

# **Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project**

## **Final Mitigated Negative Declaration**

Project No. 26154002

June 2019



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## List of Acronyms

AMMs	Avoidance and Minimization Measures
ATCM	Air Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BMPs	Best Management Practices
Acre	ac
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
Central California Coast	CCC
CEQA	California Environmental Quality Act
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> E	carbon dioxide equivalents
CRHR	California Registry of Historic Resources
Cubic yard	CY
CWA	Federal Clean Water Act
dB	Decibel
DBH	Diameter of a tree measured at breast height
District	Santa Clara Valley Water District
DPM	Diesel Particulate Matter
EIR	Environmental Impact Report
EIR/S	Environmental Impact Report/Statement
FAHCE	Fish and Aquatic Habitat Collaborative Effort
ft	feet
FTA	Federal Transit Administration
GAP	Upper Guadalupe River Gravel Augmentation Study
GCRCD	Guadalupe-Coyote Resource Conservation District
GHG	Greenhouse gas
GWIWG	Guadalupe Watershed Integrated Working Group
HDPE	High-density polyethylene
H <sub>2</sub> S	Hydrogen sulfide
Leq	equivalent continuous sound level
LF	Linear feet
LOS	level of service
MBTA	Migratory Bird Treaty Act
MND	Mitigated Negative Declaration
NCCP	Natural Community Conservation Plan
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System

PM	particulate matter
PRC	Public Resources Code
ROG	reactive organic gas
RWQCB	San Francisco Bay Regional Water Quality Control Board
SFBAAB	San Francisco Bay Area Air Basin
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMP	Stream Maintenance Program
SCVWD	Santa Clara Valley Water District (or District)
SO <sub>2</sub>	Sulfur dioxide
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
TAC	Toxic air contaminant
TCR	Tribal cultural resource
UGRFPP	Upper Guadalupe River Flood Protection Project
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
UPRR	Union Pacific Railroad
VHP	Valley Habitat Conservation Plan

## Key Terminology

**Beneficial Impact:** A project impact is considered beneficial if it would result in the enhancement or improvement of an existing physical condition in the environment – no mitigation is required when an impact is determined to be beneficial.

**Best Management Practices (BMPs):** Measures typically derived from standardized District operating procedures. These practices have been identified as methods, activities, procedures, or other management practices for the avoidance or minimization of potential adverse environmental effects. They have been designed for routine incorporation into project designs and represent the “state of the art” impact prevention practices.

**Less-than-significant Impact:** This is indicated in the Initial Study checklist where the impact does not reach the standard of significance set for that factor and the project would therefore cause no substantial change in the environment (no mitigation needed).

**Less-than-significant Impact with Mitigation:** This is indicated in the Initial Study checklist where the impact is determined to exceed the applicable significance criteria, but for which feasible mitigation measure(s) are available to reduce the impact to a level of less-than-significant.

**Mitigation Measures:** Mitigation includes: (a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments.<sup>1</sup>

**No Impact:** This is indicated in the Initial Study where, based on the environmental setting, the stated environmental factor does not apply to the proposed project.

**Potentially Significant Impact:** This is indicated in the Initial Study where the project impact may cause a substantial adverse change in the environment, but for which (1) no feasible mitigation is available to reduce the impact to a less-than-significant level, or (2) feasible mitigation has been identified, but the residual impact remains significant after mitigation is applied.

**Significance Criteria:** A set of criteria used by the lead agency to determine whether an impact would be considered significant. The District relied upon the significance criteria set forth in the CEQA Guidelines and criteria based on the regulatory standards of local, state and federal agencies.

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<sup>1</sup> Authority cited: Sections 21083 and 21087, Public Resources Code; Reference: Sections 21002, 21002.1, 21081, and 21100(c), Public Resources Code.

## **SECTION 1. INTRODUCTION**

### **Organization of this Document**

This document is organized to assist the reader in understanding the potential impacts that the project may have on the environment and to fulfill the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 *et seq.*). Section 1 indicates the purpose of CEQA, describes the public participation process, and summarizes applicable state and federal regulatory requirements. Section 2 describes the location and features of the project and Section 3 describes the environmental setting. Section 4 evaluates the potential impacts through the application of the CEQA Initial Study Checklist questions to project implementation. Section 5 lists the contributors, and Section 6 supplies the references used in its preparation.

Responses to comments received during the 30-day public review period are provided in Attachment 4. Responses to comments and minor project changes have resulted in revisions to the draft MND text and figures. Those changes are tracked in this document using strike-through format for text deletions and underline for text additions.

### **Purpose of the Mitigated Negative Declaration**

The Santa Clara Valley Water District (District), acting as the Lead Agency, prepared a draft Mitigated Negative Declaration (MND) to provide the public, responsible agencies and trustee agencies with information about the potential environmental effects of the proposed Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project (proposed project).

This MND was prepared consistent with CEQA, the CEQA Guidelines (Title 14, California Code of Regulations 15000 *et seq.*), and District procedures for implementation of CEQA (Environmental Management System - Environmental Planning Q520D01). CEQA requires that public agencies such as the District identify the significant adverse impacts of their actions. Beneficial impacts should be encouraged and expanded where possible and adverse impacts should be avoided or minimized, or mitigated in cases where avoidance and minimization are not possible.

In addition to acting as the CEQA Lead Agency for its projects; the District's mission includes objectives to conduct its activities in an environmentally sensitive manner as a steward of Santa Clara Valley watersheds. The District strives to preserve the natural qualities, scenic beauty and recreational uses of Santa Clara Valley's waterways by using methods that reflect an ongoing commitment to conserving the environment.

### **Decision to Prepare a Mitigated Negative Declaration for this Project**

The Initial Study (Section 4) for the Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project identifies potentially significant effects on biological resources (riparian habitat). Mitigation measures have been proposed for the project to reduce such effects to less-than-significant levels; and therefore, the proposed Mitigated Negative Declaration is consistent with CEQA Guidelines §15070 which indicate that a mitigated negative declaration is appropriate when:

The project Initial Study identifies potentially significant effects, but:

- a. Revisions to the project plan were made that would avoid, or reduce the effects to a point where clearly no significant effects would occur, and
- b. There is no substantial evidence, in light of the whole record, that the project as revised may have a significant effect on the environment.

## Agency and Public Review

In conformance with CEQA Guidelines §15063(g), the District formally and informally consulted with responsible and trustee agencies concerning the proposed project. In conformance with CEQA Guidelines §15063(g), the District distributed letters to responsible and trustee agencies describing the proposed project and inviting agency input on the proper level of CEQA documentation, environmental resources that may be affected by the project, and environmental regulatory approvals/permits required to implement this proposed project. The following agencies received early consultation letters in early April 2015 and were asked to respond by May 20, 2015 (45 days):

- Bay Area Air Quality Management District
- California Department of Fish and Wildlife
- City of San Jose
- National Marine Fisheries Service
- San Francisco Bay Regional Water Quality Control Board
- U.S. Army Corps of Engineers, Regulatory Branch
- U.S. Fish and Wildlife Service

The District received one informal scoping response from the RWQCB, which is reprinted in Attachment 1. The issues raised in this scoping letter are addressed in the MND.

This draft MND ~~will be~~ was circulated to the State Clearinghouse, local and state agencies, interested organizations, and individuals who may wish to review and provide comments on the project description, the proposed mitigation measures or other aspects of the report. The availability of the draft MND and opportunity for public comment was announced in advertisements published in three newspapers of general circulation, including Spanish and Vietnamese language newspapers. Publication of the Draft MND ~~will~~ commenced the 30-day public review period per CEQA Guidelines §15105(b) beginning which began on **January 15, 2017** and ending ended on **February 16, 2017**.

The draft MND and supporting documents ~~are~~ were made available for review at:

- Santa Clara Valley Water District  
Headquarters Building  
5700 Almaden Expressway  
San Jose, CA 95118

Copies of the report ~~are~~ were also available for review at:

- San Jose Library, Willow Glen Branch  
1157 Minnesota Avenue  
San Jose, CA 95125

- Dr. Martin Luther King Library  
150 E. Fernando Street  
San Jose, CA 95112
- Posted on the District website:  
<http://www.valleywater.org/PublicReviewDocuments.aspx>, or
- Via written request for a copy from the District.

Written comments or questions regarding the draft MND ~~should be~~ were submitted to the name and address indicated below.

James Manidakos  
Environmental Planner II  
Santa Clara Valley Water District  
5750 Almaden Expressway  
San Jose, CA 95118-3614  
  
Phone: (408) 630-2833  
e-mail: [jmanidakos@valleywater.org](mailto:jmanidakos@valleywater.org)

The District received letters or emails commenting on the draft MND from the following individuals and organizations during the public review period:

- Scott Wilson, California Department of Fish and Wildlife
- Gary Stern, National Marine Fisheries Service
- Steven Schoenberg, U.S. Fish & Wildlife Service
- Susan Glendening, San Francisco Bay Regional Water Quality Control Board

The proposed Mitigated Negative Declaration along with any comments received by Prior to making a decision on the project, the District considered all comments made during the public review period and made necessary changes to the document in response to comments will be considered by the decision-making body or person prior to a decision on the project. Other revisions were made in the document to provide additional information and analysis in certain resource areas and to reflect minor changes to the project description and schedule. None of these revisions are considered substantial under section 15073.5 of the CEQA Guidelines and the new information added merely clarifies, amplifies, or makes insignificant modifications to the draft MND.

## **Interagency Collaboration and Regulatory Review**

The CEQA review process is intended to provide both trustee and responsible agencies with an opportunity to provide input into the project. Trustee agencies are state agencies that have authority by law for the protection of natural resources held in trust for the public. Responsible agencies are those that have some responsibility or authority for carrying out or approving a project; in many instances these public agencies must make a discretionary decision to issue a local permit; provide

right-of-way, funding or resources that are critical to the project's proceeding. In this instance the San Francisco Bay Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and City of San Jose may have review/approval authority over certain aspects of the project and if so, would be responsible agencies for purpose of CEQA. CDFW is also defined as a trustee agency pursuant to CEQA. In addition, several federal agencies including U.S. Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) may have review/approval authority over other aspects of the project. The District will work with these federal, state, and local agencies to ensure that the proposed project meets applicable policies and requirements.

This MND is intended to assist state and local agencies to carry out their responsibilities for permit review or approval authority over various aspects of the project. The proposed project would likely require project-specific permitting and/or review by the entities listed in Table 1-1 below.

In addition to the entities listed in Table 1-1, the District also worked with the Guadalupe Watershed Integration Working Group (GWIWG) during Project development. As further described in Section 2, Project Description, the GWIWG participants include representatives from federal, state, and local agencies as well as engineering and environmental consultants. The District provided the Project's 60% design plans to GWIWG for review, and in response to GWIWG's comments, the District made minor revisions to the project description, which are reflected in Section 2.

**Table 1-1: Summary of Required Agency Approvals**

Agency	Permit/Review Required
San Francisco Basin Regional Water Quality Control Board (RWQCB)	<p>Section 401 certification in support of Section 404 Dredge/Fill Permit pursuant to Clean Water Act and waste discharge requirements pursuant to Porter-Cologne Water Quality Act.</p> <p>Note -- The RWQCB has stated in its informal consultation response letter that <del>the existing 401 certification and WDR for the Upper Guadalupe River Project would also cover the proposed project</del> <u>the RWQCB approval of the project will be in the form of a letter granting approval once the District submits a project work plan acceptable to the RWQCB (see Attachment 1).</u></p>
California Department of Fish & Wildlife (CDFW)	Section 1602 Lake or Streambed Alteration Agreement
U.S. Army Corps of Engineers (USACE)	<p>Clean Water Act Section 404 Dredge/Fill Permit</p> <p><u>Note – The USACE stated via email on January 10, 2019 that the project would likely require amendment of the existing 404 Permit for the Upper Guadalupe River Flood Protection Project (UGRFPP).</u></p>
National Marine Fisheries Services (NMFS)	<p>Biological opinion (BO) for federally listed fish species issued through Section 7 consultation</p> <p>Note - <del>NMFS has verbally indicated</del> <u>stated in its comment letter that the existing BO and Supplemental BO for the UGRFPP would likely cover the proposed project; thus, a new BO likely will may not be necessary. The District will not move forward with construction until NMFS confirms that the project is consistent with the existing BO and the USACE issues the 404 Permit amendment.</u></p>
Santa Clara Valley Habitat Agency	<del>Certificate of compliance with the Valley Habitat Plan (VHP)</del>
State Water Resources Control Board	National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002
City of San Jose	Grading and Drainage Permit

## **SECTION 2. PROJECT DESCRIPTION**

### **Upper Guadalupe River, Reach 6 Aquatic Habitat Improvement Project**

#### **Background**

~~USACE and the District are in the process of implementing the~~ In 2001, the District approved the Upper Guadalupe River Flood Protection Project (UGRFPP) to provide 100-year flood protection ~~The UGRFPP would improve~~ along about 6.4 miles of the Guadalupe River, extending from Interstate 280 to the confluence Guadalupe and Alamitos creeks, which forms the upstream limit of the river. The project area of UGRFPP is subdivided into Reaches 6 through 13. The objective of UGRFPP is to provide 100-year flood protection consistent with Federal Emergency Management Agency requirements. USACE is leading the project and the District is the nonfederal or local sponsor. Due to limited Federal funding, the District constructed improvements at Reach 6 in 2010 and 2011 to provide capacity to convey the 1% flow without overtopping of the banks. The Reach 6 improvements were implemented in conformance with project approvals issued by the RWQCB, NMFS, USACE Regulatory Division, CDFW, USFWS, and City of San Jose.

RWQCB issued waste discharge requirements and water quality certification for the UGRFPP in December 2003 (Order R2-2003-0115). Order R2-2003-0115 requires the District to conduct a number of design improvement studies, including a “Gravel Augmentation Program Study” (Condition D.32.e). The gravel augmentation program study was expected “to identify reaches that are scouring due to lack of sediment supply, define the reasons for gravel reduction in the system, and develop protocols for improving existing conditions.” As part of the study, the District was required to produce a gravel augmentation plan (GAP) to “address gravel shortages, improve aquatic habitats, and improve channel stability in the project reaches.” The District completed the study in September 2013. The study found:

“The construction of dams, diversions and gravel mining has resulted in a significant reduction of gravel supply into the Upper Guadalupe River project area. Channel incision has created confinement in the low-flow channel, which has increased flow velocities. The result has been an increase in gravel transport capacity through the system.

As a part of the UGRFPP effort, project designers have recognized the potential need for a gravel augmentation component for ecological and geomorphic purposes (e.g., to help offset gravel shortages, contribute to aquatic habitat, and to help provide channel stability and/or grade control). A gravel augmentation program for the UGRFPP can begin to reverse observed geomorphic changes by restoring a portion of the historic coarse sediment supply that has been reduced. These physical channel changes resulting from coarse sediment augmentation would, in turn, help restore geomorphic processes that help form and maintain alluvial features that provide biological benefits including increased benthic macroinvertebrate production, increased spawning and rearing habitat for salmonids, and potentially increased water quality benefit such

as water temperature cooling via hyporheic exchange (USACE, et. al., 2013).”

The District proposes to implement the study results and recommendations by undertaking the Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project, which is the subject of environmental review in this MND.

The Guadalupe Watershed Integration Working Group (GWIWG) was established in early 2002, to review and discuss existing and future projects in the Guadalupe Watershed. GWIWG participants have included representatives from federal, state, and local agencies, and GWIWG has been serving as an advisory committee during the course of design, construction, and monitoring for the UGRFPP. The project description, discussed below, has incorporated comments received from GWIWG.

## Project Overview

Reach 6 is the most downstream reach of the UGRFPP. Reach 6 is bound to the north by Interstate 280 (I-280) and to the west and south by State Highway 87 (see Figure 2-1). Reach 3C is downstream of Reach 6 and is part of the transition between the Upper Guadalupe River and Downtown Guadalupe River project areas. Residential uses occur to the east of the Reach 6/3C project area. The existing West Virginia Street and Union Pacific Railroad (UPRR) bridges cross the river in Reach 6. In 2012, the Reach 6 channel was improved and an adjoining floodplain created to provide 1% flow conveyance capacity. The proposed project includes two main elements:

1. Gravel augmentation within Reach 6, to be implemented in two phases
2. Filling of voids between existing boulder at the Reach 6/3C Transition

Figure 2-1 shows the locations of proposed improvements 1 and 2.

### Improvement 1: Gravel Augmentation

The District proposes to implement gravel augmentation at Reach 6 in two phases. The project would include a robust monitoring program implemented between phases 1 and 2 to determine the project's effectiveness in improving aquatic habitat and channel stability.

Construction activities during Phase 1 would take 2 to 4 weeks during the dry season (~~May 1~~ generally June 15 through October 15, unless extended or otherwise approved by applicable regulatory agencies). Construction would require dewatering ~~about~~ between 900 800 linear feet (LF) and 1,100 LF of the low-flow river channel during the dry season. The downstream coffer dam would be located from about near Station 726+00 (Option B) or Station 728+00 (Option A) and the upstream coffer dam would be near Station 737+00 735+50 (Figure 2-2). It is also possible that dewatering will occur in two stages specific to each of the two gravel augmentation sites (described below) being conducted under Phase 1 in order to minimize the total area dewatered (from up to 1,100 LF down to approximately 800 LF), minimize the area dewatered at any given time, and simplify the dewatering operation. Under a staged dewatering approach, dewatering would occur across Site 1 extending up to 300 linear feet and across Site 2 extending up to 500 linear feet (order of site dewatering to be determined). To dewater the stream, coffer dams would be temporarily installed upstream and downstream of the gravel

placement locations. Qualified biologists would capture and relocate stranded fish, if any, outside the project area. A high-density polyethylene (HDPE) pipe would be placed on the floodplain east of the low-flow channel to transport water collecting at the upstream dam to a discharge point below the downstream coffer dam. The water would be discharged onto energy dissipation devices (e.g. rock riprap, hay bales) to prevent bed scour at the discharge location. The diverted river water would be tested daily for temperature, turbidity, dissolved oxygen, and oil and grease to prevent adverse effects on the receiving waters. Diverted water not meeting standards for discharge would be collected for treatment prior to release.

The District would stage Phase 1 construction activities at grassy areas on the floodplain east of the river (see Figure 2-2). The Reach 6 floodplain consists of compacted clay subsoil remnant after excavation with herbaceous vegetation per the UGRFPP design condition. Construction equipment (e.g. front loaders, bulldozers, graders), haul trucks, and workers would access the site via existing ramps connecting to McLellan Avenue and Virginia Street, and the existing depressed access road between those two streets. The existing depressed access road is currently surfaced with compacted aggregate and connects to the proposed construction staging area of the project. Construction activities would be laid out to provide one-way traffic to/from the construction area. Materials would be stockpiled at the roughly 0.25-acre staging area, and transported to the river bed via a new temporary access road to be built as part of the project. The temporary access road would be about 150 feet (ft) in length and about 24 ft wide. The District would place steel plates to create a temporary crossing across the small constructed drainage swale and place plywood (3/4-inch, with geotextile fabric underneath) on top of seasonal/perennial wetlands between the staging area and the river. The crossing over the drainage swale would be designed to allow continuous flow in the drainage. ~~The total area of vegetation removal and soil disturbance outside the low-flow channel due to construction staging would be about 0.33 acres. This area would be stripped of vegetation and subject to soil compaction due to movement of vehicles and equipment, and storage of gravel prior to placement in the channel.~~

During Phase 1 the District would use haul trucks to move a maximum of ~~about~~ 1,160 cubic yards (CY) of gravel<sup>2</sup> from the staging area to the dewatered section of river via the newly constructed temporary access road. Because the existing river banks are steep, construction of two temporary earthen ramps would be necessary for construction equipment to access the gravel placement sites. Two ramps, each about 30 ft in length and 20 ft in width, would be installed between the floodplain and low-flow channel to provide access to the gravel placement areas within the low-flow channel. The ramps would be composed of compacted soil and surfaced with crushed rock. The ramp soil and surface rock would be removed after project construction is complete. ~~However, after the ramps are removed, the District would prevent regrowth of woody vegetation at the ramp locations to facilitate rapid access to the river channel if needed.~~ Figure 2-2 shows the proposed gravel placement areas ~~and shape of the gravel bars.~~ The gravel would contain a well-graded mix of grain sizes with 84% of the grains having a diameter less than 6 inches i.e. ( $D_{84} = 6$  inches) and a maximum grain size of 8 inches in diameter ( $D_{max} = 8$  inches). Once placed in the dry river bed, the gravel would be moved to the two placement locations and shaped into riffles. About A maximum of 750 550 linear feet (LF) and 0.52 0.39 acres of the river channel within the low-flow channel would be disturbed during Phase 1 for the formation of the riffles.

