained to conduct a general biological resources assessment for the Remington Drive Outfall Repair and Slope Stabilization Project (Project) located in Sunnyvale, Santa Clara County, California.

This report summarizes the field methods and results of MIG's biological resource assessment within the study area and recommends measures to avoid significant biological impacts, as defined by the California Environmental Quality Act (CEQA). It also identifies permits that will be required from the resource agencies. This report will be used as a technical document for the City's CEQA analysis and resource agency applications.

Project Description

The 60-inch corrugated metal pipe (CMP) outfall was built in 1957 and failed recently due to corrosion and the lack of appropriate erosion control measures. Currently, the CMP outfalls into a highly eroded low-flow channel predominantly lined with concrete debris. The pipe is currently undermined and corroded from the current outfall point to approximately 10 feet into the hillside. In addition, the pipe has broken into multiple detached sections which now lie in the low-flow channel, including an iron flap gate. Therefore, the Project purpose is to repair the existing storm drain outfall, stabilize the channel banks, and improve the riparian habitat value of the channel. Habitat enhancement will include removal of non-native vegetation, installation of biodegradable erosion control fabric, and installation of willow stakes.

Project Location and Setting

The Project is located in the outflow channel from the stormdrain, which exits the upper eastern bank above Stevens Creek. The stormdrain originates from Remington Court in Sunnyvale, Santa Clara County, California. The Project area is bounded on the west by Stevens Creek and State Highway (CA)-85 and bounded to the east by an existing unpaved access road and residential development. Stevens Creek is designated as Endangered Species Act (ESA) Critical Habitat for federally listed threatened steelhead (*Oncorhynchus mykiss irideus*). The Santa Clara Valley Water District (SCVWD) has jurisdiction over the maintenance and preservation of Stevens Creek, while the City has jurisdiction over the maintenance of the storm drainage system. The City jurisdictional boundary generally follows the centerline (thalweg) of Stevens Creek.[1]

[1] Although the outfall is located within SCVWD's maintenance authority, the City is responsible for the storm drain maintenance through its terminus. The City is also responsible for repairing damage caused by the City drainage system because the system conveys run-off generated within the City's jurisdiction.

Regulatory Setting

This section describes the federal and state regulations that pertain to the biological resources in the Project area.

FEDERAL REGULATIONS

Clean Water Act

The United States Army Corps of Engineers (USACE) and the United States Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (CWA) (33 USC 1344). Waters of the United States are defined in Title 33 Code of Federal Regulations (CFR) Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. The lateral limits of jurisdiction in those waters may be divided into three categories – territorial seas, tidal waters, and non-tidal waters – and is determined depending on which type of waters is present (Title 33 CFR Part 328.4(a), (b), (c)).

Activities in waters of the United States regulated under Section 404 include fill for development, water resource projects (e.g., dams and levees), infrastructure developments (e.g., highways, rail lines, and airports) and mining projects. Section 404 of the CWA requires a federal permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the CWA (33 U.S.C. 1341) requires an applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a water quality certification from the state in which the discharge originates. The discharge is required to comply with the applicable water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The EPA has delegated responsibility for the protection of water quality in California to State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs).

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has the following four major components: (1) provisions for listing species, (2) requirements for consultation with the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), (3) prohibitions against "taking" (meaning harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species, and (4) provisions for permits that allow incidental "take". The FESA also discusses recovery plans and the designation of critical habitat

for listed species. Section 7 requires Federal agencies, in consultation with, and with the assistance of the USFWS or NOAA Fisheries, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. Both the USFWS and NOAA Fisheries share the responsibility for administration of the FESA.

Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), Title 50 CFR Part 10, prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term “take” is defined as meaning, “to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires.” With a few exceptions, most birds are considered migratory under the MBTA. Previously, under MBTA it was illegal to disturb a nest that is in active use, since this could result in killing a bird, destroying a nest, or destroying an egg. In 2017, the USFWS issued a memorandum stating that the MBTA does not prohibit incidental take; therefore, the MBTA is currently limited to purposeful actions, such as hunting and poaching.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) program requires permitting for activities that discharge pollutants into waters of the United States. This includes discharges from municipal, industrial, and construction sources. These are considered point-sources from a regulatory standpoint. Generally, these permits are issued and monitored under the oversight of the SWRCB and administered by each regional water quality control board. Construction activities that disturb one acre or more (whether a single project or part of a larger development) are required to obtain coverage under the state’s General Permit for Dischargers of Storm Water Associated with Construction Activity. All dischargers are required to obtain coverage under the Construction General Permit.

The activities covered under the Construction General Permit include clearing, grading, and other disturbances. The permit requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of Best Management Practices (BMPs) with a monitoring program.

STATE REGULATIONS

California Endangered Species Act

The State of California enacted similar laws to the FESA, the California Native Plant Protection Act (NPPA) in 1977, and the California Endangered Species Act (CESA) in 1984. The CESA expanded upon the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code (CFGC). To align with the FESA, CESA created the categories of “threatened” and “endangered” species. It converted all “rare” animals

into the CESA as threatened species but did not do so for rare plants. Thus, these laws together provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. The California Department of Fish and Wildlife (CDFW) implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the California Natural Diversity Database (CNDDB), a computerized inventory of information on the general location and status of California's rarest plants, animals, and natural communities. During the California Environmental Quality Act (CEQA) review process, the CDFW is given the opportunity to comment on the potential of a proposed project to affect listed plants and animals as a Trustee Agency.

California Native Plant Protection Act

The NPPA of 1977 (CFGC, §§ 1900 through 1913) directed the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by the CDFW, which has the authority to designate native plants as endangered or rare and to protect them from "take."

California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by state and local public agencies. CEQA (Public Resources Code Sections 21000 et. seq.) requires public agencies to review activities which may affect the quality of the environment so that consideration is given to preventing damage to the environment. When a lead agency issues a permit for development that could affect the environment, it must disclose the potential environmental effects of the project. This is done with an Initial Study and Negative Declaration (or Mitigated Negative Declaration) or with an Environmental Impact Report. Certain classes of projects are exempt from detailed analysis under CEQA. CEQA Guidelines Section 15380 defines endangered, threatened, and rare species for purposes of CEQA and clarifies that CEQA review extends to other species that are not formally listed under CESA or FESA, but that meet specified criteria.

Fully Protected Species and Species of Special Concern

The classification of "fully protected" (CFP) was the CDFW's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibian and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The CFGC sections (fish at §5515, amphibian and reptiles at §5050, birds at §3511, and mammals at §4700) dealing with "fully protected" species states that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species," (CDFW Fish and Game Commission 1998) although take may be authorized for necessary scientific research. This language makes the "fully protected" designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with fully protected species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

Species of special concern (CSSC) are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologist, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during project review.

California Fish and Game Code Sections 3503 and 3513

According to Section 3503 of the CFGC, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MBTA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFW.

California Fish and Game Code Sections 4150-4155

Sections 4150-4155 of the CFGC protects non-game mammals, including bats. Section 4150 states “A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission”. The non-game mammals for which “take” is typically authorized are primarily those that cause crop or property damage. All bats are classified as a non-game mammal and are protected under CFGC.

Other Sensitive Plants—California Native Plant Society

The California Native Plant Society (CNPS), a non-profit plant conservation organization, publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic version (http://www.cnps.org/cnps/rareplants/inventory/).

The Inventory assigns plants to the following categories:

1A Presumed extinct in California;
1B Rare, threatened, or endangered in California and elsewhere;
2 Rare, threatened, or endangered in California, but more common elsewhere;
3 Plants for which more information is needed – A review list; and
4 Plants of limited distribution – A watch list.

Additional endangerment codes are assigned to each taxon as follows:

1 Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).

2 Fairly endangered in California (20-80% occurrences threatened).
3 Not very endangered in California (20% of occurrences threatened or no current threats known).

Plants on Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing, and the CDFW, as well as other state agencies (e.g., California Department of Forestry and Fire Protection). As part of the CEQA process, such species should be fully considered, as they meet the definition of threatened or endangered under the NPPA and Sections 2062 and 2067 of the CFGC. California Rare Plant Rank (CRPR) 3 and 4 species are plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents (CNPS 2018, CDFW 2018b).

California Fish and Game Code Section 1600-1603
Streams, lakes, and riparian vegetation, as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of the CFGC. Any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake generally require a 1602 Lake and Streambed Alteration Agreement (LSAA).

The term “stream”, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life”. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFW 1994). Riparian vegetation is defined as, “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself” (CDFW 1994). In addition to impacts to jurisdictional streambeds, removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

Sensitive Natural Communities
Sensitive natural communities are habitats that are either unique in constituent components, of relatively limited distribution in the region, or of particularly high wildlife value. These communities may or may not necessarily contain special-status species. Sensitive natural communities are usually identified in local or regional plans, policies or regulations, or by the CDFW or the USFWS. The CNDDB identifies many natural communities as rare, which are

given the highest inventory priority (CDFW 2018a). Impacts to sensitive natural communities and habitats must be considered and evaluated under the CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G).

LOCAL REGULATIONS

Santa Clara Valley Water District

Encroachment Permit

Stevens Creek is within the jurisdiction of the SCVWD, and as per SCVWD online instructions:

> "Encroachment permits are required for any work that takes place on or near District land, easement, or facility.
>
> To protect these assets, the Community Projects Review Unit administers the Water Resources Protection Ordinance using the Water Resources Protection Manual, provides cost sharing for good neighbor fencing, facilitates land use transactions and joint use agreements, and offers technical assistance to other agencies on how to apply the Guidelines and Standards for Land Use Near Streams."

Fisheries and Aquatic Habitat Collaborative Effort (FAHCE)

FAHCE is a Settlement Agreement (SA) in response to a conflict between a Santa Clara County independent special district (Guadalupe-Coyote Resources Conservation District; GCRCD) and the SWRCB over water rights within the Stevens Creek, Coyote Creek, and Guadalupe River watersheds. GCRCD, SWRCB, USFWS, NMFS, CDFW, and various other fish and wildlife conservation non-governmental organizations (NGOs) consulted to create an agreement on water rights. Although all stakeholders signed the SA in 2003, it cannot be officially enacted until the SCVWD water rights change petition filed with SWRCB is approved. The petition was filed in 2015 and SWRCB is currently completing the environmental documents required for a hearing on FAHCE in order to:

- Complete the Environmental Impact Report (EIR) and Fish and Habitat Restoration Plan (FHRP)
- Modify 15 of the SCVWD water rights licenses with the SWRCB
- Obtain CDFW LSAAs associated with water diversions
- Secure required resource agency permits
- Generally ensure the water rights complaint from GCRCD is dismissed

The City of Sunnyvale is not obligated to abide by any specific measures due to FAHCE. However, in the spirit of the SA and due to the Project's location in the FAHCE service area, the

City of Sunnyvale should demonstrate that the Project does not substantially alter the flow of Stevens Creek and will not have any negative environmental impacts.

Methods

The contents of this report are based on a site visit and a review of relevant background materials and databases.

Literature Review

The review of background materials included the following:

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Official Species List (USFWS 2019).
- A search of the CNDDB United States Geological Survey (USGS) 7.5-minute quadrangles encompassing the Project and the eight (8) surrounding quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto (CDFW 2019)
- A search of the CNPS Inventory of Rare and Endangered Plants (Inventory), USGS 7.5-minute quadrangles encompassing the Project and the eight (8) surrounding quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto (CNPS 2019).

Site Visit

MIG biologists Melinda Mohamed, Charlotte Moran, Jenna Tuttle and Taylor Peterson performed a site visit on December 12, 2018. The entire project area and adjacent areas were visually inspected and plant and animal species observed, habitat types, and potential jurisdictional waters were documented. A subsequent visit was made in June 2019 to assess potential tree impacts and map invasive plant locations.

Biological Setting

Habitats Present

Vegetative communities are assemblages of plant species that occur together in the same area, which are defined by species composition and relative abundance. The plant communities in the Project area were classified using A Manual of California Vegetation (Sawyer *et al* 2009). The Project area contains seven habitat types in addition to Stevens Creek itself including, semi-natural shrubland stands, riparian tree stratum, riparian shrub stratum, riparian herb stratum, coast live oak stand, developed land, and ruderal species and non-native annual vegetation, as defined by Sawyer *et al* (2009). See Appendix A for a map of habitat types within the Project area. A complete list of plant species observed within the study area is provided in Appendix B.