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<sup>2</sup> Since the release of the draft MND, the amount of gravel anticipated to be used during Phase 1 is likely to be closer to 550 CY as a result of the minor project changes. However, the reduced amount of gravel used would only lessen the severity of project impacts.

**Table 2-1: Gravel Placement Locations and Amounts**

Site	Site Limits (Stations)	Location	Material	Max. Linear Feet	Max. Volume
<b>Phase 1</b>					
1	Sta 733+50 to 735+20 736+60	Between West Virginia Street and UPRR bridges, adjacent to Islands # 9 and 10	gravel	200 LF	490 CY
2	Sta 728+50 to 731+50 733+00	Between West Virginia Street and UPRR bridges Phase 1, Site 1, adjacent to Island #7	gravel	350 LF	670 CY
<b>Phase 2 (may be modified based on Phase 1 monitoring results)</b>					
3 to 7	Sta 716+00 to 727+50	Between I-280 ramp and Virginia Street Bridge	gravel	1,000 LF	~3,000 CY

After placement of the Phase 1 gravel, the temporary access road and staging area on the floodplain east of the river would be removed. This area would be hydroseeded to re-establish vegetative cover. The two newly constructed temporary ramps would be removed, however, the ramp sites would be kept clear of woody vegetation growth that would preclude vehicular access to the channel. The District would require channel access to monitor and maintain the newly placed gravel.

After Phase 1 construction is complete, the District would monitor channel morphology and habitat conditions of Reach 6 for approximately ~~three~~ five years post-project before implementing Phase 2. Monitoring and measurement of river morphology and biological parameters would occur annually for approximately ~~three~~ five years after Phase 1 is implemented, or until a 10-year (10% annual chance of occurrence) flow event occurs at Reach 6 of the river to measure the following parameters:

- Longitudinal channel profile
- Channel cross-section
- Tracer rock movement
- Suitable habitat area
- ~~Benthic microorganisms~~

The monitoring results would provide the District with a better understanding of the effectiveness of the Phase 1 gravel augmentation ~~on Reach 6~~ at restoring river geomorphology and improving aquatic habitat.

Phase 2 gravel augmentation would occur approximately ~~3~~ six years after implementation of Phase 1, if monitoring finds that Phase 1 resulted in achievement of the GAP goals for Reach 6: a) redistributing elevation drops more evenly through the reach, b) increasing spawning habitat availability for salmonids and lamprey, c) preserving existing shaded riverine aquatic habitat and minimizing disturbance to recent riparian mitigation plantings, d) increasing low flow velocities adjacent to undercut banks and large wood to improve fish habitat, and e) minimizing future maintenance in the downtown Guadalupe River Project reach by using an appropriately sized gravel distribution.

Phase 2 would occur in a different river section of Reach 6 than Phase 1. The Phase 2 work area would be located downstream of West Virginia Street. In Phase 2, the District would place about 3,000 CY of gravel in Reach 6 at five pools downstream of the West Virginia Street bridge. The precise locations and amount of gravel placed during Phase 2 may be modified based on the results of the Phase 1 monitoring. Potential modifications of the design would include changes in grain-size distribution, geomorphic shape or size of the installed gravel bars, crest height of the gravel bar, etc. The Phase 2 construction work area would be accessible via two existing permanent ramps that connect to West Virginia Street and Palm Street. Those permanent ramps would connect to the existing depressed maintenance road located at the eastern edge of the floodplain which runs the entire length of the project area and to an existing concrete apron located underneath and upstream of the I-280 Bridge. The portion of the concrete apron south of the I-280 bridge support pillars and has an area of about ¼ acre, and would provide a suitable construction staging area. The final design of the Phase 2 gravel placement would account for the need to reduce or avoid adverse environmental effects, and ensure long-term sustainability of habitat improvements. Implementation of Phase 2 gravel placement is expected to take 1 to 2 months.

Similar to Phase 1, once Phase 2 gravel placement is completed, the District would monitor the Phase 2 work area with longitudinal profiles, cross sections, and tracer rock study. However, unlike Phase 1, suitable habitat area would not be monitored following implementation of Phase 2. Monitoring of Phase 2 would occur for 4 years following gravel placement.

### **Improvement 2: Filling of Bed Armor Voids**

Improvement 2 would be constructed concurrent with implementation of Phase 2 of the gravel augmentation and would only occur if Phase 2 gravel augmentation occurs based on Phase 1 monitoring results. The existing bed armoring in the roughened channel at the Reach 6/3C transition (upstream of the Interstate 280 Bridge) is supposed to contain ungrouted cobbles and gravel. However, cobbles and gravel were not placed among the boulders during construction of the roughened channel as part of the Reach 6 improvements constructed in 2010 and 2011. The Reach 6 improvements completed in 2011 included removing residential structures, excavating an enlarged floodplain on the east bank of the river, installing a drainage swale to carry storm runoff from the urban area east of the river to the river channel, constructing a depressed access road running the length of the floodplain and ramps connecting the channel access road to surface streets, installing rock riprap in the river channel at the Reach 6/3C transition area, and planting riparian vegetation. The current dearth of cobble and gravel in the river is believed to decrease biological productivity of the river and reduce the number of macrobenthic invertebrates living in this reach. To improve the existing condition, the District proposes to fill the existing voids in the upper two feet of the bed armor with about 200 CY of cobbles and gravel. The gravel and cobbles would be placed between Sta 714+00 and 717+20 of the channel. The addition of gravel and cobbles to the Reach 6/3C transition would result in a more natural and diverse range of sediment sizes, resulting in improved aquatic habitat for fish and other aquatic life. Placement of gravel and cobbles at Reach 6/3C transition would occur concurrently with the Phase 2 river channel gravel placement. The Phase 2 dewatering system would extend to the Reach 6/3C transition area and construction staging would occur at the same location as staging for the Phase 2 gravel augmentation (i.e. the existing concrete apron under the I-280 Bridge). Filling of voids in the Reach 6/3C transition area would occur concurrently with Phase 2 of gravel augmentation.

After this project is completed, maintenance of Reach 6 would continue to be undertaken under the District's Stream Maintenance Program (SMP). The nature/extent of future maintenance activities in Reach 6 would be substantially similar to activities currently undertaken by the SMP

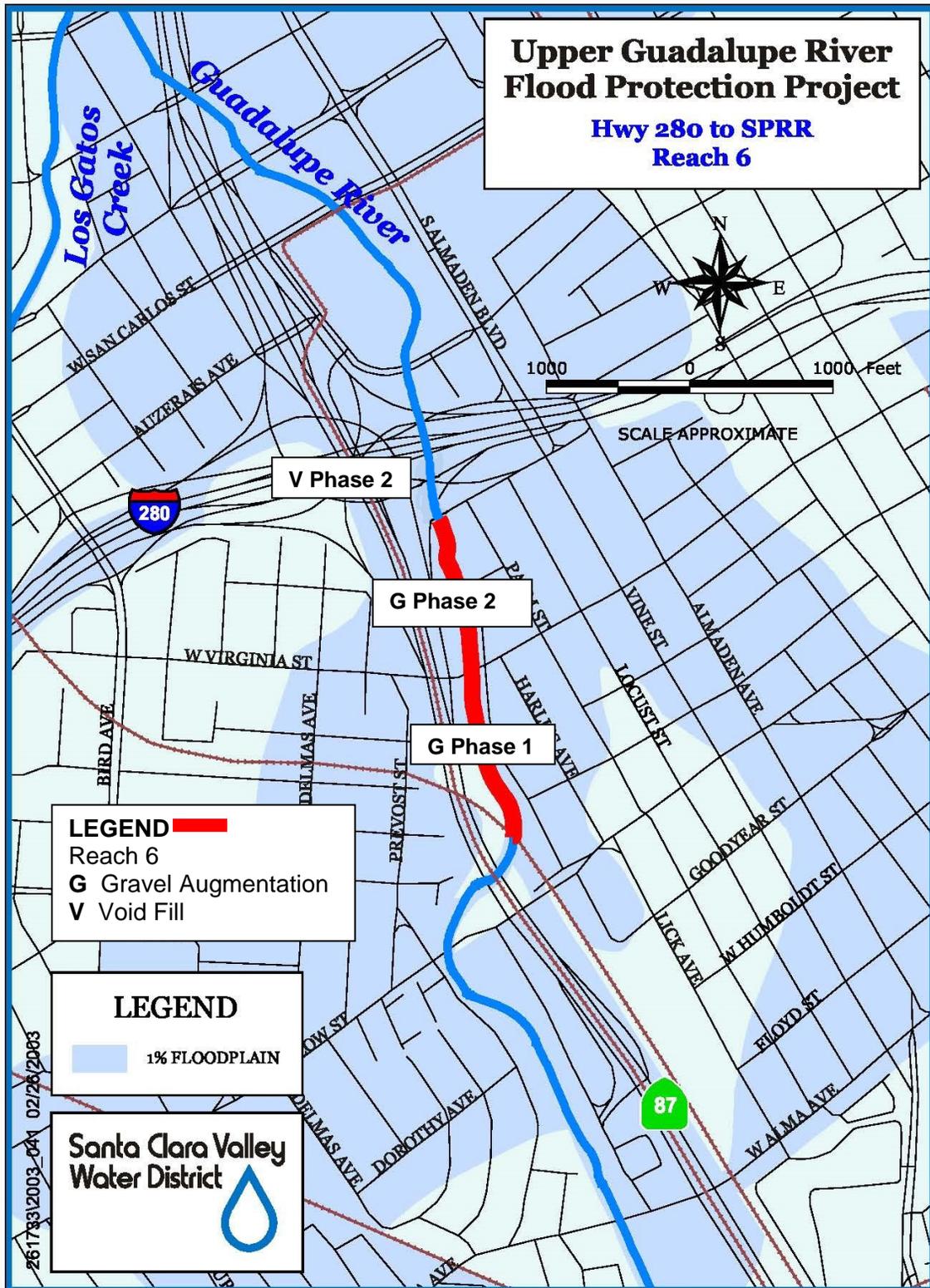
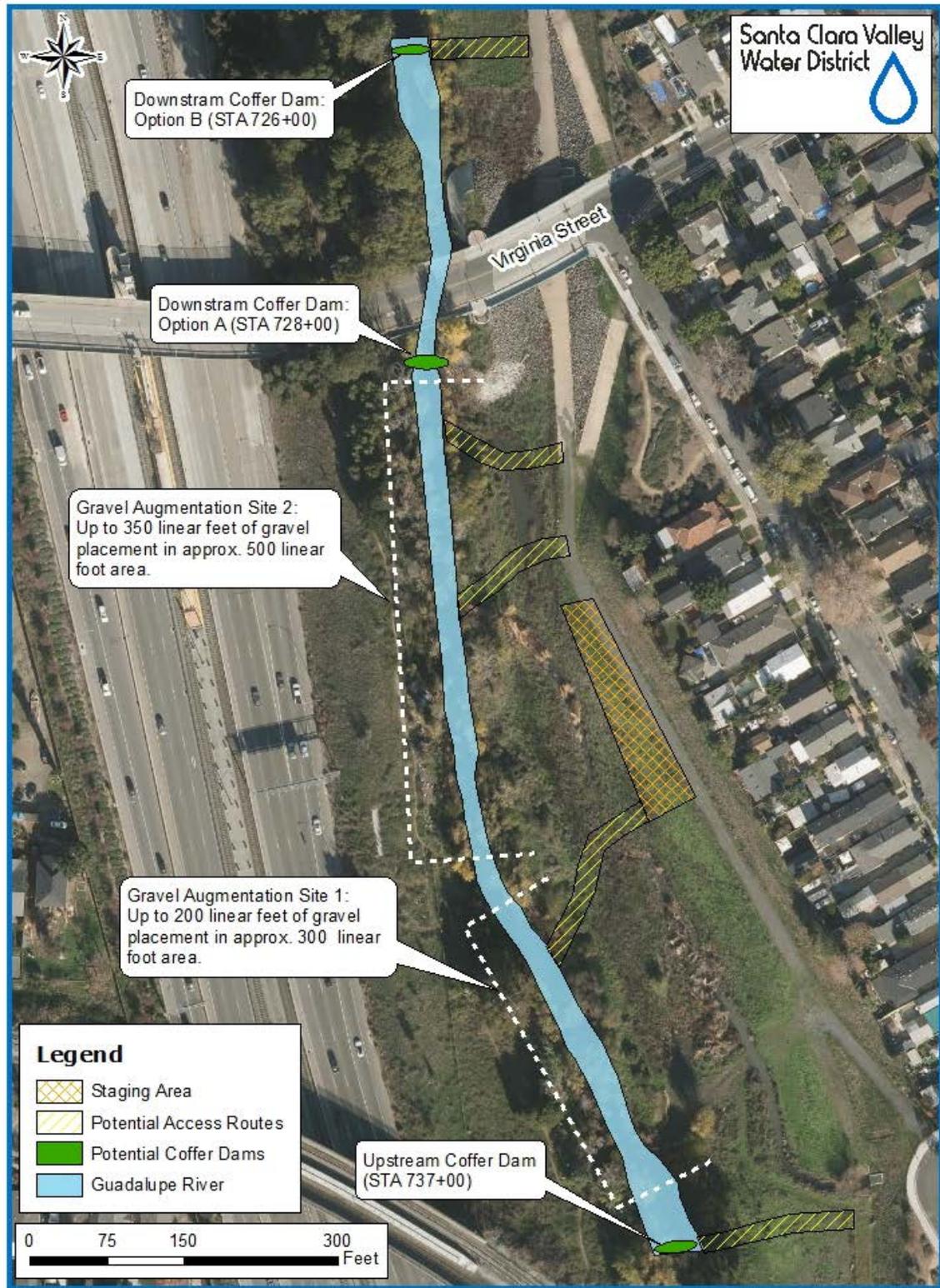
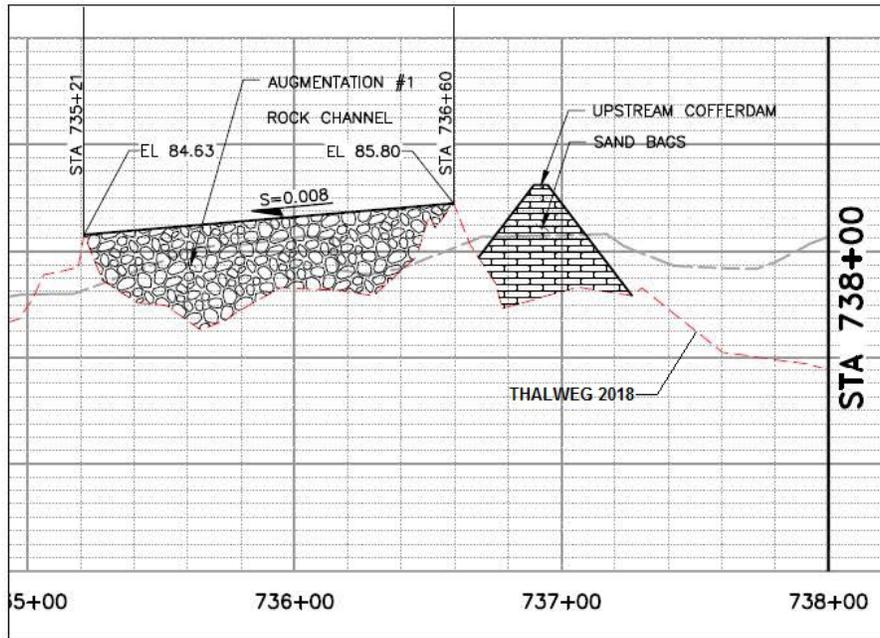


Figure 2-1: Map of Proposed Project Implementation Sites, Upper Guadalupe River Reach 6

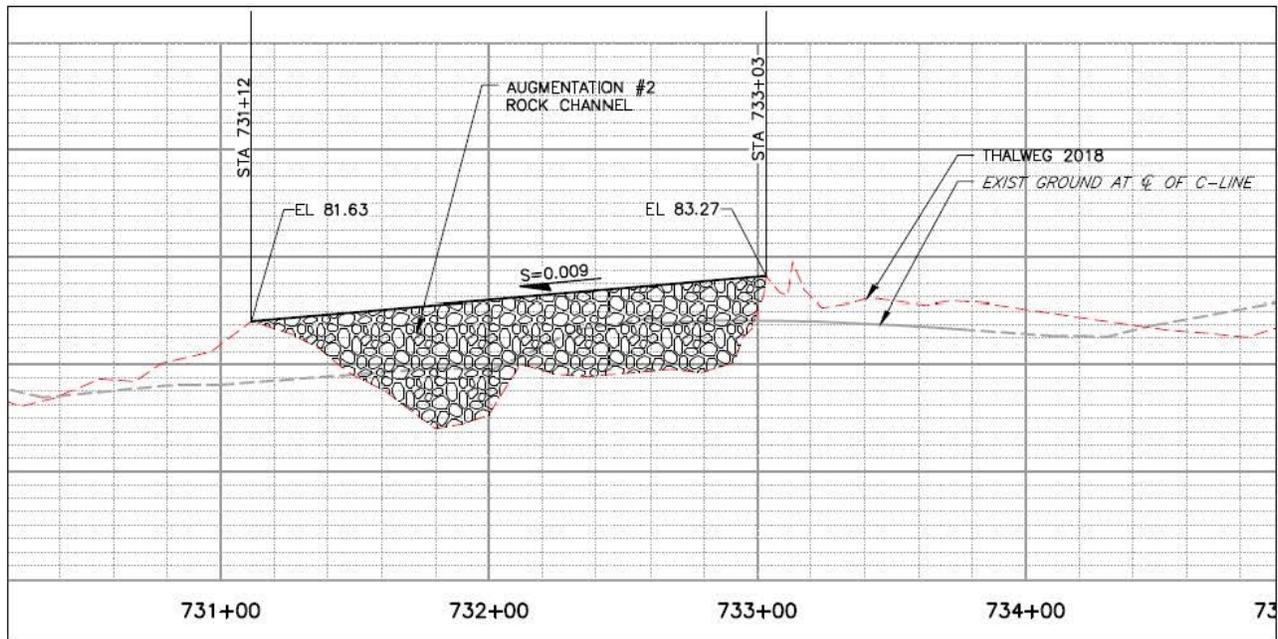


**Figure 2-2: Phase 1 Gravel Augmentation Sites and Project Elements**

Site 1: Potential Gravel Augmentation and Upstream Cofferdam Cross-Section



Site 2: Potential Gravel Augmentation Cross-Section



**Figure 2-3: Example Potential Cross-Sections of Gravel Augmentation.** Gravel may not be added at the exact locations, lengths, depths, and slope shown above, but will be within the limits on Figure 2-2, and based on the most recent longitudinal data available.

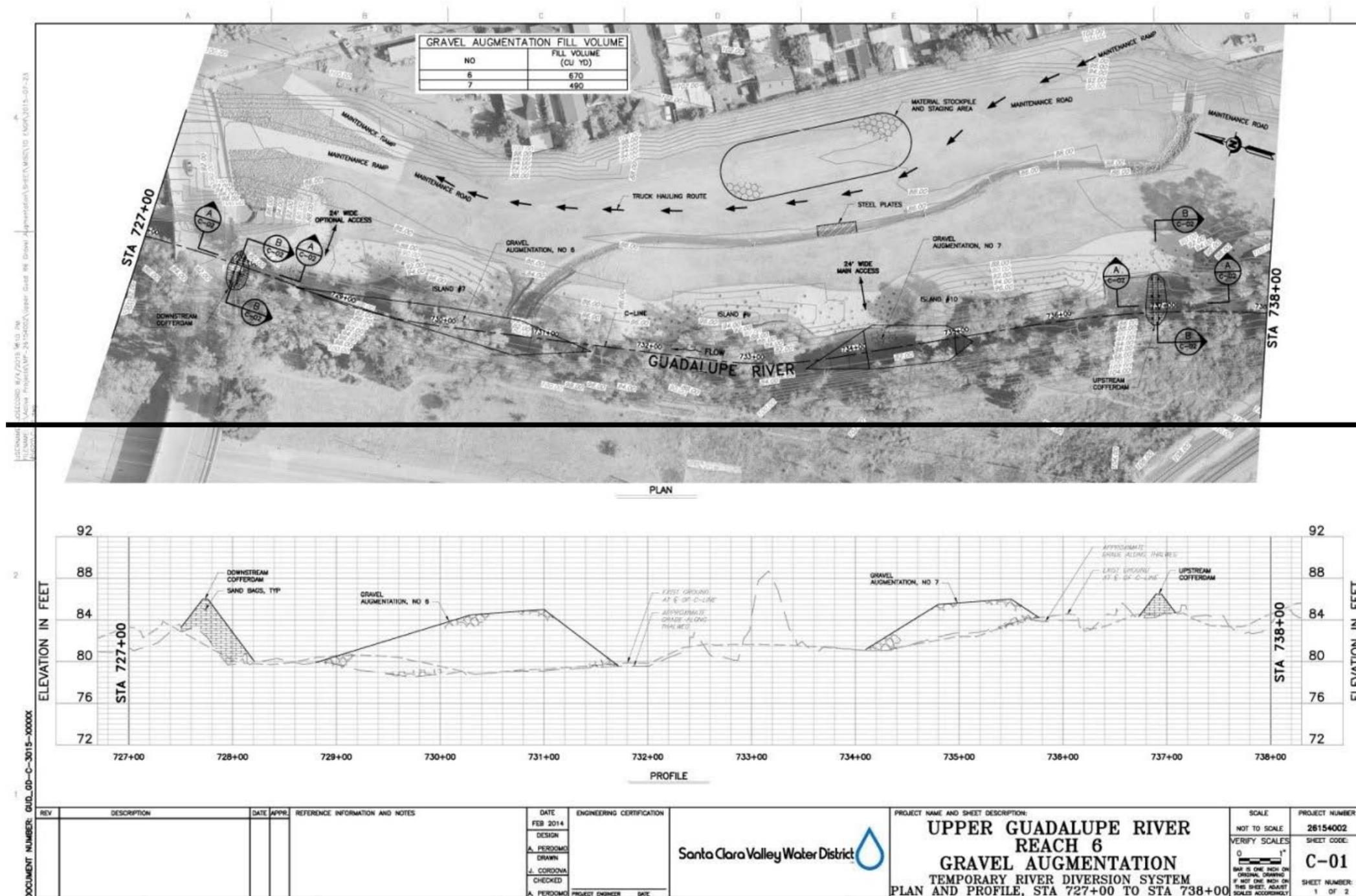


Figure 2-2: Layout of Phase 1 Gravel Augmentation Sites and Staging Area at Upper Guadalupe River Reach 6

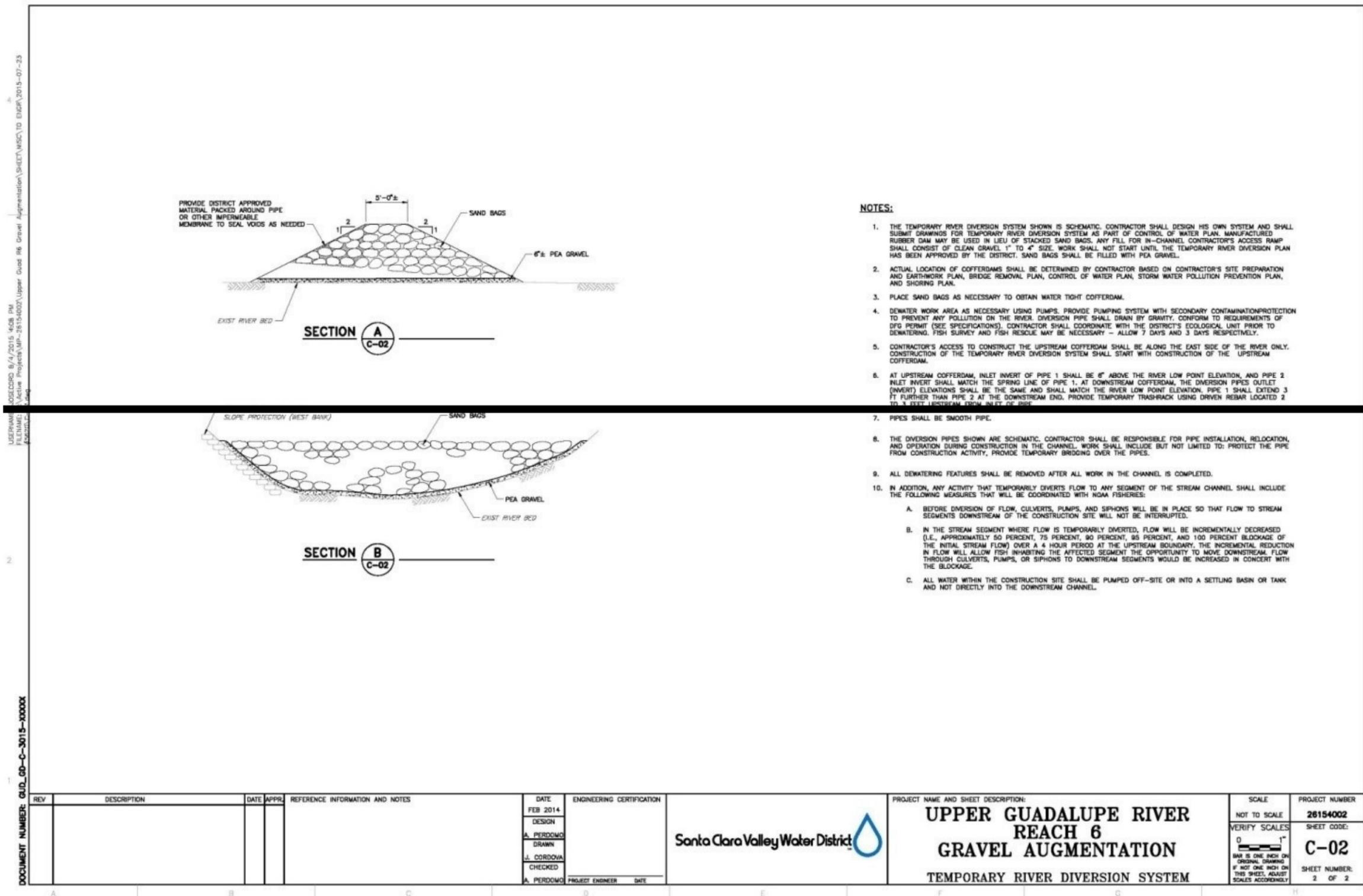


Figure 2-3. Detailed Cross-sections of Phase 1 Gravel Augmentation at Upper Guadalupe River Reach 6

## Construction Timing and Schedule

The District proposes to implement the project according to the schedule shown in Table 2-2. In conformance with San Jose Municipal code, construction activities would occur between the hours of 7 AM and 7 PM on non-holiday weekdays.

**Table 2-2: Project Implementation Schedule**

Project Element	Implementation
Phase 1 of Gravel Augmentation	Two to four weeks between June <u>15</u> and October <u>15</u> <u>2017</u> . <u>An extension beyond October 15 may be approved by the resource agencies.</u>
<u>Phase 1</u> Monitoring	After completion of Phase 1 <u>gravel augmentation</u> , and before implementation of phase 2 Monitoring is planned for <u>five</u> years <u>2017</u> through <u>2020</u> .
Phase 2 of Gravel Augmentation and Filling of Voids (if Phase 1 meets performance criteria)	One to two months between June <u>15</u> and October <u>15</u> <u>2020</u> . <u>An extension beyond October 15 may be approved by the resource agencies.</u>
<u>Phase 2</u> Monitoring (if Phase 1 meets performance criteria).	After completion of Phase 2 <u>gravel augmentation</u> . Monitoring is planned for <u>four</u> years

## Environmental Protection Measures

Best Management Practices (BMPs) are standard operating procedures or practices that prevent, avoid, or minimize potentially adverse effects associated with construction and other activities. The District routinely incorporates a wide range of BMPs into project design as described in detail in its *Best Management Practices Handbook* (District 2014). Table 2-3 lists District BMPs applicable to the project. Additional environmental measures developed to mitigate specific impacts associated with project implementation and not avoidable through standard District BMPs are identified in Section 4.

~~While the proposed project is not a covered activity identified in the Santa Clara Valley Habitat Plan (VHP), which is a joint habitat conservation plan and natural communities conservation plan developed to serve as the basis for issuance of incidental take permits and authorizations pursuant to Section 10 of the federal Endangered Species Act and California Natural Community Conservation Planning Act, the District would adhere to all applicable VHP conditions and Avoidance and Minimization Measures (AMMs) during project implementation. The applicable VHP conditions and AMMs are also listed in Table 2-3. More information on the applicability of the VHP to this project is included in the biological resources impact analysis section.~~

All applicable District BMPs and VHP conditions and AMMs (listed in Table 2-3) would be incorporated into the construction documents (plans and specifications) so contractors employed on the proposed project would be contractually required to adhere to them.

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
VHP Condition 1	Avoid Direct Impacts on Legally Protected Plant and Wildlife Species	This condition applies to all covered activities listed in the VHP. This condition requires avoidance of legally protected plant and wildlife species, including wildlife species defined as fully protected under Sections 3511 and 4700 of the California Fish and Game Code, migratory birds and their nests protected under the Migratory Bird Treaty Act, and several other bird species that are listed as covered species within the VHP.
VHP Condition 3	Maintain Hydrologic Conditions and Protect Water Quality	This condition applies to all projects. The purpose of this condition is to minimize or reduce a project's impact on watershed health through changes in hydrology and water quality. The condition requires a project to implement design, construction, and post-construction AMMs. Project design measures are site design planning approaches that protect water quality by preventing and reducing the impacts of stormwater pollutants and increases in peak runoff rate and volume. They include hydrologic source control measures that focus on the protection of natural resources and the reduction of impervious surfaces. Construction AMMs include source and treatment control measures to prevent pollutants from leaving the construction site and minimizing site erosion and local stream sedimentation during construction. Post-construction conditions include measures for municipal operations, stormwater treatment, and flow control. AMMs 1, 7, 8, 9, 10, 12, 13, 14, 17, 20, 33, 72, 84, 87, 97, 102, and 103 are applicable to this proposed project. See AMMs below.
VHP Condition 4	Avoidance and minimization for In-stream Projects	This condition requires all in-stream projects to comply with design requirements and construction practices to minimize adverse impacts on stream morphology, riparian and aquatic habitat, and flow conditions. AMMs 26, 23, 24, 29, 40, 58, 61, 62, 68, 69, 70, 71, 74, 75, 79, 80, 81, 85, 88, 92, 94, 95, 112, and 115 are applicable to this proposed project. See AMMs below.

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
AMM-1	Minimize Impacts to Covered Species	Minimize the potential impacts on covered species most likely to be affected by changes in hydrology and water quality.
AMM-7	Accidental Release Prevention	Personnel shall prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water into channels.
AMM-8	Spill Prevention Kits	Spill prevention kits shall always be in proximity when using hazardous materials (e.g., crew trucks and other logical locations).
AMM-9	Hazardous Materials Handling	Personnel shall implement measures to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means when removing sediments from the streams.
AMM-10	Ground Disturbance in a stream with elevated levels of mercury	Soils that are likely to be disturbed or excavated shall be tested for mercury. Soils shall be remediated if a. disturbed or excavated soils are exposed to flood flows below the 2.33-year channel flow level exceed 1 ppm Hg, or b. disturbed or excavated soils above the 2.33-year flow level exceed 20 ppm Hg.
AMM-12	Vehicle Servicing	No equipment servicing shall be done in the stream channel or immediate flood plain, unless equipment stationed in these locations cannot be readily relocated (i.e. pumps, generators).
AMM-13	Use Appropriate Equipment	Personnel shall use the appropriate equipment for the job that minimizes disturbance to the stream bottom. Appropriately-tired vehicles, either tracked or wheeled, shall be used depending on the situation.
AMM-14	Groundwater Containment	If high levels of groundwater in a work area are encountered, the water is pumped out of the work site. If necessary to protect water quality, the water shall be directed into specifically constructed infiltration basins, into holding ponds, or onto areas with vegetation to remove sediment prior to the water re-entering a creek.
AMM-15	Protect native fish and aquatic vertebrates during dewatering	If native fish or non-covered, native aquatic vertebrates are present when cofferdams, water bypass structures, and silt barriers are to be installed, a native fish and aquatic vertebrate relocation plan shall be implemented when ecologically appropriate as determined by a qualified biologist to ensure that significant numbers of native fish and aquatic vertebrates are not stranded.

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
AMM-16	Divert streamflow around the work Area	the entire streamflow shall be diverted around the work area by a barrier. Where feasible, water diversion techniques shall allow stream flows to gravity flow around or through the work site.
AMM-17	Use cofferdams to isolate the work area from stream flow	Coffer dams shall be installed both upstream and downstream not more than 100 feet from the extent of the work areas. Coffer dam construction shall be adequate to prevent seepage into or from the work area. Stream flow will be pumped around the work site using pumps and screened intake hoses. All water shall be discharged in a non-erosive manner.
AMM-20	Return normal flows to the stream as soon as is feasible	Diversions shall maintain ambient stream flows below the diversion, and waters discharged below the project site shall not be diminished or degraded by the diversion. All materials placed in the channel to dewater the channel shall be removed when the work is completed. Normal flows shall be restored to the affected stream as soon as is feasible and safe after completion of work at that location.
AMM-23	Temporary Fill Removal	Temporary fills, such as for access ramps, diversion structures, or cofferdams, shall be completely removed upon finishing the work.
AMM-24	Use properly sized bypass pipes during dewatering	To prevent increases in temperature and decreases in dissolved oxygen (DO), if bypass pipes are used, they shall be properly sized (i.e., larger diameter pipes to better pass the flows).
AMM-29	Native Vegetation Retainage	Existing native vegetation shall be retained by removing only as much vegetation as necessary to accommodate the trail clearing width. Maintenance roads should be used to avoid effects on riparian corridors.
AMM-33	Met Regional Board objectives for change in temperature of receiving waters	Regional Board objectives for temperature change in receiving waters (measured 100 feet downstream of discharge point) shall not be exceeded. Receiving water and discharge water may be monitored for temperature changes after a comparison of ambient temperature to pipeline water temperature suggests the potential for change.
AMM-40	Maintain Native Vegetation	Maintain native shrubs, trees, and groundcover whenever possible and revegetate disturbed areas with local native or non-invasive plants.

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

<b>Number</b>	<b>Title</b>	<b>Description</b>
AMM-58	Use Existing Routes	Existing access routes and levee roads shall be used if available to minimize impacts of new construction in special-status species habitats and riparian zones.
AMM-61	Minimize Ground Disturbance	Minimize ground disturbance to the smallest area feasible.
AMM-62	Avoid Off-road Travel	Use existing roads for access and disturbed areas for staging as site constraints allow. Off road travel will avoid sensitive communities such as wetlands and known occurrences of covered plants.
AMM-68	Stabilize Stockpiled Soil	Stabilize stockpiled soil with geotextile or plastic covers.
AMM-69	Minimize Area of Disturbance	Maintain construction activities within a defined project area to reduce the amount of disturbed area.
AMM-70	Minimize Land Clearance	Only clear/prepare land which will be actively under construction in the near term.
AMM-71	Preserve Existing Vegetation	Preserve existing vegetation to the extent possible.
AMM-72	Equipment Storage and Fueling	Equipment storage, fueling and staging areas will be sited on disturbed areas or non-sensitive habitat outside of a stream channel.
AMM-74	Prevent erosion at ingress/egress locations	Stabilize site ingress/egress locations.
AMM-75	Construction Waste Disposal	Dispose of all construction waste in designated areas and prevent stormwater from flowing onto or off of these areas.
AMM-76	Spill Clean-up	Prevent spills and clean up spilled materials.
AMM-79	Prevent volatilization of mercury and resulting adverse effects to water quality	If mercury contamination may be present, the channel must be dewatered prior to commencement of the activity.
AMM-80	Personnel Training	All personnel working within or adjacent to the stream setback (i.e., those people operating ground-disturbing equipment) will be trained by a qualified biologist in these AMMs and the permit obligations of project proponents working under this Plan.
AMM-81	Minimize Vegetation Disturbance and Removal	Temporary disturbance or removal of aquatic and riparian vegetation will not exceed the minimum necessary to complete the work.
AMM-84	Implement Erosion Control Measures	Appropriate erosion control measures (e.g., fiber rolls, filter fences, vegetative buffer strips) will be used on site to reduce siltation and runoff of contaminants into

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		wetlands, ponds, streams, or riparian vegetation. Fiber rolls used for erosion control will be certified as free of noxious weed seed. Filter fences and mesh will be of material that will not entrap reptiles and amphibians. Erosion control measures will be placed between the outer edge of the buffer and the Project site.
AMM-85	Invasive Species Control	Seed mixtures applied for erosion control will not contain invasive nonnative species and will be composed of native species or sterile nonnative species. If sterile nonnative species are used for temporary erosion control, native seed mixtures must be used in subsequent treatments to provide long-term erosion control and slow colonization by invasive nonnatives.
AMM-87	Proper Vehicle Maintenance	Vehicles operated within and adjacent to streams will be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life.
AMM-88	Vehicle Parking	Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas.
AMM-92	Pathogen Control	To minimize the spread of pathogens, all staff working in aquatic systems (i.e., streams, ponds, and wetlands) – including site monitors, construction crews, and surveyors – will adhere to the most current guidance for equipment decontamination provided by the Wildlife Agencies at the time of activity implementation. Guidance may require that all materials that come in contact with water or potentially contaminated sediments, including boot and tire treads, be cleaned of all organic matter and scrubbed with an appropriate cleansing solution, and that disposable gloves be worn and changed between handling equipment or animals. Care should be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat.
AMM-94	Proper Access Route Construction	Personnel shall use existing ramps and roads if available. If temporary access points are necessary, they shall be constructed in a manner that minimizes impacts to streams.
AMM-95	Prevent Animal Entrapment	To prevent inadvertent entrapment of animals during excavation, all excavated, steep-walled holes or trenches more than 2-feet deep will be covered at the close of each working day by plywood or similar

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		materials, or provided with one or more escape ramps constructed of earth fill or wooden planks.
AMM-97	Implement Erosion Control Measures	Erosion control measures shall be in place at all times during construction. Do not start construction until all temporary control devices (straw bales, silt fences, etc.) are in place downstream of project site.
AMM-102	Stabilize Exposed Soils	Immediately after project completion and before close of seasonal work window, stabilize all exposed soil with mulch, seeding, and/or placement of erosion control blankets.
AMM-103	Revegetate Disturbed Soils	All disturbed soils will be revegetated with native plants and/or grasses or sterile nonnative species suitable for the altered soil conditions upon completion of construction. Local watershed native plants will be used if available. If sterile nonnative species are used for temporary erosion control, native seed mixtures must be used in subsequent treatments to provide long-term erosion control and slow colonization by invasive nonnatives. All disturbed areas that have been compacted shall be de-compacted prior to planting or seeding. Cut-and-fill slopes will be planted with local native or non-invasive plants suitable for the altered soil conditions.
AMM-112	Pump and Generator Maintenance	Pumps and generators shall be maintained and operated in a manner that minimizes impacts to water quality and aquatic species.
AMM-115	Inspect pipes and structures	All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that area stored at a construction site for one or more overnight periods will be thoroughly inspected for wildlife by properly trained construction personnel before the pipe is subsequently buried, capped, or otherwise used or moved in any way.
District BMP AQ-1	Use Dust Control Measures for All Construction Sites	The following Bay Area Air Quality Management District (BAAQMD) Dust Control Measures will be implemented: <ol style="list-style-type: none"> <li>1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day;</li> <li>2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered;</li> <li>3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum</li> </ol>