Semi-Natural Shrubland Stands

Himalayan blackberry (*Rubus armeniacus*), is dominant or co-dominant in the shrub layer within the Project area and along the banks of Steven's Creek upstream and downstream of the Project area.

Riparian Tree Stratum

Cottonwood (*Populus fremontii*.) and arroyo willow (*Salix lasiolepis*.) trees are dominant along the outfall drainage area within the Project area and are intermittently spaced. There are three cottonwood trees (3 inches diameter at breast height [dbh] to 8.5 inches dbh), three arroyo willows (8 inches dbh), and one tan oak (6 inches dbh) in the project footprint.

Riparian Shrub Stratum

The eastern bank of Stevens Creek at creek level is dominated by Himalayan blackberry and, as the grade steepens, transitions to a terrace dominated by ruderal grassland species and non-native annual vegetation. The bank above the terrace contains toyon (*Heteromeles arbutifolia*), Pacific poison oak (*Toxicodendron diversilobum*),and coyote brush (*Baccharis pilularis*) interspersed with semi mature coast live oak alliance. There is a stand of invasive Arundo (*Arundo donax*) on the lower creek bank in the project footprint, and a stand of invasive periwinkle (*Vinca major*) on the upper bank in the project footprint. The western bank of Steven's Creek in this location is dominated by California sagebrush (*Artemisia californica*). However, the project only affects the eastern bank.

Riparian Herb Stratum

The herb stratum includes California mugwort (*Artemisia douglasiana*), horehound (*Marrubium vulgare*), bigleaf periwinkle (*Vinca major*), and annual grasses.

Coast Live Oak Alliance

One mature, native coast live oak tree (*Quercus agrifolia*) is located within the project boundary directly upslope of the outfall pipe. Additional coast live oak trees occur along the upper bank, along with Eucalyptus stands.

Developed Land

Developed land includes residential land uses, parking lots, paved paths and roads within the project area. These areas are generally devoid of vegetation or are sparsely vegetated.

Ruderal Species and Non-native Annual Vegetation

This vegetation type is typically located within frequently disturbed areas, i.e. along roads and other developed areas. Species observed within this vegetation type consist of a mix of non-native, herbaceous plants like bur clover (*Medicago polymorpha),* smart weed *(Persicaria lapathifolia)*, Italian thistle *(Carduus pycnocephalus),* giant reed *(Arundo donax)* and non-native annual grasses*.* This alliance occurs on the terrace above the top of bank adjacent to Stevens Creek.

Wildlife
Wildlife in the Project area consists of species adapted to urban areas. Wildlife observed on the December 12, 2018 site visit included Anna's hummingbird (*Calypte anna*) and common raven (*Corvus corvax*). Amphibians and reptiles that are expected to occur within the Project area include western fence lizard (*Sceloporus occidentalis*), Pacific chorus frog (*Pseudacris regilla*), and northern alligator lizard (*Elgaria coerulea*). Typical bird species expected to occur within the Project area include American crow (*Corvus brachyrhynchos*), dark-eyed junco (*Junco hyemalis*), European starling (*Sturnus vulgaris*), house finch (*Haemorhous mexicanus*), killdeer (*Charadrius vociferous*), mourning dove (*Zenaida macroura*), Northern mockingbird (*Mimus polyglottos*), oak titmouse (*Baeolophus inornatus*), rock pigeon (*Columba livia*), western gull (*Larus occidentalis*), black phoebe (*Sayornis nigricans*), and white-crowned sparrow (*Zonotrichia leucophrys*). Mammal species that occur in the Project area likely include the domestic house cat (*Felis catus*), eastern fox squirrel (*Sciurus niger*), eastern grey squirrel (*Sciurus carolinenesis*), western grey squirrel (*Sciurus griseus*), non-native mice and rats, raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and striped skunk (*Mephitis mephitis*). Bat species that may occur in the area include little brown myotis (*Myotis lucifugus*), California myotis (*Myotis californicus*), Yuma myotis (*Myotis yumensis*) and other species that are common in the region.

Special-Status Species
A special-status species is defined as a species meeting one or more of the following criteria:

- Listed, proposed for listing, or candidate for possible future listing as threatened or endangered under FESA (50 CFR §17.12)
- Listed or candidates for listing by the State of California as threatened or endangered under the CESA (CFGC §2050 et seq.).
- Listed as rare under the NPPA (CFGC §1900 et seq.).
- Listed as a Fully Protected Species (CFGC §§3511, 4700, 5050, and 5515)
- Listed as a CSSC on the CDFW Special Animals list
- Plant species considered by CNPS and CDFW to be "rare, threatened, or endangered in California" (All California Rare Plant Ranks [CRPR])

A list of special-status species that occur within the project quadrangle and 8 surrounding quadrangles, their listing status, geographic range in California, habitat requirements, life form and blooming period (plants only), and potential to occur in the Project area is included in Appendix C. This list was compiled to determine which species may be affected by the Project.

<u>Special-Status Plants</u>
Based on a CNDDB search of the USGS 7.5-minute quadrangles encompassing the Project and the eight (8) surrounding quadrangles, 82 special-status plants occur in the Project region. However, none of the 82 special-status plant species have potential to occur in the Project area due to its disturbed and urban conditions, distance from known occurrences, lack of appropriate

soil type (e.g., serpentine or alkaline), and/or lack of suitable habitat type (e.g., vernal pools, coastal dunes) required by the species. There are also no plant species with CNDDB occurrences within one mile of the Project area. There is no USFWS-designated critical habitat for any plant species in or near the Project area.

Special-Status Wildlife

Based on the CNDDB search, 43 special-status wildlife species occur in the Project region. Of these, 42 have no or low potential to occur in the Project area due to the disturbed and heavily urbanized conditions, distance from known occurrences, and/or the Project area's lack of required habitat (e.g., streams, vernal pools, coastal dunes). Except steelhead, no special-status wildlife species are documented to occur within one mile of the Project area.

Stevens Creek, is designated under the ESA as Critical Habitat for Central California Coast Steelhead. USFWS defines Critical Habitat as, "Critical habitat is the specific areas within the geographic area, occupied by the species at the time it was listed, that contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection. Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation (USFWS 2017)."

The Project area does not contain federally designated critical habitat for any other wildlife species. Only steelhead has high potential to occur within Stevens Creek adjacent to the project, and is discussed in more detail below.

Central California Coast (CCC) Steelhead Distinct Population Segment (DPS; Federal Threatened

Critical habitat for CCC steelhead DPS was designated on September 2, 2005 and includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River in Sonoma County to Aptos Creek in Santa Cruz County. The San Mateo Hydrologic Unity includes the coastal streams in San Mateo County from San Pedro Creek near Pacifica to Butano Creek near Aṅo Nuevo and the Santa Clara Hydrologic Unit includes South Bay creeks from San Francisquito Creek in Palo Alto eastward to Coyote Creek (NMFS 2006), and includes Stevens Creek.

Steelhead is an anadromous salmonid, typically migrating to marine waters after spending two years in freshwater. Following out-migration to the ocean, individual Steelhead typically remain there for two to three years (and up to seven years) before returning to their natal stream to spawn. Adults typically spawn between December and June; females typically spawn twice before they die. Recent salmonid tracking studies have indicated that migrating steelhead tend to spend only limited time in San Francisco Bay and tend to stay within deeper water channels once passing through the saltwater/freshwater interface (Chapman et al 2009). Although this behavior has not been documented in South San Francisco Bay, it is likely that similar migratory patterns are followed based on the prevalence of evidence from existing studies. Preferred

spawning is found in perennial streams with cooler-temperature water, high dissolved oxygen levels, and substantial flow. Abundant riffles (shallow areas with gravel or cobble substrate) for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful reproduction.

CCC Steelhead are known to occur in Stevens Creek (Leidy et al. 2005, CNDDB 2019); However, the status of steelhead populations in coastal San Francisco Bay streams, including Stevens Creek, remains highly uncertain, and it has been determined that sections of upper Stevens Creek, including the project site, are periodically inaccessible due to passage barriers (Domenichelli & Associates 2017; Williams et al. 2016).

Stevens Creek flows from south to north adjacent to the outfall channel; flows from the outfall channel empty into the creek. It is possible that steelhead could occur in the creek channel adjacent to the project work area. If water is present in the outfall channel during construction steelhead could potentially enter the mouth of the outfall channel from Stevens Creek. The concrete rubble in the bottom of the outfall channel and the ephemeral nature of flows there do not provide suitable steelhead habitat, and steelhead are not expected to occur farther up the outfall channel than at the mouth. Cottonwood trees adjacent to Stevens Creek and just outside of the project footprint provide shade for steelhead and may provide rootwad habitat for steelhead to forage or rest out of the main stream flow.

Creek flows are controlled at Stevens Creek Reservoir, upstream of the project. Water is released from the dam in summer months to maintain steelhead habitat. Therefore, water is expected to be present in Stevens Creek during the summer months when the project is proposed to be built.

Nesting Birds

Birds may nest within vegetation, shallow scrapes on bare ground, and man-made structures in and around the project site. Two common bird species were observed during the December 12, 2018 site visit (Appendix B). Birds are protected under CFGC and the federal Migratory Bird Treaty Act.

Bats

Bats forage and roost near water sources. Common bat species (particularly maternity colonies) may be found roosting or foraging near the Project area. Disturbance of roosting habitat of any bat species could be considered significant under CEQA guidelines. Bat species are also protected under CFGC.

Sensitive Habitats

Sensitive vegetation communities include those listed in the CNDDB, in local or regional plans, policies, or regulations, and those designated by the USFWS and CDFW. Within the Project area, the coast live oak woodland and riparian habitat is listed as sensitive habitat by CDFW. The USFWS National Wetlands Inventory also designates Stevens Creek as R4SBC (Riverine, Intermittent, Streambed, and Seasonally Flooded) (USFWS 2019b). Stevens Creek (and the

outfall channel) are Waters of the United States and Waters of the State, as described further under Jurisdictional Wetlands and Other Waters, below.

Jurisdictional Wetlands and Other Waters
MIG conducted a wetland delineation and preliminary jurisdictional determination (PJD) of the Project area on December 12, 2018. The PJD determined that 0.021 acre of the Project area is potential Waters of the United States and 0.032 acre of the Project area is potential Waters of the State. These areas are subject to regulatory oversight by the USACE and the RWQCB and the project requires permits from both agencies consistent with Sections 404 and 401 of the CWA. In addition, any impacts to the bed, banks or channel of Stevens Creek will require a LSAA from CDFW, consistent with CFGC Section 1600, and an encroachment permit from the Santa Clara Valley Water District.

Wildlife Migration
The Project area outside of the Stevens Creek corridor is surrounded by urban development including residences, buildings, roads (including Highway 85 adjacent to the project), and parking lots. There are no significant migratory corridors in the developed areas surrounding the project site. Stevens Creek itself is a creek and riparian corridor that connects the Santa Cruz Mountains to San Francisco Bay. The main channel is an important migratory route for steelhead and other aquatic species. In addition, Stevens Creek provides nursery/rearing habitat for steelhead. The riparian vegetation along the channel likely also fosters insect, bird, and mammal movement through the urban setting in which the creek lies.

Impact Analysis

Significance Criteria

Potential impacts to biological resources were determined in accordance with Appendix G of the CEQA Guidelines. Impacts would be considered potentially significant if the proposed project will:

- 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?
- 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?
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- 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.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Sensitive Species – Less-than-Significant Impact with Mitigation

Special-Status Plants

No special-status plants were determined to have potential to occur within the Project footprint based on habitat requirements and known locations. While unlikely, if special-status plants are present adjacent to the project footprint they could be trampled or crushed if Project activities occur outside of the work area. It is recommended that AMMs 1-3 be implemented, including worker education, installing orange construction fencing and/or flagging to delineate the work area, and only removing the vegetation necessary to complete the work. With the implementation of these AMMs, impacts to special-status plants will be less than significant.

Special-status Wildlife

Direct take of a federally or state-listed species is a significant impact. Except for state or federally listed species, habitat loss for special-status species is not a significant impact unless a significant percentage of total suitable habitat throughout the species' range is degraded or somehow made unsuitable, or areas supporting a large proportion of the species' population are substantially and adversely impacted.