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		<p>street sweepers at least once per day. The use of dry power sweeping is prohibited;</p> <ol style="list-style-type: none"> <li>4. Water used to wash the various exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, etc.) will not be allowed to enter waterways;</li> <li>5. All vehicle speeds on unpaved roads shall be limited to 15 mph;</li> <li>6. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used;</li> <li>7. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations), and this requirement shall be clearly communicated to construction workers (such as verbiage in contracts and clear signage at all access points);</li> <li>8. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications, and all equipment shall be checked by a certified visible emissions evaluator;</li> <li>9. Correct tire inflation shall be maintained in accordance with manufacturer's specifications on wheeled equipment and vehicles to prevent excessive rolling resistance; and</li> <li>10. Post a publicly visible sign with a telephone number and contact person at the lead agency to address dust complaints; any complaints shall be responded to and take corrective action within 48 hours. In addition, a BAAQMD telephone number with any applicable regulations will be included.</li> </ol>
District BMP AQ-2	Avoid Stockpiling Odorous Materials	<p>Materials with decaying organic material, or other potentially odorous materials, will be handled in a manner that avoids impacting residential areas and other sensitive receptors, including:</p> <ol style="list-style-type: none"> <li>1. Avoid stockpiling potentially odorous materials within 1,000 feet of residential areas or other odor sensitive land uses; and</li> </ol>

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		<p>Odorous stockpiles will be disposed of at an appropriate landfill.</p>
<p>District BMP BIO-1</p>	<p>Avoid Relocating Mitten Crabs</p>	<p>Sediment potentially containing Chinese Mitten Crabs will not be transported between San Francisco Bay Watersheds and Monterey Bay Watersheds, specifically:</p> <ol style="list-style-type: none"> <li>1. Sediment removed from the San Francisco Bay watersheds will not be transported south of Coyote Creek Golf Drive in south San Jose, and the intersection of McKean and Casa Loma Roads; and</li> <li>2. Earth moving equipment used in the San Francisco Bay watershed will be cleaned before being moved to, and used in, the Pajaro Watershed.</li> </ol>
<p>District BMP BI-5</p>	<p>Avoid Impacts to Nesting Migratory Birds</p>	<p>Nesting birds are protected by state and federal laws. The District will protect nesting birds and their nests from abandonment, loss, damage, or destruction. Nesting bird surveys will be performed by a qualified biologist prior to any activity that could result in the abandonment, loss, damage, or destruction of birds, bird nests, or nesting migratory birds. Inactive bird nests may be removed with the exception of raptor nests. Birds, nests with eggs, or nests with hatchlings will be left undisturbed.</p>
<p>District BMP BI-6</p>	<p>Avoid Impacts to Nesting Migratory Birds from Pending Construction</p>	<p>Nesting exclusion devices may be installed to prevent potential establishment or occurrence of nests in areas where construction activities would occur. All nesting exclusion devices will be maintained throughout the nesting season or until completion of work in an area makes the devices unnecessary. All exclusion devices will be removed and disposed of when work in the area is complete.</p>
<p>District BMP BI-8</p>	<p>Choose Local Ecotypes of Native Plants and Appropriate Erosion-Control Seed Mixes</p>	<p>Whenever native species are prescribed for installation the following steps will be taken by a qualified biologist or vegetation specialist:</p> <ol style="list-style-type: none"> <li>1. Evaluate whether the plant species currently grows wild in Santa Clara County; and</li> <li>2. If so, the qualified biologist or vegetation specialist will determine if any need to be local natives, i.e. grown from propagules collected in the same or</li> </ol>

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		<p>adjacent watershed, and as close to the project site as feasible.</p> <p>Also, consult a qualified biologist or vegetation specialist to determine which seeding option is ecologically appropriate and effective, specifically:</p> <ol style="list-style-type: none"> <li>1. For areas that are disturbed, an erosion control seed mix may be used consistent with the SCVWD <i>Guidelines and Standards for Land Use Near Streams, Design Guide 5, 'Temporary Erosion Control Options'</i>.</li> <li>2. In areas with remnant native plants, the qualified biologist or vegetation specialist may choose an abiotic application instead, such as an erosion control blanket or seedless hydro-mulch and tackifier to facilitate passive revegetation of local native species.</li> <li>3. Temporary earthen access roads may be seeded when site and horticultural conditions are suitable.</li> <li>4. If a gravel or wood mulch has been used to prevent soil compaction, this material may be left in place [if ecologically appropriate] instead of seeding.</li> </ol> <p>Seed selection shall be ecologically appropriate as determined by a qualified biologist, per <i>Guidelines and Standards for Land Use Near Streams, Design Guide 2: Use of Local Native Species</i>.</p>
District BMP BI-10	Avoid Animal Entry and Entrapment	<p>All pipes, hoses, or similar structures less than 12 inches in diameter will be closed or covered to prevent animal entry. All construction pipes, culverts, or similar structures, greater than 2-inches diameter, stored at a construction site overnight, will be inspected thoroughly for wildlife by a qualified biologist or properly trained construction personnel before the pipe is buried, capped, used, or moved. If inspection indicates presence of sensitive or state- or federally-listed species inside stored materials or equipment, work on those materials will cease until a qualified biologist determines the appropriate course of action.</p> <p>To prevent entrapment of animals, all excavations, steep-walled holes or trenches more than 6-inches deep will be secured against animal entry at the close</p>

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		<p>of each day. Any of the following measures may be employed, depending on the size of the hole and method feasibility:</p> <ol style="list-style-type: none"> <li>1. Hole to be securely covered (no gaps) with plywood, or similar materials, at the close of each working day, or any time the opening will be left unattended for more than one hour; or</li> <li>2. In the <i>absence</i> of covers, the excavation will be provided with escape ramps constructed of earth or untreated wood, sloped no steeper than 2:1, and located no farther than 15 feet apart; or</li> <li>3. In <i>situations</i> where escape ramps are infeasible, the hole or trench will be surrounded by filter fabric fencing or a similar barrier with the bottom edge buried to prevent entry.</li> </ol>
District BMP BI-11	Minimize Predator-Attraction	Remove trash daily from the worksite to avoid attracting potential predators to the site.
District BMP CU-1	Accidental Discovery of Archaeological Artifacts or Burial Remains	<p>If historical or unique archaeological artifacts are accidentally discovered during construction, work in affected areas will be restricted or stopped until proper protocols are met. Work at the location of the find will halt immediately within <del>30</del> <u>100</u> feet<sup>3</sup> of the find. A “no work” zone shall be established utilizing appropriate flagging to delineate the boundary of this zone. A Consulting Archaeologist will visit the discovery site as soon as practicable for identification and evaluation pursuant to Section 21083.2 of the Public Resources Code and Section 15126.4 of the California Code of Regulations. If the archaeologist determines that the artifact is not significant, construction may resume. If the archaeologist determines that the artifact is significant, the archaeologist will determine if the artifact can be avoided and, if so, will detail avoidance procedures. If the artifact cannot be avoided, the archaeologist will develop within 48 hours an Action Plan which will include provisions to minimize impacts and, if required, a Data Recovery Plan for recovery of artifacts in accordance with Public Resources Code Section 21083.2 and Section 15126.4 of the CEQA</p>

<sup>3</sup> The buffer distance in District BMP CUL-1 has been updated from 30 feet to 100 feet to reflect typical USACE permit requirements.

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		<p>Guidelines. If burial finds are accidentally discovered during construction, work in affected areas will be restricted or stopped until proper protocols are met. Upon discovering any burial site as evidenced by human skeletal remains, the County Coroner will be immediately notified and the field crew supervisor shall take immediate steps to secure and protect such remains from vandalism during periods when work crews are absent. No further excavation or disturbance within 30 feet of the site or any nearby area reasonably suspected to overlie adjacent remains may be made except as authorized by the County Coroner, California Native American Heritage Commission, and/or the County Coordinator of Indian Affairs.</p>
<p>District BMP HM-8</p>	<p>Ensure Proper Vehicle and Equipment Fueling and Maintenance</p>	<p>No fueling or servicing will be done in a waterway or immediate flood plain, unless equipment stationed in these locations is not readily relocated (i.e., pumps, generators).</p> <ol style="list-style-type: none"> <li>1. For stationary equipment that must be fueled or serviced on-site, containment will be provided in such a manner that any accidental spill will not be able to come in direct contact with soil, surface water, or the storm drainage system.</li> <li>2. All fueling or servicing done at the job site will provide containment to the degree that any spill will be unable to enter any waterway or damage riparian vegetation.</li> <li>3. All vehicles and equipment will be kept clean. Excessive build-up of oil and grease will be prevented.</li> <li>4. All equipment used in the creek channel will be inspected for leaks each day prior to initiation of work. Maintenance, repairs, or other necessary actions will be taken to prevent or repair leaks, prior to use.</li> <li>5. If emergency repairs are required in the field, only those repairs necessary to move equipment to a more secure location will be done in a channel or flood plain.</li> </ol>

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
District BMP HM-9	Ensure Proper Hazardous Materials Management	<p>Measures will be implemented to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means.</p> <ol style="list-style-type: none"> <li>1. Prior to entering the work site, all field personnel will know how to respond when toxic materials are discovered.</li> <li>2. Contact of chemicals with precipitation will be minimized by storing chemicals in watertight containers with appropriate secondary containment to prevent any spillage or leakage.</li> <li>3. Petroleum products, chemicals, cement, fuels, lubricants, and non-storm drainage water or water contaminated with the aforementioned materials will not contact soil and not be allowed to enter surface waters or the storm drainage system.</li> <li>4. All toxic materials, including waste disposal containers, will be covered when they are not in use, and located as far away as possible from a direct connection to the storm drainage system or surface water.</li> <li>5. Quantities of toxic materials, such as equipment fuels and lubricants, will be stored with secondary containment that is capable of containing 110% of the primary container(s).</li> <li>6. The discharge of any hazardous or non-hazardous waste as defined in Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations will be conducted in accordance with applicable State and federal regulations.</li> <li>7. In the event of any hazardous material emergencies or spills, personnel will call the Chemical Emergencies/Spills Hotline at 1-800-510-5151.</li> </ol>
District BMP HM-10	Utilize Spill Prevention Measures	<p>Prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water following these measures:</p> <ol style="list-style-type: none"> <li>1. Field personnel will be appropriately trained in spill prevention, hazardous material control, and cleanup of accidental spills;</li> <li>2. Equipment and materials for cleanup of spills will be available on site, and spills and leaks will be</li> </ol>

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		<p>cleaned up immediately and disposed of according to applicable regulatory requirements;</p> <ol style="list-style-type: none"> <li>3. Field personnel will ensure that hazardous materials are properly handled and natural resources are protected by all reasonable means;</li> <li>4. Spill prevention kits will always be in close proximity when using hazardous materials (e.g., at crew trucks and other logical locations), and all field personnel will be advised of these locations; and,</li> <li>5. The work site will be routinely inspected to verify that spill prevention and response measures are properly implemented and maintained.</li> </ol>
District BMP HM-11	Ensure Worker Safety in Areas with High Mercury Levels	To ensure worker safety is protected in areas with elevated mercury concentrations in exposed surfaces, personal protective equipment will be required during project construction to maintain exposure below levels established by the California Division of Occupational Safety and Health (Cal/OSHA).
District BMP WQ-3	Limit Impact of Pump and Generator Operation and Maintenance	<p>Pumps and generators will be maintained and operated in a manner that minimizes impacts to water quality and aquatic species.</p> <ol style="list-style-type: none"> <li>1. Pumps and generators will be maintained according to manufacturers' specifications to regulate flows to prevent dry-back or washout conditions.</li> <li>2. Pumps will be operated and monitored to prevent low water conditions, which could pump muddy bottom water, or high water conditions, which creates ponding.</li> <li>3. Pump intakes will be screened to prevent uptake of fish and other vertebrates. Pumps in steelhead creeks will be screened according to NMFS criteria.</li> </ol> <p>Sufficient back-up pumps and generators will be onsite to replace defective or damaged pumps and generators.</p>
District BMP WQ-4	Limit Impacts from Staging and Stockpiling Materials	<ol style="list-style-type: none"> <li>1. To protect on-site vegetation and water quality, staging areas should occur on access roads, surface streets, or other disturbed areas that are already compacted and only support ruderal vegetation. Similarly, all equipment and materials</li> </ol>

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		<p>(e.g., road rock and project spoil) will be contained within the existing service roads, paved roads, or other pre-determined staging areas.</p> <ol style="list-style-type: none"> <li>2. Building materials and other project-related materials, including chemicals and sediment, will not be stockpiled or stored where they could spill into water bodies or storm drains.</li> <li>3. No runoff from the staging areas may be allowed to enter water ways, including the creek channel or storm drains, without being subjected to adequate filtration (e.g., vegetated buffer, swale, hay wattles or bales, silt screens).</li> <li>4. The discharge of decant water to water ways from any on-site temporary sediment stockpile or storage areas is prohibited.</li> </ol> <p>During the wet season, no stockpiled soils will remain exposed, unless surrounded by properly installed and maintained silt fencing or other means of erosion control.</p>
<p>District BMP WQ-9</p>	<p>Use Seeding for Erosion Control, Weed Suppression, and Site Improvement</p>	<p>Disturbed areas shall be seeded with native seed as soon as is appropriate after activities are complete. An erosion control seed mix will be applied to exposed soils down to the ordinary high-water mark in streams.</p> <ol style="list-style-type: none"> <li>1. The seed mix should consist of California native grasses, (for example <i>Hordeum brachyantherum</i>; <i>Elymus glaucus</i>; and annual <i>Vulpia microstachyes</i>) or annual, sterile hybrid seed mix (e.g., <i>Regreen</i><sup>TM</sup>, a wheat x wheatgrass hybrid).</li> <li>2. Temporary earthen access roads may be seeded when site and horticultural conditions are suitable, or have other appropriate erosion control measures in place.</li> </ol>
<p>District BMP WQ-15</p>	<p>Prevent Water Pollution</p>	<p>Oily, greasy, or sediment laden substances or other material that originate from the project operations and may degrade the quality of surface water or adversely affect aquatic life, fish, or wildlife will not be allowed to enter, or be placed where they may later enter, any waterway.</p> <p>The project will not increase the turbidity of any watercourse flowing past the construction site by taking all necessary precautions to limit the increase in turbidity as follows:</p>

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		<ol style="list-style-type: none"> <li>1. where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases will not exceed 5 percent;</li> <li>2. where natural turbidity is greater than 50 NTU, increases will not exceed 10 percent;</li> <li>3. where the receiving water body is a dry creek bed or storm drain, waters in excess of 50 NTU will not be discharged from the project.</li> </ol> <p>Water turbidity changes will be monitored. The discharge water measurements will be made at the point where the discharge water exits the water control system for tidal sites and 100 feet downstream of the discharge point for non-tidal sites. Natural watercourse turbidity measurements will be made in the receiving water 100 feet upstream of the discharge site. Natural watercourse turbidity measurements will be made prior to initiation of project discharges, preferably at least 2 days prior to commencement of operations.</p>
District BMP WQ-16	Prevent Stormwater Pollution	<p>To prevent stormwater pollution, the applicable measures from the following list will be implemented:</p> <ol style="list-style-type: none"> <li>1. Soils exposed due to project activities will be seeded and stabilized using hydroseeding, straw placement, mulching, and/or erosion control fabric. These measures will be implemented such that the site is stabilized and water quality protected prior to significant rainfall. In creeks, the channel bed and areas below the Ordinary High-Water Mark are exempt from this BMP.</li> <li>2. The preference for erosion control fabrics will be to consist of natural fibers; however, steeper slopes and areas that are highly erodible may require more structured erosion control methods. No non-porous fabric will be used as part of a permanent erosion control approach. Plastic sheeting may be used to temporarily protect a slope from runoff, but only if there are no indications that special-status species would be impacted by the application.</li> <li>3. Erosion control measures will be installed according to manufacturer's specifications.</li> </ol>

**Table 2-3. VHP Conditions, AMMs, and District BMPs Incorporated into Project**

Number	Title	Description
		<p>4. To prevent stormwater pollution, the appropriate measures from, but not limited to, the following list will be implemented:</p> <ul style="list-style-type: none"> <li>• Silt Fences</li> <li>• Straw Bale Barriers</li> <li>• Brush or Rock Filters</li> <li>• Storm Drain Inlet Protection</li> <li>• Sediment Traps or Sediment Basins</li> <li>• Erosion Control Blankets and/or Mats</li> <li>• Soil Stabilization (i.e. tackified straw with seed, jute or geotextile blankets, etc.)</li> <li>• Straw mulch.</li> </ul> <p>5. All temporary construction-related erosion control methods shall be removed at the completion of the project (e.g. silt fences).</p> <p>Surface barrier applications installed as a method of animal conflict management, such as chain link fencing, woven geotextiles, and other similar materials, will be installed no longer than 300 ft, with at least an equal amount of open area prior to another linear installation.</p>
District BMP WQ-17	Manage Sanitary and Septic Waste	Temporary sanitary facilities will be located on jobs that last multiple days, in compliance with California Division of Occupational Safety and Health (Cal/OSHA) regulation 8 California Code of Regulations 1526. All temporary sanitary facilities will be located where overflow or spillage will not enter a watercourse directly (overbank) or indirectly (through a storm drain).
District BMP TR-1	Incorporate Public Safety Measures	Fences, barriers, lights, flagging, guards, and signs will be installed as determined appropriate by the public agency having jurisdiction, to give adequate warning to the public of the construction and of any dangerous condition to be encountered as a result thereof.

Reach 6 is known to be infested with water molds (*Phytophthora* spp.) that are pathogenic to vegetation. The District will follow the most up-to-date contaminated site guidance from CalPhytos (see <http://www.suddenoakdeath.org/welcome-to-calphytos-org-phytophthoras-in-native-habitats/resources/>), which require use of sanitary procedures to prevent spread of plant pathogens.

## SECTION 3. ENVIRONMENTAL SETTING

### Project Location

The proposed project would be implemented within the District's right of way (ROW) for the Upper Guadalupe River in the City of San Jose, Santa Clara County, California. The project is entirely within Reaches 6 and 3C of the UGRFPP and extends from the downstream project limit at the Interstate 280 (I-280) overpass to the upstream project limit ~~about~~ potentially as close as 300-200 ft downstream of the existing Union Pacific Railroad (UPRR) bridge crossing. Project work would affect the creek channel and bank in Reach 6. Construction staging and access would occur on the floodplain located east of the river channel.

### Physical Environment

The project location is an urbanized area within the City of San Jose. The project location consists of a roughly 2,100-foot long section of modified river channel and adjacent floodplain. The Guadalupe River is a ~~permanent~~ perennial stream that features a year-round flow of water. It has dried back to scattered isolated pools during periods of extreme drought (i.e., 2014-2016). During the rainy season, flow volumes in the river increase and decrease in response to storm events. The river channel is vegetated with native and non-native riparian trees growing on both banks, including riparian trees and shrubs planted as part of the UGRFPP to mitigate for impacts from channel improvements constructed in 2010 and 2011. The adjacent floodplain east of the river channel is vegetated with grass and ruderal ground cover, woody vegetation is removed and is partly mowed annually per the UGRFPP design condition. The river corridor in the project area is bounded by urban development including primarily residential development to the east and State Highway 87 to the west. The West Virginia Street vehicular and pedestrian bridge, UPRR bridge, and the I-280 flyover ramp cross the Guadalupe River within the project area.

## SECTION 4. ENVIRONMENTAL EVALUATION

### Initial Study Checklist

In accordance with CEQA, the following Initial Study Checklist is an analysis of the project's potential environmental effects to determine whether an Environmental Impact Report is needed. Answers to the checklist questions provide factual evidence and District rationale for determinations of the potential significance of impacts resulting from the proposed project.