Steelhead, a federally listed species, is the only special-status wildlife determined to potentially occur in this portion of Stevens Creek. Steelhead could be impacted directly if water is in the outfall channel during construction and steelhead swim into the area. Creek flows are controlled at Stevens Creek Reservoir, and may be higher in summer than expected. Backflows into the outfall channel during construction will need to be controlled to prevent steelhead from entering the work area and to protect water quality from sediment or contaminant release during construction. The project includes a coffer dam for this reason. Otherwise, the repaired outfall and the outfall channel are outside of the main channel where steelhead occur and will not result in direct impacts to steelhead during construction or operation. The main channel of Stevens Creek is not proposed to be directly impacted by project activities. Implementation of AMMS 1-4 (worker education, work site delineation, vegetation removal, materials and equipment staging), 7-10 (water pollution prevention, erosion control, hazardous spill plan, tree protection), and 12-14 (restoration, construction site sanitation, coffer dam and dewatered work area) will prevent significant impacts to steelhead and steelhead habitat.

The project entails the removal of vegetation in the outfall channel and on the upper bank of Stevens Creek. The upper bank does not cast shade on the channel that may benefit steelhead, due to the set back from the creek and the vegetation heights. There are several cottonwood trees at the outfall channel that do provide shade for the main Stevens Creek channel. Shade

may support fish migration by keeping the water cool and allowing fish to rest. There are cottonwoods on the bank that are not planned to be impacted by the project, but which should be protected. In addition, there are trees in the outfall channel that the City may protect, rather than remove. Implementation of AMM-10 (tree protection) and AMM-12 (restoration) will prevent significant impacts to riparian habitat that benefits steelhead.

Nesting Birds

Nesting birds and non-game mammals are protected under California Fish and Game code and the federal Migratory Bird Treaty Act (for certain birds). Removal or disruption of active nests or roost sites is a potentially significant impact.

Nesting birds, including raptors, protected under CFGC are potentially present in the vegetation within the Project area. If construction activities occur during the avian breeding season (generally February 1 to September 15), injury to individuals and/or nest abandonment could occur. In addition, noise and increased construction activity could temporarily disturb nesting or foraging activities, potentially resulting in the abandonment of nest sites and/or reduced reproductive success. Implementation of AMMs 5a and 5b (nesting bird surey) will ensure that impacts to nesting birds will be less than significant.

Bats

Common bat species protected under the CFGC could potentially roost in bark of the trees within and near the Project area. One mature coast live oak will be removed for Project activities and other trees within the Project area may vibrated and/or auditorily disturbed via Project activities. Direct impacts to bats could occur if construction activities result in the disruption or abandonment of nearby active bat roosts. With the implementation of AMM-6 (roosting bat survey), project impacts on bats will be less than significant.

Sensitive Natural Vegetation Communities – Less-than-Significant Impact with Mitigation

Sensitive vegetation communities include riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations, or designated by the USFWS, NOAA Fisheries, and CDFW. Impacts to jurisdictional aquatic features will occur and are discussed below under Jurisdictional Waters.

The riparian woodland within and adjacent to the Project area, including cottonwood, arroyo willow, and coast live oak is listed as sensitive habitat by the CDFW (VEGCamp, 2019). One coast live oak that is growing into the outfall pipeline will be removed. In addition, one cottonwood, two arroyo willows, and one tan oak are expected to be removed during construction. Two cottonwoods and one willow in the project area are expected to be protected in place. In addition, three cottonwoods on the creek bank adjacent to the work area are planned to be protected. The coast live oak will be replaced with 3 15-gallon coast live oak plantings within 250 feet of the oak to be removed, in a location where they can be monitored, cared for, and survive to maturity. To mitigate the loss of riparian trees, the project includes a

plan to plant willow stakes along the bank of the main channel of Stevens Creek. Four trees will be removed, and 18 willow stakes total will be installed in six planting locations.

With the implementation of AMMs 1-4 (worker education, work site delineation, vegetation removal, materials and equipment staging), 7-10 (water pollution prevention, erosion control, hazardous spill plan, tree protection), and 12-13 (restoration, construction site sanitation) the impacts from the Project on sensitive habitats will be less than significant.

Jurisdictional Waters – Less-than-Significant Impacts with Mitigation

The Project will impact 0.021 acre (915 square feet) of potential Waters of the United States, including 0.013 acre (566 square feet) of permanent impacts and 0.01 acre (436 square feet) of temporary impacts. The project will affect 62 linear feet of the outfall channel and 60 linear feet along the low flow channel of Stevens Creek.

The Project will impact 0.071 acre (3,093 square feet), of Waters of the State within the jurisdiction of the Regional Water Quality Control Board, the California Department of Fish and Wildlife, and the Santa Clara Valley Water District. This includes 0.021 acre (916 square feet) of permanent impact and 0.05 acre (2,178 square feet0 of temporary impact. The project will affect 62 linear feet of the outfall channel and 60 linear feet along the low flow channel of Stevens Creek. Approximately 45 cubic yards of existing concrete rubble fill in the channel will be removed. Another 30 cubic yards of soil below the rubble will be removed. Bedding comprising 13 cubic yards will then be installed in the outfall channel, followed by 80 cubic yards of ¼ to ½-ton boulders and 30 cubic yards of engineered dirt fill. The project will repair existing conditions that may be adversely impacting water quality and jurisdictional waters as a result of erosion along the outfall channel.

The project work site is also adjacent to the main channel of Stevens Creek, which is expected to be flowing during the construction period. Potentially jurisdictional features outside of the Project area (e.g., Stevens Creek) could be indirectly affected by project activities. Specifically, construction activities could indirectly cause the degradation of surface or ground water quality due to erosion and transport of fine sediments downstream of the construction area and unintentional release of contaminants into jurisdictional waters that are outside of the footprint of Project.

With the implementation of AMMs 1-4 (worker education, work site delineation, vegetation removal, materials and equipment staging), 7-10 (water pollution prevention, erosion control, hazardous spill plan, tree protection), and 12-13 (restoration, construction site sanitation) the impacts from the Project on jurisdictional waters within and adjacent to the project will be less than significant. In addition, the Project requires an LSAA from the CDFW, a Nationwide Permit from the USACE, an encroachment permit from the SCVWD, and a Water Quality Certification from the RWQCB. The Project will be required to meet the permit conditions identified by the agencies.

Interfere with Native Wildlife Movement – Less-than-Significant Impact with Mitigation

The project will have temporary construction impacts that may affect wildlife movement, including within Stevens Creek, but it will not result in a permanent barrier to wildlife movement. Indirect impacts to Stevens Creek, a wildlife corridor and nursery resource, could occur during construction. Measures that protect the main channel during construction will reduce the potential impact to less than significant. Implementation of AMMs 1-4 (worker education, work site delineation, vegetation removal, materials and equipment staging), 7-9 (water pollution prevention, erosion control, hazardous spill plan), and 12-13 (restoration, construction site sanitation) will ensure the project results in less than significant impacts to wildlife movement.

Conflict with Local Policies – Less-than-Significant Impact

As part of the permitting process for the Project, the City will obtain a SCVWD encroachment permit, and will comply with local policies implemented through that permit.

Conflict with Conservation Plan – No Impact

The Project is not within an area covered by an HCP or NCCP and will have no impact related to an HCP or NCCP.

Impact and Mitigation Statement

Impacts to Special-status Species, Sensitive Natural Communities, Jurisdictional Waters, and Wildlife Movement: Project activities could adversely impact biological resources by direct removal, disturbance, and indirect impacts on the habitats with the introduction of pollutants, sediment, and invasive weeds.

Measure BIO-1: To ensure that biological resources are protected, Measure BIO-1 is to comply with AMMs 1-14. Some measures are the sole responsibility of the City, but most measures involve the Contractor, and shall be included in bid documents and project specifications that are provided to the Contractor. Any additional measures required under agency permits (i.e., CDFW, RWQCB, USACE, SCVWD) that apply to Contractor actions shall also be incorporated into the specifications for the project that are provided to the Contractor.

Effect: Will ensure that the Contractor is aware of each of the measures necessary to protect biological resources, including worker environmental training, pre-construction surveys,water quality, erosion protection measures, and restoration.

Implementation: Include Measures included on the final plan set provided to Contractors bidding on the project and to the selected Contractor.

With the implementation of Mitigation Measure BIO-1 project impacts to special-status species, sensitive natural communities, wetlands, and wildlife movement will be less than significant.

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Table 1 Avoidance and Minimization Measures to be Incorporated into the Project

Number	Measure	Implementation
AMM-1 Designate a Project Biologist and Provide Worker Environmental Awareness Training	The City of Sunnyvale shall designate a project biologist to provide worker training, conduct pre-construction surveys, and support the site engineer during construction as needed. The project biologist shall prepare a Worker Environmental Awareness Training (WEAT) handout and shall provide worker training prior to the start of work on the first day (including material staging and vegetation removal), and subsequently as needed, to train new personnel onsite. The WEAT shall provide information about sensitive biological resources, pertinent laws and regulations, what species to watch for, clear instructions, and biological monitor contact information. The biologist shall document worker training sessions.	City and Project Biologist
AMM-2 Work Site Delineation	Prior to construction activities, the work area shall be delineated with brightly colored construction fencing and/or flagging to ensure that environmentally sensitive areas are protected from project activities. Clearing within the project site will be confined to the minimal area necessary to facilitate construction activities. The location and extent of the work may be modified in the field by the engineer after consultation with the project biologist. No work activities shall occur outside of the delineated work site.	Include in Specifications for Contractor to implement with assistance from the Project Biologist
AMM-3 Vegetation Removal	Ground disturbance and vegetation removal will not exceed the minimum amount necessary to complete work at the site. Vegetation trimming, grubbing, or removal will not occur between February 15 and September 15 unless AMM-5 Nesting Bird Survey and AMM-6 Bat Survey have been completed and any required protection measures have been implemented	Include in Specifications for Contractor to implement
AMM-4 Materials and Equipment Staging.	Materials and equipment storage and parking areas will be limited to pavement, existing roads, and unvegetated areas, and will be set back at least 25 five feet from the edge of vegetation at the top of the upper bank of Steven's Creek. Equipment will only be re-fueled and serviced at designated construction staging areas. The Contractor will use drip pans during refueling to contain accidental releases. Drip pans will be placed under the fuel pump and valve mechanisms of any bulk fueling vehicles parked at the project site.	Include in Specifications for Contractor to implement
AMM-5a and 5b Nesting Bird Survey.	AMM-5a. To avoid impacts to nesting birds and violation of state and federal laws pertaining to birds, all construction-related activities (including but not limited to mobilization and staging, clearing, grubbing, vegetation removal, fence installation, demolition, and grading) should occur outside the avian nesting season (generally prior to February 1 or after August 31). If construction and construction noise occurs within the avian nesting season	City and Project Biologist

Number	Measure	Implementation
	(from February 1 to August 31 or according to local requirements), all suitable habitats located within the project's area of disturbance including staging and storage areas plus a 250-foot (passerines) and 1,000-foot (raptor nests) buffer around these areas shall be thoroughly surveyed, as feasible, for the presence of active nests by a qualified biologist no more than five days before commencement of any site disturbance activities and equipment mobilization. If project activities are delayed by more than 15 days, an additional nesting bird survey shall be performed. Active nesting is present if a bird is sitting in a nest, a nest has eggs or chicks in it, or adults are observed carrying food to the nest. The results of the surveys shall be documented. AMM-5b. If pre-construction nesting bird surveys result in the location of active nests, no site disturbance and mobilization of heavy equipment (including but not limited to equipment staging, fence installation, clearing, grubbing, vegetation removal, fence installation, demolition, and grading), shall take place within 250 feet of non-raptor nests and 1,000 feet of raptor nests, or as determined by a qualified biologist in consultation with the California Department of Fish and Wildlife, until the chicks have fledged. Monitoring shall be required to insure compliance with the MBTA and relevant California Fish and Game Code requirements. Monitoring dates and findings shall be documented.	
AMM-6 Roosting Bat Survey.	A preconstruction survey for maternity (March 1 to August 1) or colony bat roosts (year-round) shall be conducted by a qualified biologist within 14 days prior to activities that remove vegetation or structures. If an occupied maternity or colony roost is detected, CDFW shall be contacted about how to proceed. Typically, a buffer exclusion zone would be established around each occupied roost until bat activities have ceased. The size of the buffer would address: • Proximity and noise level of project activities; • Distance and amount of vegetation or screening between the roost and construction activities; • Species-specific needs, if known, such as sensitivity to disturbance. Due to restrictions of the California Health Department, direct contact by workers with any bat is not allowed. The qualified bat biologist shall be contacted immediately if a bat roost is discovered during project construction.	City and Project Biologist
AMM-7 Water Pollution Prevention.	The Contractor shall comply with the provisions of the San Francisco Bay Regional Municipal Regional Stormwater NPDES Permit CAS612008 and shall follow storm water best management practices as specified in the City of	Include in Specifications for Contractor to Implement

Number	Measure	Implementation
	Sunnyvale Standard Specifications and Project Specifications, with the purpose of preventing pollution from entering Stevens Creek and downstream waters that support special-status steelhead and riparian habitat. The Contractor shall be familiar with the State of California Construction Best Management Practices Handbook for applicable control measures and employ its provisions throughout all construction activities. Excess or waste materials shall not be washed into any drainage system. Provisions shall be made to contain waste materials on site until they can be disposed of at an appropriate disposal facility. The contractor will identify construction-phase BMPs. Recommended BMPs include: proper stockpiling and disposal of demolition debris, concrete, and soil; protecting existing storm drain inlets; stabilizing disturbed areas; applying erosion controls; employing proper management of construction materials; directing waste management; providing for aggressive litter control; and using applicable sediment controls. Construction vehicles and equipment will be checked daily and appropriately maintained to prevent contamination of soil or water from all sources of hydraulic fluid, fuel, oil, and grease. Waste facilities will be maintained. Waste facilities include concrete wash-out facilities, porta-potties, and hydraulic fluid containers. Waste will be removed to a proper disposal site.	
AMM-8 Erosion Control	Construction activities shall be limited to the dry season (generally April through October), to minimize erosion, unless authorized under permits from the resource agencies (e.g., CDFW, RWQCB, USACE). All disturbed soils shall undergo erosion control treatment prior to October 15th and/or immediately after construction is terminated. Any disturbed soils on a gradient of over 30 percent will have erosion control measures installed. Temporarily disturbed soils will be hydroseeded with a native erosion control mix. Other disturbed soil areas and soil stockpiles will be covered with tarps prior to forecast rain events. The City and Contractor shall adhere to the Municipal Regional Stormwater NPDES Permit (MRP) Best Management Practices for sedimentation prevention and erosion control to prevent deleterious materials or pollutants from entering the storm drain system and Stevens Creek. Site conditions at the time of placement of erosion control measures will vary. The Contractor shall adjust erosion control measures as the site conditions change and as the needs of construction shift, to prevent erosion and sediment from leaving the construction site.	Include in Specifications for Contractor to Implement

Number	Measure	Implementation
AMM-9 Hazardous Spill Plan	A hazardous spill plan shall be developed by the contractor and submitted to the City for review and approval prior to the start of construction. The plan will describe what actions will be taken in the event of a spill of hazardous materials such as fuel, oil, and lubricants. The plan shall incorporate preventative measures to be implemented, such as vehicle and equipment staging, cleaning, maintenance, and refueling; and contaminant (including fuel) management and storage. In the event of a contaminant spill, work at the site will immediately cease until the contractor has contained and mitigated the spill. The contractor will immediately prevent further contamination and notify appropriate authorities and mitigate damage as appropriate. Adequate spill containment materials, such as oil diapers and hydrocarbon cleanup kits, shall be kept maintained and available on site. Containers for storage, transportation, and disposal of contaminated absorbent materials shall also be provided.	Include in Specifications for Contractor to Implement
AMM-10 Tree Protection	The Contractor shall hand trench near trees and cut roots as directed by the City Arborist. Trees adjacent to the work area shall be protected with fencing or other measures as directed by the City Arborist. Cottonwood trees adjacent to the creek channel and outside of the project footprint shall be protected and shall not be removed. Cottonwood and arroyo willow trees within the project footprint shall be protected when possible.	City Arborist; include in specifications for Contractor to implement
AMM-11 Wildlife Entrapment	All trenches shall be backfilled or covered at the end of each work day. No trench shall be left open during non-working hours. Trenches shall be surveyed each morning for trapped wildlife. If trapped wildlife are discovered the site engineer shall contact the project biologist for direction regarding handling wildlife trapped in a trench. The project biologist shall identify the species and the least deleterious method of removing the species from the trench. If a special-status species is found, the project biologist shall contact the appropriate resource agency for guidance before proceeding. If injured non-special-status wildlife are encountered, the project biologist shall remove them to a wildlife rehabilitation facility.	Include in Specifications for Contractor to implement with Project Biologist
AMM-12 Restoration.	Existing patches of Arundo and Vinca shall be pulled by hand and with hand tools, bagged or placed into a covered truck, and landfilled either prior to or as the first step of site grading. All portions of the plants need to be removed to prevent re-infestation. Temporary work areas shall be restored with respect to pre-existing contours and conditions upon completion of work. Upon completion of construction,	Include in Specifications for contractor to implement. City responsible for monitoring and remediation.

Number	Measure	Implementation
	temporarily and permanently disturbed sections of Stevens Creek shall be revegetated with native grasses and forbs and willow stakes as identified in the plans. Use of invasive plant species, as defined by the California Invasive Plant Council (Cal-IPC.com), is prohibited. Weeding, bagging, and disposal of invasive plants shall be implemented if the cover exceeds 10%. Willow stakes shall be installed on the creek terrace adjacent to the channel as shown on the project plans to replace riparian tree habitat removed by the project. Three stakes shall be placed in each planting hole, and to maintain a grassland/willow mosaic in the site, the plantings shall be placed on ten-foot centers. At least 6 sites containing a total of 18 willow stakes shall be planted (3 per site). More sites shall be planted if more than four trees are removed for the project. One (1) mature coast live oak expected to be removed for the project shall be replaced with three 15-gallon coast live oak plantings. These plantings shall be installed within 250 feet of the oak to be removed in a location that can be maintained so that at least one of the three trees survives to maturity. The plantings shall be installed by a professional with experience installing and maintaining creek restoration plantings, including willow stake collection and installation. The cover of invasive plant species shall not exceed 10% of the planting area in any monitoring year. Invasive plant species are defined as species rated as high or red alert by the California Invasive Species Council. All plantings shall be monitored by a qualified biologist after installation. Target species will achieve at least 70% survival after three years. Both qualitative and quantitative measurements will be used to determine, on an annual basis, if the restoration area, including target planting and native species recruitment, achieves the goals of increasing the cover and diversity of riparian species and the habitat functions and values of the riparian corridor in this location. If functions and values are replaced both with restoration plantings and natural recruitment, the restoration will be successful. Function and values include providing cover and forage for wildlife. Additional planting/adaptive management shall be recommended in each annual monitoring report if	

Number	Measure	Implementation
	necessary. If the target survival rate is not met within five years, monitoring and adaptive management measures shall continue until restoration goals are achieved.	
AMM-13 Construction Site Sanitation.	Food items and trash may attract wildlife onto the construction site, which can expose them to construction-related hazards. A litter control program shall be instituted at the project site. All workers shall ensure their food scraps, paper wrappers, food containers, cans, bottles, and other trash are deposited in covered or closed trash containers. Trash shall be removed from the project site at the end of each working day.	Include in Specifications to be implemented by the Contractor
AMM-14 Coffer Dam and Dewatering the Work Area	The project design shall include a temporary coffer dam at the downstream end of the outfall channel to prevent water and steelhead from entering the work area. Because creek flows are controlled at Steven Creek Reservoir, the creek could be flowing at any time of year due to water releases. The coffer dam shall be comprised of sacks filled with clean washed rock covered with an impermeable liner. The leading edges of the liner will be placed a minimum of 2 feet below the channel bottom to prevent sub-surface flow. The coffer dams will have a maximum height of about 2 feet above the low point of the channel or a height determined by a qualified contractor. The project is expected to be built during the dry season so that water is not in the outfall channel. If water is in the outfall channel during construction it shall be pumped out but not directly pumped into Stevens Creek. Depending on the amount it shall be pumped onto the adjacent terrace to percolate to the creek, or pumped into a settling basin before release to the creek to prevent sediments from being pumped into the creek, causing water turbidity.	Include in Specifications to be implemented by the Contractor

Table 2. Willow Planting Specifications

Part 1 – General

1.1 Summary

A. Section includes (but is not necessarily limited to):

1. Site preparation
2. Collecting and processing willow cuttings
3. Preparing planting holes, furnishing and installing soil amendment and fertilizer
4. Planting willow pole cuttings
5. Maintaining until acceptance by owner
6. Maintaining plants during guarantee period

B. Related sections

1. Tree protection
2. Invasive plant removal

1.2 Submittals

A. None.

1.3 Quality Assurance

A. Plant species identification shall be in accordance with the Jepson Manual – Higher Plants of California, James C. Hickman, editor, University of California Press, Berkeley.

B. Acceptance criteria for materials and workmanship. The owner shall inspect all materials and workmanship for compliance with the drawings and specifications. Acceptance of all materials and workmanship is at the discretion of the owner.

Part 2 – Products

2.1 Manufacturers

A. Plant fertilizer: "Right Start" fertilizer packs by Treessentials. For trees or shrubs, or equivalent as approved by the owner, fertilizer shall have the following ratio of nitrogen, phosphorous, and potassium formulation: 16-6-8

2.2 Materials and Fabrication

A. Pole Cuttings

1. Collect live stakes from existing willow trees at a designated location under the direction of the owner. They shall be from the same watershed.
2. Collect stakes from a minimum of five trees, cut from 1-year old branches, between 3-4 feet long and 1-1.5 inches in diameter. Cut at an angle so that it is obvious which end is the end to be planted and for ease of installation. Unless immediately installed, stakes will be bundled (up to ten poles per bundle) and wrapped in wet burlap. During the collection process store bundles in shaded, cool, moist location (no wind, sun, or exposure to freezing).
3. Install stakes as soon as possible after cutting (2 weeks maximum). If storing, soak the bottoms of live stakes to a depth of 24 inches for up to 10 days prior to installation in water treated with "Thrive" liquid plant fertilizer (or equivalent approved by owner) according to the manufacturer's specifications.

B. Soil Amendment. Soil amendment shall be comprised of equal parts soil from the planting hole and final compost.

Part 3. Installation

3.1 Planting

A. Plant willow poles in the fall/winter after the first significant rains, per approval of the owner.

B. Contractor shall complete the work to allow the owner to accept the plant material before the start of planting.

C. Layout: the contractor shall locate planting areas and individual planting locations as specified on the drawings and confirm with the owner prior to installation.

D. Plant willow poles within the elevation ranges specified on the plans. Planting locations, quantities, and spacing are conceptual and may be adjusted in the field as necessary prior to installation by the owner in consultation with a restoration ecologist.

E. Willow Planting

1. Dig planting holes with a minimum diameter of 9 inches and a minimum depth of 24 inches.
2. Distribute fertilizer packs in the planting hole prior to installing the willow stakes. Place one packet at the bottom of the hole, and one halfway up the hole after it has been filled. Furnish and install two fertilizer packets per hole.
3. Plant three willow cuttings per hole, 24 inches deep. Push the willow stakes into the soil at least 24 inches, approximately between 1/2 and 4/5 of the length of the willow stake.
4. Fill hole with soil amendment in 12-inch lifts, and water between lifts (fill to 12 inches, add water, fill to top, add water).
5. Create a watering basin and install mulch in accordance with the typical planting detail.
6. Water as directed by the owner. Newly planted willows shall be watered thoroughly at the time of planting to prevent plants from wilting and wet the root zone.
7. The planting locations shall be mapped and geo-located for future reference.

F. Completion of Work

1. Upon completion of work the contractor shall remove all tools, materials, rubbish, and debris associated with this work.

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Appendix A. Project Area with Vegetation Communities

Source: ESRI 2015; MIG 2018; BKF; SCVWD

- Study Area
- Stevens Creek/low-flow channel
- Coast live oak alliance
- Developed land
- Riparian tree, shrub, and herb strata
- *Rubus armeniacus* semi-natural shrubland stands
- Ruderal species and non-native annual vegetation

Figure 5 Vegetation Communities Map

Rehabilitation of Storm Drain Outfall at Remington Court Project (UY-17-01)

Appendix B. Observed Plant and Wildlife Species

Appendix B. List of plant species observed during the site visit conducted on December 12, 2018.