The Initial Study checklist shows that the proposed project may have potentially significant effects on biological resources. Mitigation measures have been proposed for the project to reduce such effects to less-than-significant levels; and therefore, a Mitigated Negative Declaration may be prepared consistent with CEQA Guidelines §15070.

### Background

1.	Project Title:	Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project
2.	Lead Agency Name and Address:	Santa Clara Valley Water District 5750 Almaden Expressway San Jose, CA 95118
3.	Contact Person and Phone Number:	<del>James Manidakos</del> <del>(408) 630-2833</del> <u>Alex Hunt</u> <u>(408) 630-3007</u>
4.	Project Location:	Guadalupe River Reaches 6 and 6/3C transition (Interstate 280 Ramps to UPRR bridge), San Jose, CA
5.	Project Sponsor's Name and Address:	Santa Clara Valley Water District 5750 Almaden Expressway San Jose, CA 95118
6.	General Plan Designation:	Open space, parklands, and habitat <sup>1</sup>
7.	Zoning:	R-2, Two-family residential <sup>2</sup>
8.	Description of the Project:	The District proposes to place gravel in the Reach 6 river channel to enhance aquatic habitat and fill voids in the Reach 6/3C transition. The District would monitor habitat quality, fish populations, and channel stability in the project areas over a period of one or more years to determine effectiveness and sustainability of gravel augmentation.
9.	Surrounding Land Uses and Setting:	Reach 6 is an urban area of San Jose and surrounding land uses are primarily residential.

10.	Other public agencies whose approval may be required:	California Department of Fish and Wildlife, National Marine Fisheries Service, San Francisco Regional Water Quality Control Board, U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service, City of San Jose
11.	Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant Public Resources Code section 21080.3.1? If so, has consultation begun?	No tribes have requested consultation pursuant to <u>Public Resources Code Section 21080.3.1</u> . <sup>3</sup>

1. City of San Jose Department of Planning, Building, and Code Enforcement, Planning Division. *Envision San Jose 2040*, General Plan Diagram, Sheet 83, January 1, 2014.
2. City of San Jose Department of Planning Building, and Code Enforcement, Planning Division. Zoning Map, Sheet 83. March 19, 2014.
3. Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality

## Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Impacts related to Energy and Wildfire have been added to the evaluation based on revisions to the CEQA Guidelines that became effective on December 28, 2018. While the revised Guidelines only apply to a CEQA document if it has not yet been sent out for public review as of the effective date (CEQA Guidelines, §15007, subd. (c)), these environmental factors have been added to this document to provide more specific information on these two subjects.

	Aesthetics		Agricultural Resources		Air Quality
X	Biological Resources		Cultural Resources		Geology / Soils
	Greenhouse Gas Emissions		Hazards / Hazardous Materials		Hydrology / Water Quality
	Land Use / Planning		Mineral Resources		Noise/Vibration
	Population / Housing		Public Services		Recreation
	Transportation / Traffic		Tribal Cultural Resources		Utilities / Service Systems
	<u>Energy</u>		<u>Wildfire</u>	X	Mandatory Findings of Significance

**Determination:**

On the basis of this initial evaluation:

The District finds that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
The District finds 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.	X
The District finds that the proposed project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.	
The District finds 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.	
The District finds that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

\_\_\_\_\_  
 Signature

\_\_\_\_\_  
 Date

~~James Manidakos~~  
 Environmental Planner II  
Alex Hunt  
 Associate Environmental Planner  
 Santa Clara Valley Water District

## 1. Aesthetics

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a designated scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

### Environmental Setting

The project area is located in an urban area and the visual quality is dominated by surrounding urban development, road bridges and highway ramps that span the river. The river channel, adjacent wooded areas, and vegetated floodplain are prominent visual elements in the relatively natural corridor along the river, which contrasts sharply with the surrounding urban development.

### Analysis

- a) and b): No impact. The project area and vicinity are typical of creek channels in urban areas and do not include scenic vistas. No scenic highways are present in the vicinity; the closest designated or eligible scenic highway is the segment of Interstate 280 northwest of State Highway 85, about three miles from the project area (Caltrans, 2016). The proposed project would not be visible from designated or eligible scenic highways and would not result in substantial adverse effect on scenic vistas or scenic resources within a designated scenic highway.
- c): Less than significant impact. Phase 1 staging and access would occur on a partly mowed grass area within the floodplain east of the Guadalupe River low-flow channel. Phase 2 staging and access would occur at the existing concrete apron under the I-280 bridge. Equipment and materials stored in this area would be visible from residences on McLellan and Harliss Avenues, Palm Street, and West Virginia Street, which crosses the River between the Phase 1 and Phase 2 gravel placement sites. The West Virginia Street bridge has sidewalks and overlooks of the river corridor on both the upstream and downstream sides. The Caltrain/UPRR railroad bridge crosses the river potentially as close as about 200 300 ft southwest (i.e., upstream) of the Phase 1 gravel placement locations. Riders on Caltrain would have an unobstructed view of the Phase 1 construction site. Phase 1 construction activities would last 2 to 4 weeks and Phase 2 construction, including the gravel augmentation and void fill tasks, would last 1 to 2 months. Project construction would temporarily add new visual features in the form of workers and equipment, and stockpiles of materials to the area. Those features would not be unusual in this urban setting and due to

the short duration of construction time, the Project would not substantially degrade the visual character or quality.

The gravel placed in Reach 6 and the Reach 6/3C transition would be at shallow depth below the water surface or emergent during low-flow periods and would be visible from some locations on the banks of the river. However, the fairly dense riparian vegetation growing on the creek banks would obscure views of the river water and placed gravel from most areas outside the channel. No substantial degradation of visual quality would result.

- d): No Impact. Project construction and monitoring activities would occur during normal working hours and would not require night-time work. Project construction or monitoring activities would not add new sources of glare or substantial lighting to the area. The completed project would not include lighting of any type and would not create new sources of light or glare. Night-time views would be unaffected.

## 2. Agricultural Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiles by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
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 Protection (as defined by Government code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X

<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiles by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
<p>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?</p>				X

**Environmental Setting**

Farmland and forestry resources are not present in this urban setting.

**Analysis**

- a) No Impact. The proposed project would not convert farmland, unique farmland, or farmland of statewide importance to non-agricultural use.
- b) No impact. The proposed project would not conflict with an existing zoning for agricultural use or a Williamson Act contract.
- c) No impact. The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production defined by the government code.
- d) No impact. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use.
- e) No impact. The proposed project would not involve other changes in the existing environment which could result in conversion of farmland or forest land to non-agricultural or non-forest use.

### 3. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations. Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?			X	
e) Create objectionable odors affecting a substantial number of people?			X	

#### Environmental Setting

The Bay Area Air Quality Management District (BAAQMD) is the regional air quality agency for the San Francisco Bay Area Air Basin (SFBAAB) which includes Santa Clara County. Air quality in this region is determined by such natural factors as topography, meteorology, and climate in addition to the presence of existing air pollution source and ambient conditions. These conditions along with applicable regulations are discussed below.

The proposed project is located in the Santa Clara Valley. The Santa Clara Valley is bounded by the Bay to the north and by mountains to the east, south, and west. Temperatures are warm on summer days and cool on summer nights, and winter temperatures are fairly mild. Winds in the valley are greatly influenced by the terrain, resulting in a prevailing flow that roughly parallels the valley's northwest-southeast axis. A north-northwesterly sea breeze flows through the valley during the afternoon and early evening, and a light south-southeasterly drainage flow occurs during the late evening and early morning. In the summer the southern end of the valley sometimes becomes a "convergence zone," when air flowing from the Monterey Bay gets channeled northward into the southern end of the valley and meets with the prevailing north-northwesterly winds.

The U.S. Environmental Protection Agency (US EPA) and the California Air Resources Board (CARB) focus on the criteria air pollutants as indicators of ambient air quality. The criteria pollutants common to both the US EPA and CARB are ozone, particulate matter (PM) of aerodynamic radius or 10 micrometers (PM<sub>10</sub>) or less and 2.5 micrometers or less (PM<sub>2.5</sub>), nitrogen dioxide (N<sub>2</sub>O), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), and lead. CARB also includes sulfates, hydrogen sulfide (H<sub>2</sub>S), and visibility reducing particles, and vinyl chloride as criteria pollutants. Both the US EPA and CARB have established ambient air quality standards which assist in establishing designations of air quality in a given area. In most cases, California

ambient air quality standards are stricter than US EPA standards. An area that is below the respective ambient air quality standard is classified in attainment, and an area that is above the respective ambient air quality standard is classified as non-attainment. The SFBAAB is classified as non-attainment for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> (state annual and federal 24-hour). All other criteria pollutants are in attainment or unclassified (BAAQMD 2014).

BAAQMD established significance thresholds for emission of criteria pollutants in its updated CEQA Guidelines (BAAQMD, 2011). The thresholds were designed to establish the level at which BAAQMD believed air pollutant emissions would cause significant impacts under CEQA. The District has independently reviewed these thresholds and found that they are well-founded and supported by air quality regulations, scientific evidence of the health and environmental effects of air emissions, and scientific reasoning concerning air quality. Therefore, these thresholds are appropriate for use in determining the significance of project air quality impacts during environmental review of the project.

In 1998, the California Air Resources Board (ARB) identified particulate matter from diesel-fueled engines (DPM) as a toxic air contaminants (TAC). A 10-year research program (ARB 1998) demonstrated that DPM from diesel-fueled engines is a human carcinogen, and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. Toxic air contaminants (TACs) are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A wide range of sources from industrial plants to motor vehicles emit TACs. TACs are generally regulated through State and local risk management programs designed to eliminate, avoid, or minimize the risk of adverse health effects from exposure to TACs. TACs are usually present in minute quantities; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and DPM. A 10-year research program (ARB 1998) showed that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a health risk. In addition to increasing the risk of lung cancer, diesel exhaust can irritate the eyes, nose, throat, and lungs, and can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the DPM vary with engine type, operating conditions, fuel composition, lubricating oil, and emission control system status. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. Health risks from TACs are a function of both concentration and duration of exposure. Unlike the above types of sources, construction diesel emissions are temporary, affecting an area for a period of days or perhaps weeks, whereas health risks are based on a 70-year risk duration.

CARB regulates emissions of DPM with various airborne toxic control measures (ATCMs) designed to minimize exposure to TACs. The ATCMs that may be applicable to this Project are the following:

- ATCM for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater (CARB 2012)
- ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling (CARB 2008a)

**Analysis**

a), b), and c) Less than significant impact.

The project would generate air pollutants during the two to four week construction period for Phase 1 and the one to two month construction period for Phase 2 of the proposed project. The two phases would occur in different years. Construction equipment (e.g. front loaders, backhoes, graders, excavators), haul trucks, and worker’ vehicles would emit air pollutants, and movement of gravel would generate fugitive emissions of particulate matter. Equipment and vehicles used to construct the project would emit ROG and NO<sub>x</sub>, which are ozone precursors (i.e. sunlight photocatalyzes these compounds into ozone), PM<sub>10</sub>, and PM<sub>2.5</sub>. Additionally, wind blowing across areas stripped of vegetation would produce dust emissions that would include PM<sub>10</sub>, and PM<sub>2.5</sub>. After completion of construction of each phase of the project, disturbed areas within the creek would either be covered by gravel or revegetated, reducing the amount of fugitive dust generated to pre-project levels. During the monitoring phase of the project, District staff would travel to the project area to measure changes in the aquatic environment resulting from the project. Travel by monitoring staff would require 10 to 20 vehicular round trips per year, which would result in negligible air emissions.

Project construction-period emissions were estimated using CalEEMod, version 2013.2.2 software (see Air Emissions Data Sheets in Attachment 2). Table 4-1 and 4-2 show projected construction period emissions of criteria pollutants during Phases 1 and 2 of the project respectively. The applicable significance thresholds are also included in the tables. For all criteria pollutants, project emissions during phases 1 and 2 would be below the applicable significance thresholds.

**Table 4-1: Modeled Air Quality Emissions for Phase 1 of the Proposed Project**

<b>Criteria Pollutants</b>	<b>ROG</b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
Maximum Daily Emissions	1.8 lbs.	14.3 lbs	0.03 lbs.	18.0 lbs.	2.2 lbs.	1.4 lbs.
Estimated Yearly Emissions	36 lbs.	286 lbs.	< 1 lb.	360 lbs.	44 lbs.	28 lbs.
BAAQMD Project Construction Thresholds	54 lbs./day	N/A	N/A	54 lbs/day	72 lbs/day	54 lbs/day
Exceed Thresholds	No	No	No	No	No	No

**Table 4-2: Modeled Air Quality Emissions for Phase 2 of the Proposed Project**

Criteria Pollutants	ROG	CO	SO <sub>2</sub>	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Maximum Daily Emissions	3.3 lbs.	26.4 lbs.	0.05 lbs.	25.5 lbs.	6.6 lbs.	3.8 lbs.
Estimated Yearly Emissions	132 lbs.	1,056 lbs.	2.0 lb.	1020 lbs.	264 lbs.	152 lbs.
BAAQMD Project Construction Thresholds	54 lbs./day	N/A	N/A	54 lbs/day	72 lbs/day	54 lbs/day
Exceed Thresholds	No	No	No	No	No	No

Air emissions during construction would be below the significance thresholds for project construction. In addition, to further reduce the air quality impact, the District would implement District BMP AQ-1 which consists of basic measures recommended by BAAQMD for all construction projects, and District BMP HM-8, which requires proper vehicle maintenance. The following AMMs required by the VHP would also help to reduce generation of fugitive dust during and after project construction:

- AMM-61: Minimize ground disturbance
- AMM-62: Avoid off-road travel
- AMM-68: Stabilize stockpiles with geotextile or plastic covers
- AMM-69: Minimize area of soil disturbance
- AMM-70: Minimize area of land clearance
- AMM- 81: Minimize vegetation removal
- AMM-94: Use proper construction access routes
- AMM-102: Stabilize exposed soils
- AMM-103: Revegetate disturbed soils.

Since the proposed project's air pollutant emissions would be below the significance thresholds established by BAAQMD, the project would not conflict with or obstruct implementation of applicable air quality plans. In addition, the BAAQMD's CEQA Guidance provides that a project with emissions of criteria pollutants below the significance thresholds would not result in a cumulatively considerable contribution to any criteria pollutant emission. As Table 4-1 and Table 4-2 illustrate, the proposed project would not result in emissions of criteria pollutants above the significance thresholds; thus, the proposed project is also not expected to result in a cumulatively considerable net increase of criteria pollutants (i.e. ozone and PM) for which the region is in non-attainment of NAAQS or state standards.

- d) Less than significant impact. The project area is located in the downtown San Jose impacted area identified by the BAAQMD Community Air Risk Evaluation Program (CARE). An impacted area has elevated air pollution levels (BAAQMD, 2016). Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with

illnesses. Examples include schools, hospitals and residential areas. BAAQMD recommends analysis of air pollutant exposure for sensitive receptors within 1,000 ft of the project (BAAQMD, 2011). The area within 1,000 ft of the Phase 1 and 2 project sites is generally bounded by the I-280/State Route 87 interchange to the north, Vine Street to the east, Willow Street to the south, and Delmas Avenue to the west. This area is primarily residential with the most common structure being single-family detached houses. The nearest potentially sensitive receptors are residences located about 250 ft east and 450 ft west of the Phase 1 gravel augmentation locations. Similarly, residences are located about 250 ft east and 550 ft west of the Phase 2 gravel augmentation locations. The nearest residences to the Improvement 2 gravel void fill location are located about 250 ft to the east and 700 ft to the west. The Rocket Ship Mateo Sheedy Elementary School is located about 800 ft east of the Phase 2 project area.

The only TAC that would be generated by the proposed project is diesel particulate matter (DPM). Potentially sensitive receptors located within 1,000 ft of the project area include a number of residences and an elementary school. During project construction, diesel-fueled vehicles and equipment would emit  $PM_{2.5}$ , a TAC, in an urban area designated as impacted by air quality concerns. Fugitive dust emissions from earth movement and areas cleared of vegetation would add to  $PM_{2.5}$  emissions from diesel exhausts during project construction. Including all project sources, the maximum daily emissions of  $PM_{2.5}$  during construction would be 3.8 lbs/day. Those emissions would occur during over a period of two to four weeks during phase 1 of the project and up to two months during Phase 2. The two phases would be implemented in different calendar years. The projected maximum daily construction emissions of  $PM_{2.5}$  would be less than 3% of the BAAQMD significance threshold for daily emissions of  $PM_{2.5}$  from construction projects and would occur only a small portion of the year, reducing the potential for exposure of potentially sensitive receptors to result in chronic health effects. Thus, construction of phases 1 and 2 of the project would result in a less than significant impact from exposure of potentially sensitive receptors to DPM. To further reduce this less than significant impact, trucks used to haul earth materials would be subject to the Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling. The purpose of this ATCM is to reduce public exposure to DPM and other air contaminants, and does so by not allowing any drivers of vehicles subject to the ATCM to idle the vehicle's primary diesel engine or operate a diesel-fueled auxiliary power system for greater than five minutes at any location (ARB 2005). Compliance with this required ATCM would limit impacts to surrounding sensitive receptors. On-site diesel construction equipment would also be subject to CARB's Regulation for In-Use Off-Road Diesel Vehicles. This regulation applies to in-use (existing) off-road heavy-duty diesel vehicles in California; it limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. In addition, implementation of the District BMP AQ-1 and listed VHP AMMs as described above would further reduce any related air quality impacts from project construction.

During the monitoring phase of the project, the only source of air emissions would be emissions from vehicles used by monitoring staff to travel to and from the project area. Monitoring staff would not use diesel-fueled vehicles, and no emissions of DPM would result.

e) Less than significant impact. Sediment ~~would~~ may be excavated from the river's low-flow channel to provide equipment access and a suitable substrate for gravel placement during Phase 2 (no excavation would occur during Phase 1). The saturated sediment could be odoriferous and could annoy nearby residents. The closest residents are located about 250 ft east of the Phase 2 project area. ~~Phases 1 and 2 of the project are separated by about 600 ft. Different residents would be affected during the two phases of project construction. Phase 1 construction would last two to four weeks; however, odiferous sediment, if excavated, would be handled only during a portion of that period. Phase 2 construction would last for one to two months; similar to Phase 1 construction, odiferous sediment, if excavated, would be handled only during a portion of that period.~~ Based on the distance of at least 250 ft from the construction area, and the short duration of construction, exposure of nearby residents to objectionable odors from sediment would be a less than significant impact. To further reduce the potential for objectionable odors that could affect nearby residents and visitors the District would implement BMP AQ-2, which prohibits the stockpiling of odiferous sediment on site. Instead it would be removed for proper off-site disposal.

#### 4. Biological Resources

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
c) 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?			X	
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?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X

## Environmental Setting

Sensitive biological resources include (1) plants and animals that are listed as rare, threatened, or endangered, or as species of special concern pursuant to federal or state law, and habitat essential to special-status species; (2) natural communities indicated as rare or threatened by CDFW's California Natural Diversity Database (CNDDB); (3) wetlands, streams, and riparian vegetation surrounding them, or natural vegetation designated as significant natural habitat; and (4) natural communities and associated buffers protected by applicable plans, policies, or regulations.

As part of the UGRFPP in 2011, the District constructed an expanded floodplain on the east bank by removing residential areas, grading, and replanting of the mitigation area with native plants. The newly excavated and graded floodplain is managed to eliminate woody plants and partly mowed up to 40 feet east of the river channel, where the riparian mitigation is located in accordance to the UGRFPP design condition. The river's east bank has remnant hillsides with excavated floodplain connections, west bank is steep, and both banks are densely vegetated. Almost the entire east bank has young riparian vegetation (7 years old in 2019) as a result of mitigation for the UGRFPP. The habitat within the project area shows the effects of its urban proximity and is fragmented.