Scientific Name	Common name
Arrundo donax	giant reed
Artemisia spp.	mugwort
Baccharis pilularis	coyote brush
Deschampsia spp.	tussock grass
Eucalyptus globulus	blue gum eucalyptus
Heteromeles arbutifolia	toyon
Marrubium vulgare	white horehound
Quercus agrifolia	coast live oak
Rubus armeniacus	Himalayan blackberry
Salix lasiolepis	arroyo willow
Salvia spp.	unknown sage
Toxicodendron diversilobum	Pacific poison oak
Umbellularia californica	Bay laurel
Vinca major	greater periwinkle

Appendix B. List of wildlife species observed during the site visit conducted December 12, 2018.

Scientific Name	Common name
Calypte anna	Anna's hummingbird
Corvus corvax	common raven

Appendix C. Study Area Special-Status Species Potential Table

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
San Mateo thorn-mint (*Acanthomintha duttonii*)	FE; SE; CRPR1B.1	Located in San Mateo County.	Chaparral, valley and foothill grassland, or coastal scrub. Locally occurs in serpentine bunchgrass grassland; 50-300 m.	Annual herb, April - June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. In addition, the nearest documented CNDDB occurrence is within 12 miles from the Project area and has been extirpated.
Franciscan onion (*Allium peninsulare var. franciscanum*)	CRPR 1B.2	Coastal mid California, from Monterey to Mendocino Counties.	Cismontane woodland, valley and foothill grasslands. Often on dry hillsides and in serpentine bunchgrass grasslands; 52-300 m.	Perennial bulbiferous herb, May - June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area.
bent-flowered fiddleneck (*Amsinckia lunaris*)	CRPR 1B.2	Mid California, including Monterey, Santa Cruz, San Mateo, Marin, Alameda, Contra Costa, Napa, Lake and Colusa counties.	Coastal bluff scrub, cismontane woodland or valley and foothill grassland; 3-500 m.	Annual herb, March - June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles southeast of the Project area.
California androsace (*Androsace elongate* ssp. *acuta*)	CRPR 4.2	Various counties throughout the entirety of California.	Chaparral, cismontane woodland, coastal scrub, meadows and seeps, pinyon and juniper woodland, valley and foothill grassland, 150-1305 m.	Annual herb, March – June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area.
slender silver moss (*Anomobryum julaceum*)	CRPR 4.2	Isolated areas within Butte, Contra Costa, Humboldt, Los Angeles, Mariposa, Santa Barbara, Santa Cruz, Shasta, and Sonoma counties.	Damp rock and soil on outcrops, usually on roadcuts, broadleafed upland forest, lower montane coniferous forest, and north coast coniferous forest, 100-1000 m.	Moss	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is more than 13 miles southwest of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
coast rockcress (*arabis belpharophylla*)	CRPR 4.3	Primarily on the west coast near the San Francisco Bay region, small pockets south of Monterey, north of Santa Rosa.	Rocky, broadleafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub, 3-1100 m.	Perennial herb, February-May	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over seven miles south of the Project.
Anderson's manzanita (*Arctostaphylos andersonii*)	CRPR 1B.2	Mid California including Monterey, Santa Cruz, San Mateo, Santa Clara, and Alameda counties.	Broadleaved upland forest, mixed evergreen forest, North coast coniferous forest including open sites in redwood forest, chaparral; 60-760 m.	Perennial evergreen shrub, November - May	**None**. There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles south of the Project.
Schreiber's manzanita (*Arctostaphylos glutinosa*)	CRPR 1B.1	Isolated to Santa Cruz county.	Diatomaceous shale, closed-cone coniferous forest, chaparral, 170-685 m.	Perennial evergreen shrub; (November)March-April	**None**. There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over nine miles south of the Project.
Ohlone manzanita (*Arctostaphylos ohloneana*)	CRPR 1B.1	Isolated to Santa Cruz County.	Siliceous shale, closed-cone coniferous forest, coastal scrub; 450-530 m.	Evergreen shrub; February-March	**None**. There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 15 miles southwest of the Project.
Kings Mountain manzanita (*Arctostaphylos regismontana*)	CRPR 1B.2	Mid California including Santa Cruz, San Mateo, and Santa Clara counties.	Granite or sandstone outcrops in chaparral, coniferous, broadleaved upland and evergreen forests; 305-730 m.	Perennial evergreen shrub, January – April	**None**. There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over seven miles southwest of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Bonny Doon manzanita (*Arctostaphylos silvicola*)	CRPR 1B.2	Isolated to Santa Cruz County.	Inland marine sands, closed-cone coniferous forest, chaparral, lower montane forest; 120-600 m.	Perennial evergreen shrub, January-March	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 15 miles south of the Project.
Alkali milk-vetch (*Astragalus tener* var. *tener*)	CRPR 1B.2	Endemic to the San Francisco Bay Area and surrounding counties.	Playas, valley and foothill grassland (adobe clay) or vernal pools on alkaline soils; 1-60 m.	Annual herb, March-June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is approximately six miles north of the Project.
Brittlescale (*Atriplex depressa*)	CRPR 1B.2	Occurs along the east San Francisco Bay and inland throughout the Central Valley	Alkaline clay, chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools, 1-320 m.	Annual herb, April-October.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles northeast of the Project.
Lesser saltscale (*Atriplex minuscula*)	CRPR 1B.1	Occurs mostly through the Central Valley, limited occurrences through the east and south San Francisco Bay area.	Alkaline, sandy, chenopod scrub, playas, valley and foothill grassland, 15-200m.	Annual herb, May-October.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles northeast of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Brewer's calandrinia (*Calandrinia breweri*)	CRPR 4.2	Scattered along the California coast, occasional in the northern central valley.	Sandy or loamy soils, disturbed sites and burns, chaparral, coastal scrub, 10-1220m.	Annual herb, (January) March-June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over four miles northwest of the Project.
Santa Cruz Mountains pussypaws (*Calyptridium parryi* var. *hesseae*)	CRPR 1B.1	Scattered along the California coast, occasional in the northern central valley.	Sandy or gravelly soils in openings, chaparral, cismontane woodland; 305-1530 m.	Annual herb, May-August	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles south of the Project.
Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*)	CRPR 1B.1	Throughout western California from San Luis Obispo to Solano County.	Valley and foothill grasslands with alkaline or clay soils; 0-230 m.	Annual herb, May - November	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over four miles north of the Project.
Point Reyes bird's beak (*Chloropyron maritimum* ssp. *palustre*)	CRPR 1B.2	Extant occurrences in Humboldt, Marin, San Francisco and Sonoma Counties.	Marshes and swamps (coastal salt); 0-10 m.	Annual herb (hemiparasitic), June-October	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. All nearby documented occurrences within a 15-mile radius are listed as likely extirpated from the region.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*)	FE; CRPR 1B.1	Isolated to Santa Cruz county.	Lower montane coniferous forest (maritime ponderosa pine sandhills); 90-610 m.	Annual herb, April-July	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles south of the Project.
robust spineflower (*Chorizanthe robusta* var. *robusta*)	FE; CRPR 1B.1	Extirpated from much of previous range, likely only within Monterey, Marin, Santa Cruz, and San Francisco counties.	Sandy or gravelly soils, maritime chaparral, cismontane woodland openings, coastal dunes, coastal scrub; 3-300 m.	Annual herb, April-September	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The only two documented occurrences within a 10-mile radius have likely been extirpated.
Mt. Hamilton fountain thistle (*Cirsium fontinale* var. *campylon*)	CRPR 1B.2	South and east of San Jose, within Alameda, Santa Clara, and Stanislaus counties.	Serpentinite seeps, chaparral, cismontane woodland, valley and foothill grasslands; 100-890 m.	Perennial herb, (February)April-October	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 15 miles southeast of the Project.
Crystal Springs fountain thistle (*Cirsium fontinale* var. *fontinale*)	FE; SE; CRPR 1B.1	Found exclusively in San Mateo county.	Valley and foothill grasslands and chaparral including serpentine seeps and grassland; 45-175 m.	Perennial herb, May - October	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 11 miles northwest of the Project.
lost thistle (*Cirsium praeteriens*)	CRPR 1A	Endemic to Santa Clara County but extirpated from the County.	Unknown habitat; 0-100 m.	Perennial herb, June-July	**None.** This species is presumed extinct in California.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Brewer's clarkia (*Clarkia breweri*)	CRPR 4.2	Scattered throughout the eastern SF Bay Area and northern Central Valley.	Often in serpentinite soils, chaparral, cismontane woodland, coastal scrub; 215-1115 m.	Annual herb, April-June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles south of the Project.
Santa Clara red ribbons (*Clarkia concinna* ssp. *automixa*)	CRPR 4.3	Southeast of the San Francisco Bay Area.	Chaparral and cismontane woodland, 90-1500 m.	Annual herb, (April) May-June (July).	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is approximately 5 miles south of the Project area.
Lewis' clarkia (*Clarkia lewisii*)	CRPR 4.3	Primarily within the Santa Cruz mountain range, one small pocket located south of San Jose.	Broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub; 30-1195 m.	Annual herb, May-July	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over four miles east of the Project.
Round-headed Chinese-houses (*Collinsia corymbosa*)	CRPR 1B.2	In very limited regions in the San Francisco Bay Area and very northern California coast.	Coastal dunes, 0-20m.	Annual herb, April-June.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over eight miles northwest of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
San Francisco collinsia (*Collinsia multicolor*)	CRPR 1B.2	Mid-coastal California from Monterey to Marin county including Santa Clara county.	Moist shady woodland, closed-cone coniferous forests and coastal scrub. Occasionally found in serpentine; 30-250 m.	Annual herb, March – May	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over eight miles northwest of the Project.
Clustered lady's-slipper (*Cypripedium fasciculatum*)	CRPR 4.2	Throughout the mountainous regions of northern California.	Usually serpentinite seeps and streambanks, lower montane coniferous forest, north coast coniferous forest, 100-2435m.	Perennial rhizomatous herb, March-August.	**None.** While there are documented occurrences described generally within the Cupertino quadrangle where the Project area is located, the Project area is below the known elevation range for this species and has a highly disturbed riparian regime not likely to support this species.
western leatherwood (*Dirca occidentalis*)	CRPR 1B.2	San Francisco Bay area including Santa Clara to Marin county and east to Alameda county.	Cool, moist slopes in foothill woodland and riparian forests. Mesic environments in broadleaved upland forests, chaparral and coniferous woodlands and mixed evergreen and oak woodlands; 25-425 m.	Perennial deciduous shrub, January – April.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence of this species is over two miles southwest of the Project area within the more rural foothills of Santa Clara County. While there is marginal habitat for this species within the Project area, the habitat is frequently disturbed and is isolated from contiguous habitat by heavy urbanization.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Santa Clara Valley dudleya (*Dudleya abramsii* ssp. *setchelli*)	CRPR 1B.1	Isolated to Santa Clara County.	Serpentinite and rocky soils, cismontane woodland, valley and foothill grasslands; 60-455 m.	Perennial herb, April-October	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles south of the Project.
Ben Lomond buckwheat (*Eriogonum nudum* var. *decurrens*)	CRPR 1B.1	Endemic to Alameda, Santa Clara and Santa Cruz Counties.	Chaparral, cismontane woodland, lower montane coniferous forest (maritime ponderosa pine sandhills); 50-800 m.	Perennial herb, June-October	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. There are no documented occurrences in over three miles from the Project area.
San Mateo woolly sunflower (*Eriophyllum latilobum*)	FE, SE, CRPR 1B.1	San Mateo and Napa counties.	Cismontane and oak woodland, often on roadcuts; found on and off of serpentine and on grassy hillsides; 45-150m.	Perennial herb, April – June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over eight miles west of the Project.
Hoover's button-celery (*Eryngium aristulatum* var. *hooveri*)	CRPR 1B.1	Endemic to Alameda, San Benito, Santa Clara, San Diego and San Luis Obispo Counties.	Vernal pools; 3-45 m.	Annual/perennial herb, July-August	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over five miles north of the Project.
Jepson's coyote thistle (*Eryngium jepsonii*)	CRPR 1B.2	Scattered throughout northern California.	Clay soils, valley and foothill grassland, vernal pools, 3-300m.	Perennial herb, April-August.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over eight miles northwest of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
San Joaquin spearscale (*Extriplex joaquinana*)	CRPR 1B.2	Endemic to the Coast Ranges and Central Valley of central California.	Chenopod scrub, meadows and seeps, playas and valley and foothill grassland in alkaline soils; 1-835 m.	Annual herb, April-October	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles northeast of the Project.
minute pocket moss (*Fissidens pauperculus*)	CRPR 1B.2	Along the coast from Santa Cruz to the northern border of California.	North Coast coniferous forest on damp soil along the coast, in dry streambeds and on stream banks; 10-1000 m.	Moss	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over eight miles southwest of the Project.
fragrant fritillary (*Fritillaria liliacea*)	CRPR 1B.2	Found throughout northern and central California wherever there is suitable habitat.	Cismontane woodland and coastal scrub and prairie, in valley and foothill grasslands (often serpentine bunchgrass grassland); 3-410 m.	Perennial bulbiferous herb, February – April	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over eight miles northwest of the Project.
phlox-leaf serpentine bedstraw (*Galium andrewsii* spp. g*atense*)	CRPR 4.2	Found in scattered isolated pockets throughout northern coastal California.	Serpentinite and rocky soils, chaparral, cismontane woodland, lower montane coniferous forest; 150-1450 m.	Perennial herb, April-July.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles south of the Project.