In summer 2016, District biologists conducted a biological assessment (BA) to identify any existing sensitive biological resources including special-status and native species, suitable habitats for such species, trees, and wetlands. The BA provides information to support the analysis in this section and is reprinted in Attachment 3 to this MND. The BA was revised in 2019 to include an updated project description and impacts on special status species and habitats. The analysis below is based on information in the revised BA and District's biology staff's experience and knowledge of the Project area.

The project area is not designated as Critical Habitat for any sensitive species. Based on the analysis of the special status species potential within the project area, the following special status species are either present or have moderate to high potential to occur in the project area:

- Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*)
- Central Valley Fall Run (CVFR) Chinook Salmon (*Oncorhynchus tshawytscha*)<sup>4</sup>
- San Francisco Dusky-footed woodrat (*Neotoma fuscipes annectens*)
- Pacific lamprey (*Entosphenus tridentatus*)
- Western pond turtle (*Actinemys marmorata*)
- American peregrine falcon (*Falco peregrines anatum*)
- White-tailed kite (*Elanus leucurus*)
- Yuma myotis (*Myotis yumaensis*)

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<sup>4</sup> Chinook salmon are native to California, but based on historical data they were not present in Santa Clara County, genetic analysis indicates that Chinook salmon in the Guadalupe River watershed are hatchery strays (Garcia-Rossi and Hedgecock 2002; Leal and Watson 2018). NMFS (2009) and CDFW (2018) do not indicate any portion of Santa Clara County as habitat or historic habitat of Chinook salmon.

The BA also analyzed the suitability of habitat at the project site and in its vicinity to support all of the species covered by the VHP.<sup>5</sup> Degraded habitat, urbanization, lack of suitable habitat, predatory pressure, and lack of historical occurrences within the watershed limit the potential occurrence of other listed wildlife species. The following VHP wildlife species have been determined to have low to no potential to occur at the project area:

- California red-legged frog (*Rana aurora draytonii*)
- Tri-colored blackbird (*Agelaius tricolor*)
- Foothill yellow-legged frog (*Rana boylei*)
- Bay checkerspot butterfly (*Euphydryas editha bayensis*)
- California tiger salamander (*Ambystoma californiense*)
- Western burrowing owl (*Athene cunicularia hypugaea*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- San Joaquin kit fox (*Vulpes macrotis mutica*)

In addition to the above, many species of migratory birds may nest in the project area.

Based on biological resource investigations for UGRFPP construction of Reach 6 by EDAW (2009 now AECOM), other special-status species that are not formally listed, but receive consideration under CEQA, and have the potential to occur on site include Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), long-eared owl (*Asio otus*), oak titmouse (*Baeolophus inornatus*), loggerhead shrike (*Lanius ludovicianus*), rufous hummingbird (*Selasphorus rufus*), and ten special-status bat species (likely for movement only). The riparian habitat and open water areas provide potential foraging and drinking areas for aerial and ground feeding insectivorous bats, such as *Myotis* species.

- Pallid bat (*Antrozus pallidus*)
- Townsend's big-eared bat (*Corynorhynchus townsendii*)
- Western mastiff bat (*Eumops perotis californicus*)
- Western red bat (*Lasiurus blossevillii*)
- Hoary bat (*Lasiurus cinereus*)
- Western small-footed myotis (*Myotis ciliolabrum*)
- Long-eared myotis (*Myotis evotis*)
- Fringed myotis (*Myotis thysanodes*)
- Long-legged myotis (*Myotis volans*)

All of the bats have a very low potential for occurrence at the project site, except Yuma myotis and Mexican free-tailed (*Tadarida brasiliensis*) were detected passing through in 2008 (EDAW 2009). There was no evidence that bats were roosting in the trees at the time, and it is highly unlikely that bats of any species have formed a maternity colony along this reach of the Guadalupe River. The bats were detected well into the night, indicating that they were commuting some distance to the site. Other studies conducted along the Guadalupe River indicated that the riparian area extending through downtown is not optimal habitat and there

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<sup>5</sup> While the Project is not a covered activity identified in the VHP, the Project is located within the plan area of the VHP. Thus, the District's biological assessment of this Project also considers and evaluates the potential of any VHP-covered species that could occur in the Project area and if so, whether and how such species would be impacted by Project activities.

was a paucity of bat detections. Although, special-status bats may travel through the study area the potential for them to forage and roost on site is considered to be very low (EDAW 2009).

Based on a literature review and a familiarity with the flora within the region, a total of 40 special-status plant species were considered to have at least some potential to occur within the region or have been recorded historically in the vicinity of the study area. Of these potentially occurring special-status plant species, 38 species could be eliminated from consideration due to an absence of suitable, specialized habitat, and two species were considered to have a low potential to occur within the marginally suitable habitats on site. Focused botanical surveys during the appropriate blooming period for California Native Plant Society list plants roundleaved macrophyllum (*Erodium macrophyllum*) and woolly-headed lessingia (*Lessingia hololeuca*) were conducted and resulted in negative findings (EDAW 2009).

The VHP covers the following eight plant species that occur on serpentine soils:

- Tiburon Indian paintbrush (*Castilleja affinis* spp. *neglecta*)
- Coyote ceanothus (*Ceanothus ferrisiae*)
- Mt. Hamilton thistle (*Cirsium fontinale* var. *campylon*)
- Santa Clara Valley dudleya (*Dudleya abramsii* ssp. *Setchellii*)
- Fragrant fritillary (*Fritillaria liliacea*)
- Smooth Lessingia (*Lessingia micradenia* var. *glabrata*)
- Metcalf canyon jewelflower (*Streptanthus albidus* ssp. *Albidus*)
- Most beautiful jewelflower (*Streptanthus albidus* ssp. *peramoenus*)

Serpentine soils are not present at or near the project site, and as a result the above plant species have low potential to occur. VHP also covers Loma Prieta hoita (*Hoita strobilina*), a plant occurring between 1,000 and 2,000 ft of elevation in oak woodland. The project area is less than 50 ft in elevation and does not contain suitable habitat for the Loma Prieta hoita.

As described in Section 2, Project Description, while the proposed Project is not a covered activity under the VHP, which the District would rely on to obtain permit coverage for incidental take of federal and state special status species. The VHP requires a permittee (the District in this case) to comply with implement applicable VHP conditions and AMMs (Table 2-3). The VHP conditions and AMMs are considered the best available methods for avoiding and minimizing impacts on special status species and sensitive habitats and therefore will be adhered to by the Project.

## Analysis

- a) Less than Significant with Mitigation: The project could potentially result in substantial impacts to the following protected species which have moderate to high potential to occur in the project area. CCC steelhead, CVFR Chinook salmon, San Francisco Dusky-footed woodrat, Pacific lamprey, western pond turtle, American peregrine falcons, and white-tailed kite. Construction activities could physically harm CCC steelheads, CVFR Chinook salmon, Pacific lamprey, San Francisco Dusky-footed woodrat, and western pond turtles which inhabit the creek channel. The removal of riparian vegetation could result in destruction or abandonment of nests occupied by migratory birds, including ~~the American peregrine falcon and the white-tailed-kite~~ special status bird species. The proposed project would incorporate the applicable AMMs contained in the VHP and District BMPs, thereby minimizing the project's adverse impacts on the above protected

species. To implement AMM-1 – Minimize Impacts to Covered Species, construction of the proposed project would occur during the summer dry season (~~April-June~~ October 15 through October 15 and only past October 15 with prior approval from the resource agencies). In conformance with AMM-14, AMM-16, AMM-17, AMM-20, and AMM-24, the affected river reaches would be dewatered by using cofferdams and properly sized pipes to temporarily divert river water around the work areas during placement of gravel in Reach 6, and filling of voids in the Reach 6/3C transition area. The dewatering system would be removed as soon as each phase of in-stream construction is completed to return normal flows to the river as required by AMM-20. Prior to dewatering the river, ~~the District~~ a qualified biologist would relocate aquatic vertebrates and native fish from the project reach in conformance with AMM-15 to prevent harm to the protected CCC steelhead, CVFR Chinook salmon, Pacific lamprey, western pond turtle, or San Francisco dusky-footed woodrat. In accordance with AMM-13, proper equipment would be used to minimize impacts to the river channel and riparian corridor. Temporary fill placed to provide equipment access to the river channel would be removed at the end of each construction phase (AMM-23). The project would also minimize removal of vegetation of the riparian corridor and floodplain, and retain existing native vegetation to the maximum extent (AMM- 29, AMM-40, AMM-71, and AMM-81). The project layout would make maximum use of existing ramps, channel access roads, grassy floodplain, and the concrete apron adjacent to Reach 6/3C transition to minimize the area of ground disturbance, ~~avoid off-road travel~~ (AMM-58, AMM-61, AMM-69, AMM-70, AMM-71, and AMM-94). During construction, equipment would be checked to prevent entrapment of wildlife (AMM-95, AMM-115, and BMP BI-10). Also, the work area would be kept clear of litter to not attract predators (BMP BI-11).

The BA finds that ~~two~~ three special-status fish and one reptile species, CCC steelhead (federally listed as threatened) by the ~~Federal government~~, CVFR Chinook salmon (California species of special concern and NMFS species of concern), and Pacific lamprey (California species of special concern), and western pond turtle (California species of special concern) are known to occur in the Upper Guadalupe River and have high potential to occur in the project area. The Guadalupe River downstream of the project area has been designated as critical habitat for CCC steelhead. The project area does not contain designated critical habitat, and is not defined by CDFW or NMFS as current or historic Chinook salmon habitat. If present, these fish CCC steelhead, CVFR Chinook salmon, and Pacific lamprey would be migrating through the area and are likely not spawning, as the river substrate in Reach 6 and the Reach 6/3C transition area are not suitable to spawning. Western pond turtles could use the reach for all portions of its life history and have been observed in Reach 6 pools. Project implementation would require dewatering during implementation of Phase 1 and 2 gravel augmentation, and void filling. Dewatering would temporarily impact ~~span~~ about 0.75-0.5 acre of aquatic habitat during Phase 1 and ~~an additional about up to 0.5 to 1.0-1.2~~ up to 0.5 to 1.0-1.2 acre during implementation of Phase 2 of the project. If CCC steelhead, CVFR Chinook salmon, or Pacific lampreys, or western pond turtles are present during dewatering, they could be injured or killed; harm to these protected fish and reptiles would be considered a significant impact. To reduce this impact, the District would implement the following mitigation measures.

Construction of Phase 1 would also permanently convert about 0.39 acre of aquatic habitat (within the 0.75-acre temporary impact area) from deep pools to riffles. The re-established aquatic habitat would be of higher quality than pre-construction condition because it would result in a more natural pool and riffle sequence with abundant coarse gravel. During Phase 2, about 0.6 acre of aquatic habitat (within the 1.2-acre temporary impact area) would be permanently converted from deep pools to riffles, but similar to Phase 2, this impact on aquatic habitat is considered beneficial.

Table 4-3 summarizes potential habitat impacts of the project by phase. The Project's impacts on aquatic habitat, riparian habitat, seasonal wetlands, perennial marsh, and upland habitat are discussed in later sections.

**Table 4-3: Maximum Habitat Impacts by Phase**

<u>Habitat Type</u>	<u>Phase 1 Impacts</u>		<u>Phase 2 Impacts</u>	
	<u>Temporary (ac)</u>	<u>Permanent (ac)</u>	<u>Temporary (ac)</u>	<u>Permanent (ac)</u>
<u>Aquatic</u>	<u>0.36<sup>1</sup></u>	<u>0.39<sup>2</sup></u>	<u>0.6<sup>1</sup></u>	<u>0.6<sup>2</sup></u>
<u>Riparian</u>	<u>0.05</u>	<u>--</u>	<u>0.05 – 0.1</u>	<u>--</u>
<u>Seasonal Wetland</u>	<u>0.01</u>	<u>--</u>	<u>0.00 – 0.01</u>	<u>--</u>
<u>Perennial Marsh</u>	<u>0.01</u>	<u>--</u>	<u>0.00 – 0.01</u>	<u>--</u>
<u>Upland</u>	<u>0.38</u>	<u>--</u>	<u>0.5 – 1.0</u>	<u>--</u>
<b><u>Total</u></b>	<b><u>0.81</u></b>	<b><u>0.39</u></b>	<b><u>1.1 – 1.72</u></b>	<b><u>0.6</u></b>

Notes:  
<sup>1</sup> Largely determined by the extent of dewatering; does not include the area of the gravel augmentation sites, which would also be dewatered but are categorized as permanent impacts.  
<sup>2</sup> Beneficial impact from gravel augmentation.

**BIO A: PERFORM CONSTRUCTION ACTIVITIES DURING THE DRY SEASON:**

Construction activities would occur during the summer low-precipitation period (May 1 June 15 through October 15). Construction requiring stream dewatering, stream crossing, or work in the channel invert would not occur until after June 15 and before October 15, unless resource agencies approve work beyond October 15. Prior approval to work after October 15 would also be based on weather conditions to be sure the channel has minimal flow. May 1 assuming that the following two stream monitoring criteria are met: 1) A qualified fisheries biologist surveys the project area and verifies the absence of juvenile steel head for at least three consecutive sampling days, and 2) average daily water temperatures exceed 64°F for a minimum of three consecutive days. Should stream monitoring criteria not be met, in-channel construction work would not occur until June 1. All Residual water within the project area shall be temporarily directed off-site or into a settling basin or tank and not directly into the downstream channel. After a suitable residency period to allow sediment to settle out of the water, the water would be discharged in a non-erosive manner to the river channel downstream of the construction area to prevent increased turbidity in downstream waters.

**BIO-B: RELOCATE AQUATIC MACROFAUNA PRIOR TO RIVER DEWATERING.**

A qualified biologist would survey for and remove aquatic macrofauna from the project area prior to dewatering, and potentially relocate the macrofauna to suitable ~~downstream~~ reaches of the river outside the construction zone. Survey and relocation requirements will be determined in coordination with the resource agencies. The aquatic biologist would use one or more of the following NMFS-approved methods to capture steelhead special status fish: electrofishing, dip net, seine, throw net, minnow trap, and hand. Electrofishing may only be used if NMFS reviews and approves the biologist's qualifications. The biologist would note the number of individuals observed in the affected area, and the date and time of the collection and relocation. The biologist would contact NMFS immediately if one or more steelhead are found dead or injured as a result of project activities.

**BIO C: MONITOR CONSTRUCTION AND IMPLEMENT PROTECTIVE MEASURES IF NEEDED:** The biologist would monitor all in-channel construction activities, in-stream habitat, and performance of sediment control/detention devices for the purpose of identifying/reconciling any condition that could affect steelhead or their habitat. Upon notification from the biologist, the District would halt the work activity causing the condition affecting steelhead and consult with NMFS if required. Upon obtaining NMFS concurrence with measures to rectify the situation, work would resume with the measures in place.

Measures BIO-A, BIO-B, and BIO-C are ~~taken~~ developed based on measures from the Biological Opinion (BO; No. 151422SWR2005SR20288:GRS; February 11, 2005) issued by NMFS, which permitted similar in-stream construction as part of the UGRFPP. By restricting construction activities to times when CCC steelhead, CVFR Chinook, and lamprey are not likely to be present (i.e., during the dry season from May 4 June 15 through October 15 and only past October 15 with prior approval from the resource agencies) (MM-BIO-A), requiring a qualified biologist to relocate fish and other aquatic macrofauna prior to dewatering (MM-BIO-B), and requiring monitoring of the Project area for impacts to steelhead special status fish during construction (MM-BIO-C), the project's impacts to the protected fish species would be reduced to less than significant.

In addition, the BA determines that western pond turtle has high potential, and San Francisco Dusky-footed woodrat has moderate potential to occur at the project area. These species inhabit the creek channel and adjacent riparian vegetation, and could be crushed or injured by construction activities. However, turtles typically would leave an area when there is substantial human activity, reducing the potential for harm to turtles during project construction. San Francisco dusky-footed woodrats inhabit nests located at or near water bodies. They could be directly injured or their nests damaged by construction activities. The District would ~~obtain take authorization through the VHP and thus would~~ comply with all applicable VHP conditions and AMMs designed to reduce impact to these protected species. AMM-29, AMM-40, AMM-61, AMM-62, AMM-71, and AMM-81 require the District to minimize the amount of vegetation removed at the project site; thereby minimizing the risk that woodrat nests would be removed or made inhabitable due to vegetation clearing. Although unlikely, harm to western pond turtles or San Francisco dusky-footed woodrats would be considered a significant impact. To further reduce the potential for significant impacts to western pond turtles or San Francisco Dusky-footed woodrats, the District would implement MM-BIO-D, as follows.

While special status bats are not expected to be located or roost at the Project site (as discussed above) and thus the Project impacts to bats would not be significant, MM-BIO-D would further reduce the Project impacts on bats by requiring preventive measures if bats or bat habitat are identified during pre-construction surveys.

**BIO D: PERFORM PRE-CONSTRUCTION SURVEYS FOR WESTERN POND TURTLE, BATS, AND SAN FRANCISCO DUSKY-FOOTED WOODRAT NESTS, ESTABLISH PROTECTIVE BUFFERS AROUND WOODRAT NESTS, AND RELOCATE TURTLES FROM THE CONSTRUCTION ZONE.** Prior to construction, a qualified biologist would conduct surveys for the western pond turtle and San Francisco Dusky-footed woodrats. If western pond turtles are found on site, the District would first allow the species to leave the site on their own volition, and if that is not successful, relocate turtles from the construction zone in conformance with CDFW protocols. If bats or bat habitat are identified, preventative measures will be taken that conform with CDFW protocols. If San Francisco Dusky-footed woodrat nests are found in the project area, the District would establish an appropriate protective buffer around the nests, or relocate the nests in conformance with CDFW protocols. ~~This measure is required to comply with the VHP Condition 1, which prohibits direct impacts to legally protected plant and wildlife species.~~

By requiring the District to conduct pre-construction surveys for western pond turtles and San Francisco Dusky-footed woodrats, and if they are found, to establish buffers and/or relocate them in conformance with CDFW protocols, implementation of MM-BIO D would reduce any impact to these protected species to a level of less-than-significant.

Vegetation removal, construction noise and activity associated with the project could result in adverse effects on two bird species that are fully protected under California law—American peregrine falcon (*Falco peregrines anatum*), ~~and~~ white-tailed kite (*Elanus leucurus*), as well as other birds. This could occur through direct removal of vegetation containing active nests or disturbance that causes the birds to abandon a nest. The District would implement District BMP BI-5 and BI-6 to reduce impact on nesting migratory birds. BMP BI-5 requires that a qualified biologist perform nesting bird surveys prior to any construction activities; the BMP further specifies that inactive bird nests may be removed (except raptor nests) and that birds, nests with eggs, or nests with hatchlings would be left undisturbed. BMP BI-6 specifies that if nesting exclusion devices are installed, such devices would be maintained throughout the nesting season or until completion of the work. While implementation of these BMPs would minimize the potential for direct physical impacts to ~~these birds species,~~ any residual impact (e.g., disturbance resulting in abandonment of a nest) would be considered a significant impact. The District would implement MM BIO-E below to further address the impact.

**BIO-E: ESTABLISH APPROPRIATE BUFFERS AROUND ACTIVE NESTS IDENTIFIED DURING PRE-CONSTRUCTION NESTING BIRD SURVEYS.** If the pre-construction survey identifies migratory bird nests at or near staging areas and construction sites, a 50-foot no-construction buffer would be delineated around the nest until young have fledged (300-foot buffer for raptors).

- b) Less than Significant with Mitigation: Although the project is designed to minimize vegetation disturbance and removal in conformance with VHP AMM-1, AMM-29, AMM-

40, AMM-69, AMM-70, AMM-71, and AMM-81, a minimal amount of vegetation would be disturbed or removed and is unavoidable.