Toren's grimmia (*Grimmia torenii*)	CRPR 1B.3	Isolated pockets within Contra Costa, Colusa, Lake, Mendocino, Monterey, Santa Cruz, and San Mateo counties.	Openings, rocky, boulder and rock walls, carbonate, and volcanic soils, chaparral, cismontane woodland, lower montane coniferous forest; 325-1160 m.	Moss	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles south of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
vaginulate grimmia (*Grimmia vaginulata*)	CRPR 1B.1	Isolated to San Bernardino and Santa Cruz counties.	Rocky, boulder and rock walls, carbonate soils, chaparral openings.	Moss	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles southwest of the Project.
short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*)	CRPR 1B.2	Occurs along the coast from the Oregon border to near Santa Cruz.	Coastal bluff scrub (sandy), coastal dunes or coastal prairie; 0-215 m.	Annual herb, March-June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 15 miles southwest of the Project.
Santa Cruz cypress (*Hesperocyparis abramsiana* var. *abramsiana*)	FT; SE; CRPR 1B.2	Isolated to Santa Cruz county	Sandstone or granitic soils, closed-cone coniferous forest, chaparral, lower montane coniferous forest; 280-800 m.	Perennial evergreen tree	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles southwest of the Project.
Butano Ridge cypress (*Hesperocyparis abramsiana* var. *butanoensis*)	FT; SE; CRPR 1B.2	Isolated to San Mateo county	Sandstone soils, closed-cone coniferous forest, chaparral, lower montane forest; 400-490 m.	Perennial evergreen tree, October	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles southwest of the Project.
Marin western flax (*Hesperolinon congestum*)	FT; ST; CRPR 1B.1	Found only around the San Francisco peninsula in San Mateo and Marin Counties.	Chaparral, valley and foothill grassland, especially in serpentine bunchgrass grassland and serpentine barrens; 5-370 m.	Annual herb, April – July	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 11 miles northwest of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Loma Prieta hoita (*Hoita strobilina*)	CRPR 1B.1	Endemic to Alameda, Contra Costa, Santa Clara and Santa Cruz Counties.	Chaparral, cismontane woodland and riparian woodland, usually serpentinite and mesic; 30-860 m. elevation.	Perennial herb, May-October	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over seven miles southeast of the Project.
Coast iris (*Iris longipetala*)	CRPR 4.2	Scattered throughout northwest California.	Mesic, coastal prairie, lower montane coniferous forest, meadows and seeps, 0-600m.	Perennial rhizomatous herb, March-May.	**None.** While there are documented occurrences described generally within the Cupertino quadrangle, where the Project area is located, there is no potential habitat within the Project area.
Contra Costa goldfields (*Lasthenia conjugans*)	FE, CRPR 1B.1	Endemic to western California from Santa Rosa to Monterey.	Cismontane woodland, playas (alkaline), valley and foothill grassland and vernal pools; 0-470 m. elevation.	Annual herb, March-June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles northeast of the Project.
legenere (*Legenere limosa*)	CRPR 1B.1	Endemic to the Central Valley and Inner Coast Ranges from Redding to Salinas.	Vernal pools; 0-880 m.	Annual herb, April-June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over seven miles west of the Project.
Serpentine leptosiphon (*Leptosiphon ambiguus*)	CRPR 4.2	Within rural regions around the San Jose area.	Usually in serpentinite soil, cismontane woodland, coastal scrub, valley and foothill grassland, 120-1130m.	Annual herb, March-June.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over eight miles southeast of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Woolly-headed lessingia (*Lessingia hololeuca*)	CRPR 3	Scattered throughout northwest California.	Clay, serpentinite soils, broadleafed upland forests, coastal scrub, lower montane coniferous forests, valley and foothill grassland, 15-305m.	Annual herb, June-October.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over three miles west of the Project.
smooth lessingia (*Lessingia micradenia* var. *glabrata*)	CRPR 1B.2	Isolated to Santa Clara county.	Serpentinite soils, often on roadsides, chaparral, cismontane woodland, valley and foothill grasslands; 120-420 m.	Annual herb, (April-June)July-November	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles southeast of the Project.
arcuate bush mallow (*Malacothamnus arcuatus*)	CRPR 1B.2	Found throughout the San Francisco peninsula and the south bay area throughout San Mateo and Santa Clara counties and Merced county.	Ultramafic chaparral, gravelly alluvium. Locally, in openings in mixed evergreen forests; 15-355 m.	Perennial evergreen shrub, April – September	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over five miles southwest of the Project.
Davidson's bush mallow (*Malacothamnus davidsonii*)	CRPR 1B.2	Throughout California, found in San Mateo, Monterey, San Luis Obispo, and Los Angeles counties.	Sandy washes within coastal scrub, chaparral, and riparian woodland, at elevations 185 – 855m.	Perennial deciduous shrub, June – January	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over three miles west of the Project. Additionally, the Project area is below this species known elevation range.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Hall's bush-mallow (*Malacothamnus hallii*)	CRPR 1B.2	Occurs to the west, east, and south of the San Francisco Bay.	Chaparral, coastal scrub, 10-760m.	Perennial evergreen shrub, (April) May-September (October).	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over eight miles east of the Project.
Mt. Diablo cottonweed (*Micropus amphibolus*)	CRPR 3.2	Scattered throughout northwest California.	Rocky soils, broadleafed upland forest, chaparral, cismontane woodland, valley and foothill grassland, 45-825m.	Annual herb, March-May.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over three miles west of the Project.
woodland woolythreads (*Monolopia gracilens*)	CRPR 1B.2	Through central California from San Mateo and Contra Costa counties south to San Luis Obispo county.	Grassy openings in chaparral, valley and foothill grasslands (serpentine), cismontane woodland, broadleafed upland forests, North coast coniferous forest. Sandy to rocky soils; 100-1200 m.	Annual herb, February – July	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is approximately three miles southwest of the Project.
Prostrate vernal pool navarretia (*Navarretia prostrata*)	CRPR 1B.1	Scattered along the coastal California coast.	Mesic soil, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pool, 3-1210m.	Annual herb, April-July.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is approximately 10 miles northeast of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Kellman's bristle moss (*Orthotrichum kellmanii*)	CRPR 1B.2	Limited to Monterey, Santa Cruz, and San Mateo counties.	Sandstone and carbonate soils, chaparral, cismontane woodland; 343-685 m.	Moss, January-February	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles southwest of the Project.
Dudley's lousewort (*Pedicularis dudleyi*)	SR; CRPR 1B.2	Throughout central coastal California from San Mateo county south to San Luis Obispo county.	Chaparral, valley and foothill grassland and North coast coniferous forest, particularly deep shady woods and steep cut banks in older coast redwood forests and maritime chaparral; 60-900 m.	Perennial herb, April – June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 11 miles southwest of the Project.
Santa Cruz Mountains beardtongue (*Penstemon rattanii* var. *kleei*)	CRPR 1B.2	Limited to a small area through south Santa Clara and north Santa Cruz counties.	Chaparral, lower montane coniferous forest, North Coast coniferous forest; 400-1100 m.	Perennial herb, May-June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles south of the Project.
white-rayed pentachaeta (*Pentachaeta bellidiflora*)	FE; SE; CRPR 1B.1	California endemic; extant occurrences in San Mateo County.	Cismontane woodland or valley and foothills grassland (often serpentinite); 35-620 m.	Annual herb, March – May	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. All nearby documented occurrences are presumed extirpated.
white-flowered rein orchid (*Piperia candida*)	CRPR 1B.2	Through northern coastal California from Del Norte county south to Santa Cruz county.	Broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest. Often on mossy banks and rock outcrops or in the forest duff; 30-1310 m.	Perennial herb, May - September	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over six miles southwest of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Choris' popcornflower (*Plagiobothrys chorisianus* var. *chorisianus*)	CRPR 1B.2	Endemic to coastal central California including Santa Cruz, San Francisco and San Mateo Counties.	Chaparral, coastal prairie or coastal scrub on mesic sites; 15-160 m.	Annual herb, March – June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over seven miles west of the Project.
Hickman's popcornflower (*Plagiobothrys chorisianus* var. *hickmanii*)	CRPR 4.2	One isolated population in the hills southwest of San Jose, another slightly larger population in north Monterey and within Salinas.	Closed-cone coniferous forest, chaparral, coastal scrub, marshes and swamps, vernal pools; 15-185 m.	Annual herb, April-June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. This species is not known to occur within over 15 miles of the Project area and is not known to occur within riparian zones like that of the Project Area.
hairless popcornflower (*Plagiobothrys glaber*)	CRPR 1A	Endemic to Alameda, Marin, San Benito and Santa Clara Counties.	Meadows and seeps (alkaline) and marshes and swamps (coastal salt); 15-180 m. elevation.	Annual herb, March-May	**None.** This species is presumed extinct in California.
California alkali grass (*Puccinellia simplex*)	CRPR 1B.2	Scattered throughout California.	Alkaline, vernally mesic, sinks, flats, and lake margins, chenopod scrub, meadows and seeps, valley and foothill grassland, vernal pools, 2-930m.	Annual herb, March-May.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is approximately 10 miles northeast of the Project.
Lobb's aquatic buttercup (*Ranunculus lobbii*)	CRPR 4.2	Mostly in the north San Francisco Bay/Sonoma/Napa region, few populations east and south of the San Francisco Bay.	Mesic, cismontane woodland, north coast coniferous forest, valley and foothill grassland, vernal pools, 15-470m.	Annual herb (aquatic), February-May.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over three miles west of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
chaparral ragwort (*Senecio aphanactis*)	CRPR 2B.2	Occurs in western California from Concord to the Mexican border.	Chaparral, cismontane woodland and coastal scrub, sometimes in serpentine soils; 15-800 m.	Annual herb, January-April	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over seven miles west of the Project.
San Francisco campion (*Silene verecunda* ssp. *verecunda*)	CRPR 1B.2	Endemic to Santa Cruz, San Francisco, San Mateo and Sutter Counties.	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub or valley and foothills grassland on sandy soils; 30-645 m.	Perennial herb, March – August	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over eight miles southwest of the Project.
Santa Cruz microseris (*Stebbinsoseris decipiens*)	CRPR 1B.2	Very small pockets located along the coastal San Francisco Bay area from Marin county south to Monterey county.	Open areas, sometimes in serpentinite soils, broadleafed upland forest, chaparral, coastal prairie, coastal scrub, valley and foothill grasslands; 10-500 m.	Annual herb, April-May	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles southwest of the Project.
Metcalf Canyon jewelflower (*Streptanthus albidus* ssp. *albidus*)	FE; CRPR 1B.1	Isolated to Santa Clara county.	Valley and foothill grasslands, in serpentinite soils; 45-800 m.	Annual herb, April-July	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles southeast of the Project.
Most beautiful jewelflower (*Streptanthus albidus* ssp. peramoenus)	CRPR 1B.2	Limited to the central California coast and San Francisco Bay Area.	Serpentinite, chaparral, cismontane woodland, valley and foothill grassland, 95-1000m.	Annual herb, (March) April-September (October)	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 12 miles southeast of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
slender-leaved pondweed (*Stuckenia filiformis* ssp. *alpina*)	CRPR 2B.2	Occurs in Northern California in the Inner Coast Ranges and Sierra Nevadas from east of Redding to near San Jose.	Marshes and swamps (assorted shallow freshwater); 300-2150 m.	Perennial rhizomatous herb, May-July	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. All nearby documented occurrences are presumed to be extirpated.
California seablite (*Suaeda californica*)	FE, CRPR 1B.1	Endemic to coastal California in the San Francisco Bay Area and near San Luis Obispo.	Marshes and swamps (coastal salt); 0-15 m.	Perennial evergreen shrub, July-October	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. All nearby documented occurrences are presumed to be extirpated.
showy rancheria clover (*Trifolium amoenum*)	FE; CRPR 1B.1	Marin, Sonoma, Napa Solano, and San Mateo counties.	Coastal bluff scrub, valley and foothill grassland (sometimes serpentine), often open sunny sites; 5-415 m.	Annual herb, April – June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 3.5 miles northwest of the Project.
Santa Cruz clover (*Trifolium buckwestiorum*)	CRPR 1B.1	Scattered throughout northwest California.	Gravelly soils, and occurring on margins, broadleafed upland forest, cismontane woodland, coastal prairie, 105-610m.	Annual herb, April-October.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over three miles west of the Project.
saline clover (*Trifolium hydrophilum*)	CRPR 1B.2	Endemic to San Francisco Bay Area and surrounding counties.	Marshes and swamps, valley and foothill grassland (mesic, alkaline), vernal pools; 0-300 m.	Annual herb, April – June	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over seven miles northeast of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]
Pacific Grove clover (*Trifolium polyodont*)	SR; CRPR 1B.1	Known to occur in pockets throughout Monterey, Marin, Santa Cruz, and Sonoma counties.	Mesic, sometimes granitic, closed-cone coniferous forest, coastal prairie, meadows and seeps, valley and foothill grassland; 5-425 m.	Annual herb, April-June(July)	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles southwest of the Project.
caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	CRPR 1B.1	California endemic; extant occurrences in Fresno, Monterey and San Luis Obispo Counties.	Valley and foothill grassland (alkaline hills); 1-455 m.	Annual herb, March-May	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. All nearby documented occurrences are presumed to be extirpated.
Methuselah's beard lichen (*Usnea longissimi*)	CRPR 4.2	Throughout the northern California coast.	On tree branches, usually on old growth hardwoods and conifers, broadleafed upland forest, north coast coniferous forest, 50-1460m.	Fructicose lichen (epiphytic)	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over nine miles southwest of the Project.