As described above, During Phase 1 of the project, both temporary and permanent impacts to aquatic habitat would result. Dewatering would temporarily impact about 0.54 acre up to 1,100 LF and 0.75 acre of aquatic habitat in the river channel by isolating it from river flows, temporarily eliminating the aquatic habitat value of the dewatered area for up to 4 weeks. Implementation of Phase 1 would also permanently convert about 0.39 acre of aquatic habitat from deep pools to riffles. The re-established protect aquatic habitat would be of higher quality than pre-construction condition because it would result in a more natural pool and riffle sequence with abundant coarse gravel. Much of the current river channel is sediment starved due to upstream structures that impede the movement of coarse gravel, resulting in the formation of unnatural stagnant deep pools with fine-grained bed material. These deep pools harbor non-native predatory fish and result in low levels of dissolved oxygen. The creation of riffles would increase dissolved oxygen levels and act as grade control to stabilize the reach. Overall, Phase 1 project impacts to aquatic habitat would be beneficial.

As shown in Table 4-3, Construction activities during Phase 1 would also temporarily disturb about 0.57 acre 0.38 acre of upland vegetation at the project staging area, equipment movement corridors between the staging area and the river channel, and at the placement area for the dewatering pipes. Vegetation at these areas would be cleared or covered and crushed by equipment and supplies. The disturbed grasslands would be hydroseeded with native California grass and forbs mix to re-establish the grassland habitat at the construction staging area (AMM-103, and District BMPs BI-8 and WQ-9). The Reach 6 floodplain was designed to be herbaceous and partly mowed to facilitate hydraulic flow conveyance during high water levels and fire protection for nearby residences. Soils were excavated for floodplain construction, so consist of clay subsoil that was compacted. Phase 1 project impacts on grassland habitat would be less than significant.

Construction of Phase 1 would also temporarily disturb 0.01 acre of seasonal wetlands and 0.01 acre of perennial wetlands (see Table 4-3). The wetlands vegetation would be cleared to make way for channel and gravel placement. These temporarily disturbed wetlands would be allowed to revegetate naturally, which is similar to existing conditions with annual or biannual mowing of the floodplain. Because only 0.04 0.02 acre of wetlands would be temporarily impacted and the habitat would be is expected to recover rapidly after construction ends, this impact would be less than significant. No wetlands would be permanently removed.

In addition to the vegetation impacts described above, Phase 1 construction would permanently remove about 0.01 acre of perennial marsh habitat at the channel access points. Permanent removal of a perennial marsh would be a less than significant impact due to the small area (0.01 acre) affected. Also during Phase 1 construction, about 0.05 acre of young willow riparian forest/scrub habitat containing 18 trees consisting of one sandbar willow (*Salix exigua*), 10 Fremont cottonwoods (*Populus fremontii*), and seven arroyo willows (*Salix lasiolepis*) would be removed at the river channel access points to establish temporary access. The impacted trees were planted for UGRFPP mitigation and range in diameter at breast height (DBH) from two to six inches (see Table 5 in

~~Attachment 3 for a detailed list by size and species), and are seven years old as of 2019. The permanent-temporary removal of riparian vegetation at the channel access points during Phase 1 of the project would be a significant impact. The District would implement MM-BIO-F to reduce this impact. Implementation of MM-BIO-F would reduce the impact to a level of less-than-significant by replanting the riparian vegetation that would be temporarily removed riparian vegetation during construction at a ratio of 2:1. This mitigation ratio is consistent with the San Francisco Bay Regional Water Quality Control Board's Water Quality Order R2-2003-0115 for the UGRFPP.~~

**BIO-F: REPLACE REMOVED RIPARIAN VEGETATION:** The District would plant native riparian plants and shrubs on the east bank floodplain of Reach 6 to replace the riparian vegetation removed during implementation of Phases 1 and 2 of the project ~~at a ratio of 2:1~~. The replacement plantings would be local ecotypes as required by District BMP BI-8.

During Phase 2 of the project, up to ~~4.0~~ 1.2 acres of aquatic habitat in the river channel would be temporarily dewatered ~~for up to 2 months~~ to allow gravel placement. In the long run, about 0.6 acre of aquatic habitat would be permanently converted from deep pools to riffles during Phase 2. Overall, the Phase 2 project impacts on aquatic impact would be beneficial.

Roughly 0.5 to 1 acre of upland habitat (i.e. grassland) would also be affected during project staging and operation of the dewatering system on the east bank floodplain during Phase 2. This grassland habitat would re-grow after construction is complete. To expedite re-establishment of this habitat and, the District would implement AMM-103 and District BMPs BI-8 and WQ-9, which require hydroseeding of disturbed areas with Native California grass and forbs mix. The Phase 1 project impacts on grassland habitat would be less than significant.

Phase 2 of the project would also temporarily impact ~~an unquantified, but small area of seasonal wetlands and perennial marsh. The area of marsh and wetlands affected would be similar to the area affected during Phase 1, roughly 0.01 acre up to 0.01 acre of seasonal wetland and 0.01 acre of perennial marsh during channel access. The temporarily impacted habitat would return be allowed to passively revegetate after construction ends. This impact on wetlands would be less than significant due to the small area affected and the temporary nature of the impact. However, a portion of the perennial marsh habitat could be permanently removed at the channel access points. Permanent removal of a perennial marsh would be a less than significant impact due to the small area affected.~~

In addition, during Phase 2 construction, ~~about~~ up to 0.1 acre of willow riparian forest/scrub habitat would be temporarily removed at the river channel access points. The ~~permanent-temporary~~ removal of riparian vegetation at the channel access points during Phase 2 of the project would be a significant impact. The District would implement MM-BIO-F to reduce this impact. Implementation of MM-BIO-F would reduce the impact to a level of less-than-significant by replanting removed riparian vegetation at ~~a ratio of 2:1~~.

During both Phase 1 and 2 of the project, construction equipment and vehicles could inadvertently transport Chinese mitten crabs, an invasive aquatic species from the San Francisco Bay watershed to the Monterey Bay watershed. Mitten crabs compete with native species and can adversely disrupt the local ecosystem. To prevent this potential impact, the District would implement BMP BI-1, which prohibits transport of sediment to the Monterey Bay watershed and movement of vehicles between the watersheds unless they are cleaned first to remove mitten crabs, if present.

Moreover, project workers, equipment, and vehicles could unintentionally introduce plants pathogens (such as phytophthora) which could infect riparian vegetation into the riparian area. Those pathogens could infect the riparian vegetation. To minimize the risk of introducing plant pathogens, the District would implement AMM-92 and the most up-to-date contaminated site guidance from CalPhytos (see <http://www.suddenoakdeath.org/welcome-to-calphytos-org-phytophthoras-in-native-habitats/resources/>), which require use of sanitary procedures to prevent spread of plant pathogens.

- c) Less than significant. As described above, Phase 1 and Phase 2 of the proposed project would each temporarily disturb up to about 0.01 acre of seasonal wetlands and 0.01 acre of perennial marsh located on the floodplain, resulting in up to 0.04 acres of wetlands impact. These wetlands are federally protected pursuant to Section 404 of the Clean Water Act. After construction is complete, the project would not affect river hydrology or the availability of water to promote regrowth of the disturbed wetland vegetation. This type of effect was assessed in District studies that found that wetland vegetation quickly re-establishes following sediment removal projects. The “Instream Wetland Vegetation Regrowth Study” performed by Rankin and Hillman and described in SCVWD, 2001, found 65 percent and 98 percent average regrowth within one and two years, respectively, after 1997 sediment removal at six non-tidal freshwater study sites.<sup>6</sup> The study also found that vegetation dominance and quality, as represented by vegetation type, total percent cover of vegetation, and relative percent cover of native and invasive species, were similar between pre-and post-project years. It is anticipated that wetland vegetation would respond similarly and regenerate naturally over the course of the first ~~two~~ growing seasons. The temporary impacts to wetlands from access routes would involve placing plywood and geotextile fabric over the wetland and would not disturb the soil or root systems, allowing the site to revegetate within one year. The impact areas are also small and exhibit large edge effects that would allow them to regenerate faster. Furthermore, the Reach 6 floodplain (where the temporarily impacted wetlands occur) was designed to be herbaceous and partly mowed to facilitate hydraulic flow conveyance during high water levels and fire protection for nearby residences, thus the baseline condition of wetlands is subject to frequent disturbance and regeneration. Based on the short term nature of the impact to seasonal wetlands and the small area affected, this impact would be less than significant. ~~In addition, about 0.01 acre of perennial marsh, which is considered jurisdictional wetlands, would be permanently removed at the river channel access points. Due to the small area affected, the permanent impact on federally protected wetlands would be a less than significant impact. No wetlands would be permanently affected by Phase 1 or Phase 2 of the project.~~

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<sup>6</sup> The Instream Wetland Vegetation Regrowth Study was focused on vegetation regrowth following sediment removal activities, rather than topical disturbance that does not impact the soil or root systems.

Project monitoring activities would not result in disturbance or removal of vegetation and would not impact federally protected wetlands.

- d) Less than significant with Mitigation. A number of protected bird species, including migratory birds, may occur in the project area. These birds may nest in the riparian and grassland habitat within the project area. To minimize project impacts on birds, the District would implement District BMPs BI-5 and BI-6, which require that qualified biologists perform pre-construction bird surveys to identify active nests and install nesting exclusion devices if needed. Additionally, the District would implement District BMP BI-11, which requires removal of construction trash from the work site daily to avoid attracting predators that prey on birds or damage their nests. Despite implementation of BMPs BI-5 and BI-6, both Phases of project construction could cause the birds to abandon nests due to the level of human activity, which would be a significant impact. To address this impact, the District would implement MM-BIO-E, which requires the District to establish a 50-foot buffer around active nests, except for raptor nests which would be protected by a 300-ft buffer, after performing nesting bird surveys and prior to construction undertaken during the nesting season. No construction activities would be allowed in the buffer area until the nests becomes inactive. With implementation of Measure BIO-E, impacts to bird species would be less than significant.

Bats may occasionally travel through the project area, but are not likely to ~~do not~~ roost in the area. The proposed project would not affect roosting sites and thus, impacts to bats would be less than significant.

Fish including steelhead, Chinook salmon, and lamprey migrate through the project area and their movement could be disrupted by the addition of gravel to Reach 6. During high flows, the installed gravel (which is a well-graded mix of grain sizes with 84% of the grains having a diameter less than 6 inches and a maximum grain size of 8 inches) could wash downstream and accumulate in some areas, thereby resulting in a fish passage barrier. While the accumulation of gravel in a manner that forms a fish passage barrier is unlikely, the District's SMP is already monitoring for sediment deposition and fish passage concerns during annual inspections through the entire reach. Under the downtown Guadalupe River Project, the District also monitors for fish passage in downstream areas (Grant Avenue to Woz Way downtown Guadalupe River Project Segment 3C) twice per month at 2-week intervals from October to June and within 3 days following a major storm event (defined as instantaneous flows that exceed 500 cfs). Monitoring of suitable salmonid habitat, undercut banks, and longitudinal profiles proposed as part of the overall project monitoring would further indicate if fish passage is occurring at the gravel augmentation sites themselves. Should any fish passage issues be identified, the District would remediate them as soon as safe to do so under the downtown Guadalupe River Project or the District's SMP program and notify the regulatory agencies of such action. With these existing monitoring efforts in place, the project impact on fish passage and migration would be less than significant.

Monitoring activities after completion of Phase 1 and Phase 2 construction would consist of periodic observations and measurements by biologists. These activities would not result in vegetation removal or physical changes in the environment. The project area is within an urban area and exhibits existing foot traffic from illegal camping. The human

activity associated with these surveys could temporarily disturb wildlife in the area. Based on the minimal human activity required to perform monitoring (one to two staff accessing the area on foot), the short duration of their presence (less than one day) and the infrequent recurrence of the monitoring (one day per month), this impact would be less than significant.

- e) No Impact. The City of San Jose Tree Ordinance requires a permit to remove a tree greater than 56 inches in circumference (approximately equal to 18 inches in diameter DBH) at two feet above ground level, if it is located on private property, or along a public street. The ordinance does not apply to trees located on public property. The City has also designated over 100 trees located throughout the City as heritage trees due to their size, history, unusual species, or unique qualities. As discussed above, ~~d~~during both Phase 1 and 2 construction, all trees to be removed are less than 18 inches in diameter at two ft above ground level DBH; therefore, they are not subject to the City of San Jose tree ordinance. In addition, ~~no heritage trees are located in the project area and thus~~ no impacts to heritage trees would occur. The project would not conflict with the City of San Jose tree ordinance.
- f) No impact. While ~~the proposed Project is not a covered activity under the VHP, the Project would comply with all applicable requirements specified in the VHP including the~~ VHP conditions and AMMs. Thus, the proposed project would not conflict with provisions of an adopted habitat conservation plan and natural community conservation plan.

## 5. Cultural Resources

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in section 15064.5?			X	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5?			X	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?			X	
d) Disturb any human remains, including those interred outside of dedicated cemeteries?			X	

- a) and b) Less than significant Impact: The U.S. Army Corps of Engineers and the District prepared a joint Environmental Impact Report/Statement (EIR/S) for the Upper Guadalupe River Flood Protection Project in 1999 (Santa Clara Valley Water District, 1999). The EIR/S analyzed potential environmental impacts that could result during implementation of that project. As part of the EIR/S investigations, the District conducted a records search and field investigations of Reach 6 to identify historic or cultural resources. One pre-historic site, SCL-706 was identified in Reach 6 and borings, test trenches, and hand excavations were used to recover data from the site. These investigations determined that Site SCL-706 was highly disturbed and not eligible for listing on the National Register of Historic Places. Between 1999 and 2009, the District refined the design of the Reach 6 flood protection project. In 2009, the District prepared an EIR Addendum (Santa Clara Valley Water District,

2009) analyzing the proposed design changes to the Reach 6 flood protection project. The EIR Addendum confirmed the accuracy of the 1999 EIR with respect to potential effects to cultural resources. The Reach 6 project was implemented in 2012 to provide flow conveyance capacity for the 1% annual chance of exceedance (ACE) event, resulting in substantial modification and ground disturbance of Reach 6 and the adjacent floodplain area. No potentially significant cultural resources were uncovered during construction of the Reach 6 improvements. No historic resources as defined in Section 15064.5 are present and no archaeological resources are likely to be present at the project area. In addition, the District would implement BMP CU-1 to avoid/minimize impacts on cultural resources in the event that they are encountered during construction. If historical or archaeological resources are accidentally discovered during construction, this BMP requires that the District stop work immediately within ~~30~~ 100 feet of the find and establish a “no work” zone. An archaeologist would be consulted before the District may proceed and the District would implement avoidance and other procedures deemed to be necessary by the archaeologist. The project impacts on historical and archeological resources would be less than significant.

- c) Less Than Significant Impact: As described above, the project area is heavily disturbed due to past construction activities and previous investigations suggest that the project area is unlikely to contain unique paleontological resources or unique geological features. Impacts to unique paleontological resources or unique geological features would be less than significant.
- d) Less than Significant Impact: The gravel augmentation project would require minimal excavation of the river channel to prepare for placement of gravel. Because the project area was previously disturbed, the potential for uncovering of human remains is very low. Nonetheless, human remains could have in the past washed down the river and be deposited at the project site. In the very unlikely event that human remains are uncovered, the District would implement BMP CU-1 to protect the uncovered remains, including restricting or stopping work in the area where burial finds are discovered, notifying the County Coroner, and no further excavation or disturbance within ~~30~~ 100 feet of the site or any nearby area reasonably suspected to overlie remains until authorized by the County Coroner, California Native American Heritage Commission, and/or the County Coordinator of Indian Affairs. The project would have a less than significant impact on human remains.

## 6. Geology and Soils

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?			X	
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, liquefaction, or collapse?				X
d) Be located on expansive soil, as defined on Table 18-1-B of the Uniform Building code (1994), creating substantial risk to life or property?				X
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?				X

a), c) and d) No Impact: The proposed project would place a maximum of about 4,200 CYs of gravel in the channel of the Guadalupe River to create riffles structures and fill voids in existing rock riprap channel protection. The Santa Clara Valley is in a seismically active area and the project site could experience strong ground shaking and secondary seismic effects (e.g. soil liquefaction, slope failure, ground spreading, subsidence) during a large earthquake. These effects could lead to movement of the gravel structures, but the gravel would stay within the river channel and no hazards to persons or property damage would result. Expansive soils and unstable river banks may be present in the project area; however, bank slumping or shrink-swell behavior would not adversely affect the proposed project, or create a hazard to structures or persons. The project would not expose people or structures to substantial adverse effects and would not create substantial risks to life or property.

b) Less than significant impact. The proposed project would disturb less than 2 acres of soil outside the river channel during Phase 1 and 2 construction. In conformance with District BMP WQ-4, soil and gravel would be stockpiled at upland areas outside the low-flow channel. Temporary fill placed to provide equipment access to the river channel would be removed at the end of each construction phase in conformance with AMM-23. The project

has been designed to minimize the area of vegetation removal and retain existing vegetation to the maximum extent in conformance with AMM- 29, AMM-40, AMM-71, and AMM-81. The project layout makes maximum use of existing ramps, channel access roads, and the concrete apron adjacent to Reach 6/3C channel to minimize the area of ground disturbance (AMM-61, AMM-70, AMM-71, AMM-74, and AMM-94). As required by District BMP WQ-16, AMM-84, and AMM-97 appropriate erosion control measure, such as silt fences, fiber rolls, and erosion control blankets, would be implemented during construction to prevent erosion of soil and entrainment of eroded soil. The District would prepare and implement during both phases of construction a Stormwater Pollution Prevention Plan (SWPPP) in conformance with 2009-0009 DWQ General Permit issued by the State Water Resources Control Board (SWRCB). The SWPPP would describe in detail the erosion control measures to be applied during project construction. With implementation of the above AMMs and BMPs, soil erosion during project construction would be a less than significant impact.

After construction is complete in each project phase, disturbed areas within the river channel would be covered by placed gravel which would prevent erosion. Areas on the adjacent floodplain used for construction staging would be restored to their pre-construction topography by removal of placed fill, and disturbed areas would be hydroseeded with native grass/forbs seed mix in conformance with BMPs BI-8, WQ-9, and WQ-16 to prevent erosion. Implementation of MM-BIO-F, which requires planting of native trees/shrubs to replace removed riparian trees/shrubs would stabilize disturbed areas in the long term, further reducing this less than significant impact.

- e) No impact: In conformance with District BMP WQ-17, temporary sanitary facilities would be placed at the construction site for use by construction staff. After construction is complete, the project would not generate sewage. No disposal of sewage to the ground would occur during project construction or operation; therefore the capability of on-site soil to accommodate sewage disposal is not relevant.

## 7. Greenhouse Gas Emissions

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

- a) Less than Significant: The BAAQMD adopted thresholds and guidance in 2010 addressing the analysis of greenhouse gas (GHG) emissions as well as other air pollutant emissions. The guidelines consist of two project-level thresholds for operational emissions, one for stationary sources and one for non-stationary sources. The BAAQMD did not set thresholds for construction GHG emissions. Although the project is not located within jurisdictional area of the Sacramento Metropolitan Air quality Management District (SMAQMD), SMAQMD has set a significance threshold for construction GHG emissions, based on substantial review of

technical literature on health and environmental effects of GHG emissions (SMAQMD, 2014). This threshold is used for this Initial Study. SMAQMD has established a threshold of 1,100 metric tons per yr (MT/yr) of CO<sub>2</sub> equivalent emissions for significant construction-phase GHG emissions.

The proposed project would generate in short-term, temporary GHG emissions from combustion associated with on- and off-road equipment. CO<sub>2</sub> is produced during the burning of fossil fuels and is the predominant GHG generated as a result of construction of the proposed project. Other greenhouse gases (e.g. methane, nitrogen oxides, reactive organic gases) would be generated in smaller quantities, and have different greenhouse potential than CO<sub>2</sub>. For that reason, total greenhouse gas emissions are typically presented in terms of CO<sub>2</sub> equivalent amount.