Table 1. Special-status Plants with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Life Form, Blooming Period	Potential Occurrence in the Project Area[b]

[a] Status explanations:

Federal:

FE = Listed as endangered under the Federal Endangered Species Act.

FT = Listed as threatened under the Federal Endangered Species Act.

State:

SE= Listed as endangered under the California Endangered Species Act.

ST= Listed as threatened under the California Endangered Species Act.

SR= Listed as rare under the California Endangered Species Act.

California Rare Plant Rank:

1B**=** Plants Rare, Threatened, or Endangered in California and Elsewhere

2B= Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3 = Knowledge on plant lacking, unable to determine accurate population numbers

4 = Plants have a limited distribution or are infrequent through California and their status should be monitored regularly

[b] Potential Occurrence explanations:

Present: Species was observed on the project site, or recent species records (within five years) from literature are known within the project area.

High: The CNDDB or other reputable documents record the occurrence of the species off-site, but within a 5-mile radius of the project area and within the last 10 years. High-quality suitable habitat is present within the project area.

Moderate: Species does not meet all terms of High or Low category. For example: CNDDB or other reputable documents may record the occurrence of the species near but beyond a 5-mile radius of the project area, or some of the components representing suitable habitat are present within or adjacent to the project area, but the habitat is substantially degraded or fragmented.

Low: The CNDDB or other documents may or may not record the occurrence of the species within a 5-mile radius of the project area. However, few components of suitable habitat are present within or adjacent to the project area.

None: CNDDB or other documents do not record the occurrence of the species within or reasonably near the project area and within the last 10 years, and no or extremely few components of suitable habitat are present within or adjacent to the project area; or site is outside of specie's range.

Sources:

1. *California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDB) January 2019*
2. *California Native Plant Society (CNPS), Rare and Endangered Plant Inventory, January 2019*

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
Invertebrates				
Bay checkerspot butterfly (*Euphydryas editha bayensis*)	FT	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay.	*Plantago erecta* is the primary host plant, *Castilleja densiflorus* and *C. purpurscens* are secondary host plants.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. All nearby documented occurrences are presumed to be extirpated.
San Bruno elfin butterfly (*Callophrys mossii bayensis*)	FE	Found in only three locations around the San Francisco Bay Area, including Milagra Ridge, San Bruno Mountain, and Montara Mountain in San Mateo County.	San Bruno elfin butterfly occurs only on north-facing slopes within the fogbelt where its host plant stonecrop (*Sedium spathulifolium*) grows. Stoncrop grows in coastal grassland and low scrub on thin, rocky soils.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. None of the required host plants are present within the Project area and the nearest documented occurrence is over 10 miles from the Project.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Is endemic to the California Central Valley, with the majority of the populations occurring in the Sacramento Valley. Also reported from the Sacramento River Delta to the east of San Francisco Bay, and from a few scattered localities in the San Joaquin Valley from San Joaquin County to Madera County (Rogers 2001).	Occurs in a wide variety of seasonal habitats, including vernal pools, clay flats, alkaline pools, ephemeral stock tanks, roadside ditches, and road ruts (Rogers 2001)	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over 10 miles from the Project.
Zayante band-winged grasshopper (*Trimerotropis infantilis*)	FE	Only found in sandy areas within the Santa Cruz Mountain range, mostly within the Zayante sand hills.	Sandy habitat within the Santa Cruz Mountain range (Essig Museum of Entomology 2019).	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The only documented occurrence within 12 miles is listed as extirpated.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto				
Common Name (*Scientific Name*)	**Listing Status[a]**	**Geographic Distribution in California**	**Habitat Requirements**	**Potential Occurrence in the Project Area[b]**
Fish				
Coho salmon - Central California Coast ESU (*Oncorhynchus kisutch* pop. 4)	FE SE	Includes naturally spawned coho salmon originating from rivers south of Punta Gorda, California to and including Aptos Creek, as well as such coho salmon originating from tributaries to San Francisco Bay. Also, coho salmon from three artificial propagation programs: Don Clausen Fish Hatchery Captive Broodstock Program, Scott Creek/King Fisher Flats Conservation Program, and the Scott Creek Captive Broodstock Program	Anadromous. Young are hatched near headwaters of cold freshwater streams and migrate dozens to hundreds of miles to the ocean to mature. Adults then travel upstream to complete the life cycle.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence of this species is approximately 18 miles south, within the San Lorenzo River and its tributaries. There is no connectivity with this system and Stevens Creek within the Project area. This species is presumed to be extirpated in the region of the Project area (UC Davis 2019).
Delta smelt (*Hypomesus transpacificus*)	FT	Occurs in the Sacramento-San Joaquin Delta and seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay.	Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. There is no potential habitat within the Project area and the Project area is well outside this species' known range in the northern San Francisco Bay Area/Delta Region (UC Davis 2019).

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto				
Common Name (*Scientific Name*)	**Listing Status[a]**	**Geographic Distribution in California**	**Habitat Requirements**	**Potential Occurrence in the Project Area[b]**
longfin smelt (*Spirinchus thaleichthys*)	FC ST CSSC	Slightly upstream from Rio Vista and Medford Island through Suisun Bay and Suisun Marsh; San Pablo Bay; San Francisco Bay; Gulf of the Farallones; Humboldt Bay and Eel River estuary	Found in open water of estuaries, mostly in the middle or bottom of water columns, prefer salinities of 15-30 ppt. but can be found in completely fresh water to almost pure sea water.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area is outside this species' known range (UC Davis 2019).
steelhead- Central California Coast DPS (*Oncorhynchus mykiss irideus*)	FT	This distinct population segment (DPS) includes all anadromous *O. mykiss* (steelhead) populations from the Russian River south to Soquel Creek and to, but not including, the Pajaro River. Populations in the San Francisco and San Pablo Basins are also included.	Anadromous and iteroparous. Young are hatched near headwaters of cold freshwater streams and migrate dozens to hundreds of miles to the ocean to mature. Adults then travel upstream to complete the life cycle.	**High.** This species has been well-documented within Stevens Creek. Stevens Creek is critical habitat for this species.
Amphibians and Reptiles				
California giant salamander (*Dicamptodon ensatus*)	CSSC	Found in two, possibly three isolated regions, from Mendocino County near Point Arena east into the coast rages into Lake and Glenn counties, south to Sonoma and Marin Counties, continuing south of the San Francisco Bay from San Mateo County to southern Santa Cruz County. Does not occur east of the SF Bay (CalHerps 2018).	Occurs in wet coastal forests in or near clear, cold permanent and semi-permanent streams and seepages (CalHerps 2018).	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. There are no CNDDB occurrences within approximately four miles of the Project.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
California red-legged frog (*Rana draytonii*)	FT	Endemic to California and northern Baja California.	Inhabits lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**Low.** Stevens Creek supports this species in higher elevation regions further inland and near open space approximately three miles south of the Project as well as individuals near the mouth of Stevens Creek along the San Francisco Bay. However, the creek is ephemeral and subject to "flashy" rising water during and following precipitation events due to the heavy surrounding urbanization and subsequent drainage into the watershed. California red-legged frog may very rarely utilize the Stevens Creek corridor for migration, but the Project area does not provide suitable breeding habitat. In addition, the Project area provides only a thin strip of poor-quality upland habitat required by this species. There are several documented occurrences approximately 2.5 miles southwest of the Project area. Stevens Creek is not designated as Critical Habitat for California red-legged frog.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
California tiger salamander (*Ambystoma californiense*)	FT ST CSSC	Endemic to California, found in isolated populations the Central Valley and Central Coast ranges.	This species needs underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal wetlands for breeding.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest extant occurrence is over six miles northwest of the Project Area.
foothill yellow-legged frog (*Rana boylii*)	CSSC	Occurs in the foothills of the western side of the Sierra Nevada mountains from the northern border of the state to the Tehachapi mountains.	Inhabits partly shaded, shallow streams and rifles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg laying, need at least 15 weeks for metamorphosis.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. This species is likely extirpated within the region of the Project area; all occurrences within 10 miles are listed as extirpated or likely extirpated.
Northern California legless lizard (*Anniella pulchra*)	CSSC	Occurs from the southern edge of the San Joaquin River in northern Contra Costa County south to the Ventura County. Occurs in scattered locations in the San Joaquin Valley, along the southern Sierra Nevada mountains, and on the desert side of the Tehachapi Mountains and part of the San Gabriel Mountains (CalHerps 2018).	Occurs in moist warm loose soil with plant cover. Moisture is essential. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks (CalHerps 2018).	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The only documented occurrence within 11 miles of the Project area is listed as likely extirpated from the region.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
Red-bellied newt (*Taricha rivularisi*)	CSSC	Endemic to California. Occurs along the coast from near Bodega, Sonoma county, to near Honeydew, Humboldt county, and inland to Lower lake and Kelsey Creek, Lake County. A small isolated population known in the Stevens Creek watershed of Santa Clara County. (CalHerps 2018).	A stream or river dweller. Found in coastal woodlands and redwood forest along the coast of northern California (CalHerps 2018).	**None** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over six miles southwest of the Project area.
San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)	FE SE	Occurs in the vicinity of freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County.	Prefers dense cover and water depths of at least one foot, upland areas near water are also very important.	**Low.** Stevens Creek likely supports this species in higher elevation regions further inland and near open space approximately three miles south of the Project, however the creek is ephemeral and subject to “flashy” rising water during and following precipitation events due to the heavy surrounding urbanization and subsequent drainage into the watershed. In addition, the Project area provides only a thin strip of poor-quality upland habitat required by this species. This species’ primary prey species (California red-legged frog) only have a low potential to occur within the Project area.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
Santa Cruz black salamander (*Aneides flavipunctatus niger*)	CSSC	This subspecies is endemic to California, with a limited range west of the San Francisco Bay and south of the San Francisco Peninsula from Santa Cruz County and western Santa Clara County, north to southern San Mateo County. The species also occurs from Sonoma county north along the coast and coast ranges to southwest Oregon in Jackson and Josephine Counties, and east to near Mt. Shasta (CalHerps 2018).	Occurs in mixed deciduous woodland, coniferous forests, coastal grasslands. Found under rocks near streams, in talus, under damp logs, and other objects (CalHerps 2018d.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over seven miles south of the Project area.
Western pond turtle (*Emys marmorata*)	CSSC	Occurs from Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley and on western slope of Sierra Nevada.	Inhabits ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	**Low.** Stevens Creek likely supports this species in higher elevation regions further inland and near open space approximately three miles south of the Project, however, the creek is ephemeral and subject to “flashy” rising water during and following precipitation events due to the heavy surrounding urbanization and subsequent drainage into the watershed. In addition, the Project area provides only a thin strip of poor-quality upland habitat required by this species. The nearest documented occurrence is over 4.5 miles northeast of the Project area and the occupied habitat is not interconnected with the Project area.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto				
Common Name (*Scientific Name*)	**Listing Status[a]**	**Geographic Distribution in California**	**Habitat Requirements**	**Potential Occurrence in the Project Area[b]**
Birds				
Alameda song sparrow (*Melospiza melodia pusillula*)	CSSC	This California endemic subspecies of song sparrow (*Melospiza melodia*) is a resident of salt marshes bordering south arm of San Francisco Bay.	Inhabits *Salicornia* marshes, nests low in *Grindelia* bushes (high enough to escape high tides) and in *Salicornia.*	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The nearest documented occurrence is over six miles northeast of the Project area.
American peregrine falcon (*Falco peregrine anatus*)	CFP	Occurs throughout the Central Valley, coastal areas and northern mountains of California.	Riparian areas, wetlands, lakes and other aquatic features provide important breeding and foraging habitat for this species. Nests on cliffs or man-made structures such as buildings and bridges; feeds on birds.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species.
Bald eagle (*Haliaeetus leucocephalus*)	SE CFP	Throughout North America.	Typically nest in forested areas adjacent to large bodies of water, staying away from heavily developed areas when possible (Cornell Lab 2017).	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide the secluded, heavily forested habitat preferred by this species and there is no suitable habitat within the general vicinity. The nearest documented occurrence is approximately seven miles northwest of the Project area.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
Black skimmer (*Rynchops niger*)	CSSC	Occurs on most oceanic coasts throughout North America.	On open sandy beaches, on gravel or shell bars with sparse vegetation, or on mats of sea wrack (tide-stranded debris) in saltmarsh (Cornell Lab 2017).	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence is over five miles north of the Project area.
burrowing owl (*Athene cunicularia*)	CSSC	Year-round resident throughout much of the State, except the coastal counties north of Marin and mountainous areas.	Occurs in open, dry annual or perennial grasslands, deserts and scrublands characterized by low growing vegetation. Nests in small mammal burrows, particularly those of the California ground squirrel.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The lack of open habitat and lack of suitable burrows within the Project area likely preclude this species.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
California black rail (*Laterallus jamaicensis* ssp. *coturniculus*)	ST	This California endemic subspecies of the black rail (*Laterallus jamaicensis*) occurs in the San Francisco Bay region, parts of the Central Valley and at the southeastern border of the State.	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. It needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence for this species is over 4.5 miles north of the Project area along the San Francisco Bay.
California least tern (*Sternula antillarum browni*)	FE SE	Nests along the coast from San Francisco Bay south to Northern Baja California.	Colonial breeder on bare or sparsely vegetated flat substrates, sandy beaches, alkali flats, landfills or paved areas.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence is over six miles north of the Project area along the San Francisco Bay.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
California Ridgway's rail (*Rallus obsoletus obsoletus*)	FE SE	This California endemic inhabits salt water and brackish marshes traversed by tidal sloughs in the vicinity of the San Francisco Bay.	Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence is over five miles north of the Project area along the San Francisco Bay.
Golden eagle (*Aquila chrysaetos*)	CFP	Live in open and semiopen country featuring native vegetation across most of the Northern Hemisphere (Cornell Lab 2017).	Are found primarily in mountains up to 12,000 feet, canyonlands, rimrock terrain, and riverside cliffs and bluffs (Cornell Lab 2017).	**None.** The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence is over 16 miles southeast of the Project area.
long-eared owl (*Asio otus*)	CSSC	Occurs throughout the state except in the Central Valley, in pockets along the coast and in the far central south.	Inhabits riparian bottomlands grown to tall willows and cottonwoods and belts of live oak parallel to stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks or magpies for breeding.	**Low.** There is marginal habitat for this species within the Project area, however, this is no open foraging habitat for this species adjacent to the Project area as the vicinity is heavily urbanized. The nearest documented occurrence is over 6.5 miles west of the Project area.

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Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
marbled murrelet (*Brachyramphus marmoratus*)	FT SE	Feeds near-shore; nests inland along coast from Eureka to Oregon border & from Half Moon Bay to Santa Cruz.	Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence is over nine miles southwest of the Project area.
northern harrier (*Circus cyaneus*)	CSSC	Occurs throughout lowland California; has been recorded in fall at high elevations	Inhabits grasslands, meadows, marshes, and seasonal and agricultural wetlands	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence is over 7.5 miles north of the Project area.
purple martin (*Progne subis*)	CSSC	Occurs primarily along the coast, from the south San Francisco Bay area north to the Oregon border.	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snag.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence is over 16 miles southeast of the Project area.

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Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
saltmarsh common yellow throat (*Geothlypis trichas sinuosa*)	CSSC	This supspecies of the common yellow throat (*Geothlypis trichas*) is endemic to the fresh and salt water marshes of the San Francisco Bay region.	Requires thick, continuous cover down to water surface for foraging; and tall grasses, tule patches and willows for nesting.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence is over four miles north of the Project area along the San Francisco Bay.
Swainson's hawk (*Buteo swainsoni*)	ST	Only occurs is isolated breeding pockets in the northern portion of California. There are rare accounts of this species in southern California.	Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or lines of trees.	**None.** The Project area does not provide suitable nesting nor foraging habitat for this species. The only documented occurrence of this species within the general vicinity of the Project is listed as extirpated.
Tricolored blackbird (*Agelaius tricolor*)	SC CSSC (nesting colony)	Permanent resident in Central Valley from Butte to Kern Counties; breeds at scattered coastal locations from Marin to San Diego Counties and at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields; habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide the large tracts of heavily vegetated habitat required for nesting or foraging habitat for this species. The nearest documented occurrence is over seven miles northeast of the Project area.

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Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
western snowy plover (*Charadrius nivosus nivosus*- Pacific population)	FT CSSC	The Pacific population of western snowy plover occurs along the entire coastline of California.	Occurs on sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting nor foraging habitat for this species. The nearest documented occurrence is over 6.5 miles northeast of the Project area.
Western yellow-billed cuckoo (*Coccyzus americanus*)	FT SE	Breeding populations of greater than five pairs which persist every year are currently limited to the Sacramento River from Red Bluff to Colusa and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve.	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	**None.** This species has been extirpated from the Project region.
white-tailed kite (*Elanus lecurus*)	CFP	Year-round resident in lowland areas west of Sierra Nevada from head of Sacramento Valley south, including coastal valleys and foothills, to western San Diego County at Mexico border.	Inhabits low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands that are used for foraging	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting adjacent to tracts of open space with ample rodent foraging habitat required for this species. The nearest documented occurrence is approximately three miles south of the Project area.

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Common Name (*Scientific Name*)	**Listing Status[a]**	**Geographic Distribution in California**	**Habitat Requirements**	**Potential Occurrence in the Project Area[b]**
Yellow rail (*Coturnicops noveboracensis*)	CSSC	Mostly through Canada, the Midwest, and southeast US. Small wintering population in the San Francisco Bay Area. Small breeding population on the California-Oregon border.	Shallow marshes, and wet meadows; in winter, drier fresh-water and brackish marshes, as well as dense, deep grass, and rice fields (Cornell Lab 2017).	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide suitable nesting or foraging habitat for this species. The nearest documented occurrence is approximately four miles south of the Project area.
Mammals				
pallid bat (*Antrozous pallidus*)	CSSC	Throughout California except high Sierra from Shasta to Kern Counties and northwest coast, primarily at lower and mid-elevations	Inhabits deserts, grasslands, shrublands, woodlands and forests; most common in open dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures, very sensitive to disturbance of roosting sites.	**None.** The Project area does not provide the large amounts of open space or dense vegetation required for this species to forage or have protection from high temperatures. In addition, the lack of permanent sources of water further preclude this species. The nearest documented occurrence is over 2.5 miles northwest of the Project area.

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Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
Townsend's big-eared bat (*Corynorthinus townsendii*)	SC CSSC	Throughout California in a wide variety of habitats; most common in mesic sites.	Requires caves, mines, tunnels, buildings, or other human-made structures for roosting, extremely sensitive to human disturbance.	**None.** The Project is surrounded by heavy urbanization that likely preclude this species. In addition, the lack of permanent sources of water further preclude this species. The nearest documented occurrence is over three miles northwest of the Project area.
San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*)	CSSC	This California endemic is found throughout the San Francisco Bay area in grasslands, scrub and wooded areas.	Forest habitats of moderate canopy and moderate to dense understory. May prefer chaparral and redwood habitats. Constructs nests of shredded leaves, grass and other material. May be limited by availability of nest-building materials.	**Low.** The woodland within the Project area is a thin strip of habitat surrounded by heavy urbanization, providing only marginal habitat and sparse vegetation protection for this species. The nearest documented occurrence is over three miles west of the Project area and no nest structures were observed on the December 12, 2018 site visit.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]
saltmarsh harvest mouse (*Reithrodontomys raviventris*)	FE SE CFP	This California endemic occurs only in the saline emergent wetlands of the San Francisco Bay and its tributaries.	Pickleweed (*Salicornia* spp.) is the primary habitat of this non-burrowing mammal. It builds loosely organized nests and requires higher areas to escape flooding.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide the required pickleweed marsh nor adjacent upland tidal habitat required by this species. The nearest documented occurrence is over 4.5 miles north of the Project area.
Salt marsh wandering shrew (*Sorex vagrans halicoetes*)	CSSC	Endemic to the salt marshes of the south arm of the San Francisco Bay.	Inhabits medium-high marsh 6-8 feet above sea level where abundant driftwood is scattered among *Salicornia.*	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide the marsh habitat required by this species and the nearest documented extant occurrence is over seven miles northeast of the Project area.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto				
Common Name (*Scientific Name*)	**Listing Status[a]**	**Geographic Distribution in California**	**Habitat Requirements**	**Potential Occurrence in the Project Area[b]**
American badger (*Taxidea taxus*)	CSSC	Occurs throughout California and the western United States and Canada.	Inhabits a variety of open habitats with friable soils.	**None.** There is no potential habitat in the Project area and no documented occurrences within one mile of the Project area. The Project area does not provide access to the large tracts of open space required for this species to forage and/or rear its young. The nearest documented occurrence is over 8.5 miles northwest of the Project area.

Table 2. Special-status Wildlife with Documented Occurrences within a CNDDB search of the U.S. Geological Survey (USGS) 7.5-minute quadrangles: Cupertino, Mountain View, Milpitas, San Jose West, Los Gatos, Castle Rock Ridge, Big Basin, Mindego Hill, and Palo Alto

Common Name (*Scientific Name*)	Listing Status[a]	Geographic Distribution in California	Habitat Requirements	Potential Occurrence in the Project Area[b]

[a] Status explanations:

Federal:

FE = Listed as endangered under the Federal Endangered Species Act.

FT = Listed as threatened under the Federal Endangered Species Act.

FC = Candidate for listing under the federal Endangered Species Act

State:

SE= Listed as endangered under the California Endangered Species Act.

ST= Listed as threatened under the California Endangered Species Act.

SC= Candidate for listing under the California Endangered Species Act.

CSSC = Species of Special Concern designated by California Department of Fish and Game

CFP = Fully Protected Species under California Fish and Game Code.

[b] Potential Occurrence explanations:

Present: Species was observed on the project site, or recent species records (within five years) from literature are known within the project area.

High: The CNDDB or other reputable documents record the occurrence of the species off-site, but within a 10-mile radius of the project area and within the last 10 years. High-quality suitable habitat is present within the project area.

Moderate: Species does not meet all terms of High or Low category. For example: CNDDB or other reputable documents may record the occurrence of the species near but beyond a 10-mile radius of the project area, or some of the components representing suitable habitat are present within or adjacent to the project area, but the habitat is substantially degraded or fragmented.

Low: The CNDDB or other documents may or may not record the occurrence of the species within a 10-mile radius of the project area. However, few components of suitable habitat are present within or adjacent to the project area.

None: CNDDB or other documents do not record the occurrence of the species within or reasonably near the project area and within the last 10 years, and no or extremely few components of suitable habitat are present within or adjacent to the project area.

Sources:

1. *California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDB), February 2019.*
2. *University of California Davis (UC Davis), PISCES Interactive Map, February 2019.*