Phase 1 Construction would last for about one month ~~during summer 2017~~. Both the construction and monitoring phases of the proposed project would consume diesel fuel and gasoline. The proposed project would not require use of coatings, paints, solvents, etc, associated with typical construction of houses and buildings; therefore fuel use would be the only substantial source of GHG emissions. During Phase 1 of the project, several pieces of heavy equipment would operate at the site for up to 20 work days over a period of about 4 weeks and haul trucks would transport a maximum of about 1,160 CYs of gravel to the site. Heavy construction equipment and haul trucks typically consume diesel fuel. Assuming haul trucks with capacity of 10 CY each would make 20-mile round trips and each on-site piece of equipment would travel 20 miles per day, total distance travelled by heavy equipment would be about 3,500 miles. U.S. Environmental Protection Agency estimates fuel consumption by Medium Heavy Class 6-7 Vocational Vehicles at 1.8 gallons per mile (U.S. Environmental Protection Agency, 2011). Based on miles travelled and fuel efficiency, about 2,000 gallons of diesel fuel would be consumed during Phase 1. Diesel fuel consumed during Phase 1 of the project would represent 0.002% of the 88 million gallons of diesel fuel consumed annually in Santa Clara County (California Department of Transportation, 2009). Construction workers would make about 10 round trips per day to commute to and from the project site. Assuming a 20-mile length of each round trip, total distance travelled would be about 4,000 miles. Based on fuel efficiency for light trucks of 17 miles per gallon (U.S. Environmental Protection Agency, 2008), a total of about 230 gallons of gasoline would be consumed during Phase 1 of the project.

Phase 2 would occur over one to two months six years after completion of Phase 1~~during summer 2020 or a later year~~. During Phase 2 of the project, several pieces of heavy equipment would operate at the site for up to 40 days and haul trucks would transport about 3,200 CYs of gravel to the site. Heavy construction equipment and haul trucks typically consume diesel fuel. Assuming haul trucks with 10 CY capacity would make 20-mile round trips and each on-site piece of equipment would travel 20 miles per day, total distance travelled by heavy equipment would be about 8,800 miles. U.S. Environmental Protection Agency estimates fuel consumption by Medium Heavy Class 6-7 Vocational Vehicles at 1.8 gallons per mile (U.S. Environmental Protection Agency, 2011). Based on miles travelled and fuel efficiency, about 4,900 gallons of diesel fuel would be consumed during Phase 2. Construction workers would make about 10 round trips per day to commute to and from the project site. Assuming a 20-mile length of each round trip, total distance travelled would be about 8,000 miles. Based on fuel efficiency for light trucks of 17 miles per gallon (U.S. Environmental Protection Agency, 2008), a total of about 460 gallons of gasoline would be consumed.

Project CO<sub>2</sub> equivalent emissions which would result from consumption of diesel fuel and gasoline during construction were calculated using CalEEMod, version 2013.2.2 software. During Phases 1 and 2, total CO<sub>2</sub> equivalent emissions would be 31.3 metric tons per year (MT/yr) and 74.0 MT/yr, respectively. The two phases would occur in separate years; therefore each value should be compared to the GHG significance threshold established by SMAQMD. Phase 1 GHG emissions would be less than 3% of the significance threshold. Phase 2 GHG emissions would be less than 7% of the significance threshold. During both phases of construction, GHG emissions would be below the significance thresholds established by the SMAQMD and thus construction related GHG emissions would be a less than significant impact.

Greenhouse gases generation during project monitoring activities would result from operation of motor vehicles to travel to and from the project site. Round trip vehicle trips would be minimal, averaging 1 to 2 per month. During project monitoring, District staff would travel to the project site about 20 days per year, and each round trip from District headquarters to the site would be 10 miles in length. Total annual miles travelled would be 200 and gasoline consumption would be about 12 gallons. Over the three year monitoring period, about 36 gallons of gasoline would be consumed. The amount of fuel consumed during project monitoring would be less than 2% of the fuel consumed during either Phase 1 or Phase 2 construction. The only source of GHG emissions during the monitoring period would be vehicle fuel use, and GHG emissions during this period would be less than 2% of Phase 1 construction-period GHG emissions. GHG emissions during the project monitoring period would well below the significance threshold and would be a less than significant impact.

- b) No Impact: The project site is wholly within the City of San Jose. Adopted in 2011, San Jose's Greenhouse Gas Reduction Strategy was developed in conjunction with Envision 2040, San Jose's Master Plan, and is designed to implement CEQA and BAAQMD air quality standards. Of three potential strategies outlined by BAAQMD, San Jose elected to establish a plan efficiency threshold of 6.6 metric tons of CO<sub>2</sub> equivalent per service population (residents and workers) per year by 2020 (City of San Jose, 2011).

The strategy contains a number of implementation measures in such areas as the built environment, energy, land use, transportation, recycling, and waste reduction. While none of the specific measures specifically apply to the proposed project, use of energy efficient construction equipment would generally apply. BMP AQ-1 requires that equipment and vehicles be properly maintained and tuned and tires be properly inflated. It also prohibits excess idling of engines. These measures would ensure that vehicles operate efficiently and fuel is not consumed in wasteful manner. The project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

## 8. Hazards and Hazardous Materials

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous material into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school?				X
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?				X
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 for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip. Would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

- a) No Impact: The proposed project would not involve the routine transport, use, or disposal of hazardous materials and would not have the potential to create a hazard to the public or environment.
- b) Less Than Significant Impact: The proposed project would not directly involve the use of hazardous materials. However, hazardous materials may be used in the maintenance and repair of equipment and vehicle operated during project construction. Release of hazardous materials to the Guadalupe River during equipment and vehicle maintenance and repair would adversely affect the environment including water quality. In addition, construction vehicles and equipment would operate within the river channel and adjacent floodplain during Phase 1 and 2 placement of gravel. Vehicles and equipment would contain petroleum-based fuels, lubricants, and fluids, creating the potential for release of petroleum products into the environment. In conformance with AMM-87 and AMM-88, vehicles operated at or near the river channel would be checked daily for leaks and vehicles and

equipment would be parked on paved or previously disturbed areas, minimizing the risk of pollutants entering the river.

In addition to AMM-87 and AMM-88, the District would implement AMM-7, AMM-8, AMM-9, AMM-12, AMM-76, and District BMPs HM-8, HM-9, and HM-10 during project construction to minimize the potential for release of hazardous materials to the environment and ensure that any spills are promptly cleaned up. These measures require that vehicle fueling and maintenance occur outside the river channel, workers are properly trained in hazardous materials handling and management, and that spill prevention kits be located in proximity to the work areas. This impact would be less than significant.

Sediment in the Guadalupe River may contain high levels of mercury as a result of past mining activities in the upper watershed (SCVWD, 1999). To prepare the river channel for placement of gravel, the existing sediments in the bed of the river would be excavated and re-graded. This could result in exposure of workers to materials containing unsafe levels of mercury. To prevent hazards to workers, the District would implement BMP HM-11, which requires the proper use of personal safety equipment during sediment movement. The District would also implement AMM-10, which requires that excavated sediment or soil be tested for the presence of mercury. Excavated sediment or soil containing mercury levels exceeding levels specified in AMM-10 would be remediated. With application of these measures, exposure of workers to mercury-contaminated sediments would be a less than significant impact.

- c) No Impact: The Rocket Ship Mateo Sheedy Elementary School is located about 800 ft east of the Phase 2 project area. Although located within ¼ mile of a school, the project would not generate hazardous emissions or require the handling of hazardous or acutely hazardous materials, substances, or waste and would not generate a hazard to students or school staff.
- d) No Impact: The project area and vicinity was searched for the presence of leaking underground storage tanks, other cleanup sites, land disposal sites, military sites, waste discharge requirement sites, permitted underground storage tanks, and Department of Toxic Substances Control cleanup sites and hazardous waste permit sites, using the State Water Resources Board Geotracker tool. No hazardous waste sites listed pursuant to Government code section 65962.5 are located at the project area.
- e) No Impact: The closest airport or private airstrip to the project area is San Jose Mineta International Airport, located about 2.4 miles to the north. The project would not result in safety hazards for persons working or residing in the area.
- f) No Impact: The project area is not in close vicinity of a private airstrip. The project would not result in safety hazards for persons working or residing in the area.
- g) No Impact: The project would not require closure of roads or travel lanes, and would add negligible amounts of traffic onto roads in the local vicinity. The project would not adversely affect transportation systems. It would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- h) No Impact: The project would not increase the risk of wildland fires, or construct flammable new structures. The project would not expose people or structures to to loss, injury, or death as a result of wildland fires.

## 9. Hydrology and Water Quality

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			X	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?			X	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				X
e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				X
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

## Environmental Setting

The proposed project would be implemented at Reach 6 and the Reach 6/3C transition area of the Guadalupe River. Reach 6 consist of a relatively narrow low-flow channel about 25 ft in width. The channel is bounded on the west by a steep wooded embankment and on the east by a wooded riparian corridor, and a relatively wide floodplain vegetated with grasses, forbs, and herbaceous ground cover, parts of which are mowed annually. Reach 6 has the capacity to convey the 1% flow with floodwater contained to the main channel and floodplain.

## Analysis

- a) and f) Less than Significant Impact: The project would result in the permanent placement of a maximum of about 4,200 CYs of gravel in Reach 6 and the Reach 6/3C transition of the upper Guadalupe River. The gravel would increase the coarse bedload of the river and replace existing deep stagnant pools with riffles, generating more natural stream morphology. The increased presence of gravel riffles in the river would create surface turbulence that would increase dissolved oxygen levels. The project is expected to result in improved water quality in the long term (USACE, 2013).

River water would have to be diverted around the portions of the channel planned for gravel placement during construction of Phases 1 and 2. The length of river channel subject to water diversion would be up to about 1,100 ~~4,500~~ and 1,650 linear feet during Phases 1 and 2, respectively. Dewatering would occur during the dry season (June 15 ~~May 1~~ through October 15 and only past October 15 with prior approval from the resource agencies). To divert water from the river channel, coffer dams would be placed at the upstream and downstream project limits and the natural flow of the channel directed into one or more pipes located on the floodplain adjacent to the river channel. Consistent with the NMFS Biological Opinion issued for the Upper Guadalupe River Flood Protection Project (see MM-BIO-A), diverted water would be temporarily retained in settling tanks or settling basins before discharge downstream of the project area to prevent adverse effects to downstream water quality or habitat. Dewatering would last for up to one month during Phase 1 of the project and up to two months during Phase 2. In conformance with District BMP WQ-3 and AMM-112, the pumps and generators associated with dewatering system would be maintained and operated to prevent dry-back or washout conditions, and pumping of muddy bottom water. Consistent with the RWQCB permit for the Upper Guadalupe River Flood Protection project and in accordance with District BMP WQ-15 and AMM-33, diverted water would be tested daily for pH, dissolved oxygen, settleable matter, dissolved sulfide, and temperature, and must meet receiving water limitations set by the RWQCB before discharge to the river channel. Impacts to water quality during project construction would be less than significant.

The proposed project would temporarily disturb the channel bed and banks and floodplain of Reach 6, and could increase soil erosion. In the Reach 6/3C transition area, the floodplain is covered with an existing concrete pad, and the bed and banks are protected with large rock riprap. The concrete pad and bed and bank armor would prevent increased soil erosion in Reach 6/3C void fill area. At Reach 6, eroded soil would be washed from disturbed areas into the river channel, potentially increasing turbidity. California regulations require that discharges of stormwater associated with construction activity disturbing more than one acre become permitted under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2009-009-Division of Water Quality),

known as a Construction General Permit. This permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The proposed project would disturb more than one acre; therefore a SWPPP is required for each phase. The SWPPP would specify measures (i.e. silt fences, fiber rolls, hay bales) to prevent soil erosion.

In addition to the SWPPP, a number of measures have been incorporated into the project design and layout to avoid and/or minimize impacts to water quality. District BMP WQ-4 requires that construction staging and stockpiling of materials occur at paved or previously disturbed areas. VHP AMM-7, AMM-8, and AMM-76, as well as District BMPs HM-8, HM-9, HM-10, WQ-3, and WQ-11 would reduce the potential for accidental releases of potential pollutants and ensure that spill prevention kits are available to assist in responding to an accidental release. AMM-13 requires use of appropriate equipment to minimize disturbance of the river channel. The project dewatering system would contain encountered groundwater in accordance with AMM-14. Vehicles and equipment would be properly maintained, would park and move on paved areas and roads to the maximum extent possible, and would be refueled outside the waterway or floodplain (AMM- 13, AMM-87, AMM-88, and BMP HM-8) to prevent vehicle fluids from adversely affecting river water quality. Similarly, pumps associated with the dewatering system would be maintained and operated to avoid and minimize water quality impacts (AMM-112). In conformance with AMM-75, all construction wastes would be collected and temporarily stored in designated areas to prevent impacts to river water quality. Temporary sanitary facilities would be maintained at the construction sites for use by workers as required by District BMP WQ-17. Implementation of the above AMMs and BMPs would ensure that the project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality. Impacts to water quality would be less than significant.

- b) Less than Significant Impact: The proposed project would temporarily dewater the river channel for about one month during Phase 1 and about 2 months during Phase 2 construction. During those periods, the dewatered sections of river would not infiltrate water into the unconfined shallow aquifer underlying the project area. This disruption of normal infiltration would be temporary and would affect only short reaches of the creek. Upstream and downstream reaches of the river would continue to infiltrate water into the shallow aquifer. The short-term decrease in groundwater recharge would be minimal. The shallow aquifer is not used for domestic water supply in this area and this impact would not result in lowering of the aquifer such that existing or planned land uses in the area would be significantly affected. After construction is complete, the water diversion system would be removed and the affected reach would be rewatered. In the long-term, the project would not change river hydrology or affect groundwater recharge. Impacts to groundwater supplies and recharge would be less than significant.
- c) Less than Significant: In the long-term the project would not alter the hydrology or location of the river channel and local drainage patterns would not be affected. The project would have no effect on long-term siltation or erosion of the river. During the construction period, river water would be temporarily diverted to allow gravel placement. However, the diverted water would be returned to the creek in a manner that does not result in increased erosion or siltation. The District would implement BMP WQ-15, which requires testing of return water to ensure that it does not increase downstream turbidity levels to prevent siltation at the discharge point. This impact would be less than significant.

- d) and e) No Impact: The project would not alter the existing drainage patterns of the project area or alter the course of the Guadalupe River. The project would create no new impervious surfaces and would have no effect on runoff rates. The project would not affect the hydrology of the Guadalupe River or reduce the flow conveyance capacity of the river. No impacts to on- or off-site flooding hazards would result.
- e) No Impact: The project would not construct housing within a 100-year flood hazard area.
- f) No Impact: The project would place a maximum of about 4,200 CYs of gravel in the Guadalupe River channel; however they would be placed in a manner that maintains the natural flows of the river. The gravel would not impede or redirect flood flows.
- g) No Impact: The District would place project gravel in the low-flow channel in a manner that does not alter the flow of water in the river. The placed gravel would be porous and would not substantially impede water flow in the river or reduce the flow conveyance capacity of the channel. Gravel placement would not cause river water to leave the channel and flood nearby areas. No increase in flood hazards would result.
- h) No Impact: The project area is not located on a lake or sea and there is no potential for tsunamis or seiches. The project would not affect hillsides and would not increase the risk of mudflows.

## 10. Land Use and Planning

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

a), b), and c) No impact. The proposed project activities would be limited to in-stream improvements of existing degraded aquatic habitat and would not construct buildings or infrastructure that would physically divide a community. The project would not change land use of the project area or conflict with the City of San Jose General Plan or local zoning. The project would not conflict with the Valley Habitat Plan (VHP) as discussed in the Biological Resources discussion. No impacts to land use or planning would result.

## 11. Mineral Resources

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
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?				X
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?				X

a) and b) No impact. No known mineral resources are present within or in the vicinity of the proposed project area. The proposed project would not result in the loss of availability of a known mineral resource of value to the region or residents of the state or a locally important mineral resource. No impacts to mineral resources would result.

## 12. Noise and Vibrations

Would the project result in:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?				X
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?			X	
c) Substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
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 expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

- a) No Impact: The proposed project would result in temporary increases in noise levels lasting for one to two months during each project phase. Operation of haul trucks and equipment would generate noise typical of construction site. Construction noise caused by equipment and activities at the construction site would be intermittent.

The City of San Jose's *Envision 2040 General Plan* established the objectives of 55 decibels Ldn (average day/night noise level) as the long-term exterior noise level and 60 dB as the short-term exterior noise level (City of San Jose 2011). These standards are applicable to stationary noise sources such as factories, and to construction projects lasting longer than 12 months. Construction is expected to last for about one month during Phase 1 and 2 months during Phase 2. The two phases would occur in different calendar years. Total construction duration would be three months over a period of 3 or more years. Since construction of the proposed project would last about three months, which is less than 12 months, the above General Plan standards for construction noise would not apply.

San Jose's Municipal Code (20.100.450) does not allow construction activity within 500 feet of a residential area before 7 a.m. or after 7 p.m. Monday through Friday, or anytime on weekends. The closest residences are located 250 feet from the construction sites, however construction would only occur within the specified construction window allowed by the City of San Jose. No construction is proposed on the weekends. Thus, the project would not violate Municipal Code 20.100.450.

In addition, San Jose General Plan Goal EC-1.7 of San Jose's General Plan requires construction operations within San Jose to use best available noise suppression devices and techniques and limit construction hours near residential uses per the City's Municipal Code. Per Goal EC-1.7, the City considers significant construction noise impacts to occur if a project located within 500 ft of residential uses or 200 ft of commercial or office uses would involve substantial noise generating activities (such as building demolition, grading, excavation, pile-driving, use of impact equipment, or building framing) continuously for more than 12 months. As explained above, project construction would not occur continuously for more than 12 months. Further, construction of the project would not involve any of the listed substantial noise generating and similar activities. Thus, the project would comply with Goal EC-1.7.

Based on the above, construction and monitoring of the project would not expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance.

- b) Less than Significant Impact: Construction activities would cause ground-borne vibration and ground borne noises that could affect nearby residences. Ground-based vibration levels can cause damage to structures and can be disruptive to sensitive receptors in the immediate area. Vibration levels differ by type of construction activity and type of equipment being used. Large bulldozers would be the typical equipment used on this project that would result in the highest levels of vibration, as shown in Table 4-4 ~~Table 4-3~~.

<b>Table 4-4 <del>Table 4-3</del>: Vibration from Large Bulldozers</b>	
Distance from Source	Peak Particle Velocity (inches per second)
25 feet	0.089
50 feet	0.031
75 feet	0.017
Source: FTA 2006	

Construction vibration would be considered significant if it would exceed the Caltrans standard of 0.2 inch per second for the protection of fragile buildings and interference or annoyance to human sensitive receptors. The nearest sensitive receptors consist of residential uses located about 250 feet from construction work areas. At 250 feet, construction equipment vibration levels would be less than 0.017 in/sec, which would be less than the 0.20 in/sec significance threshold (Caltrans 2002). Ground-borne vibration impacts would be less than significant.

Noise generated by the type of construction activities that would occur as part of the project is more effectively transmitted through air than through ground. Sensitive noise receptors in the vicinity would not be significantly affected by ground-borne noise. Ground-borne noise impact would be less than significant.

- c) No Impact. Once the proposed project is completed, no more project related activities would occur at the site; thus, the proposed project would not result in substantial permanent increase in ambient noise levels.
- d) Less than Significant Impact. Construction noise caused by equipment and activities at the project site would be intermittent. Table 4-5 ~~Table 4-4~~ shows typical noise levels generated by construction equipment. The project would not require use of concrete saws, jack hammers, or pneumatic tools. Thus, the loudest construction noise levels generated by construction equipment in this project would be 84 dB or less. Although short-term noise generated by construction could reach up to 84 dB at 50 feet (see Table 4-5 ~~Table 4-4~~ below), noise levels would dissipate with distance from the source. Noise levels decrease by 6 dB with each doubling of distance from the source. At the nearest residences (about 250 ft from the project area), the loudest construction noise would be about 72 dB (The Engineering Tool Box, 2016). In addition, construction noises would be intermittent and of short duration and would occur only during normal working hours. Noise generated during monitoring would be negligible, as there would be no heavy equipment used. This impact would be less than significant.

<b>Table 4-5 <del>Table 4-4</del>: Construction Equipment Noise Levels</b>			
Equipment Type	Typical Noise Level (dB) at 50 Feet	Equipment Type	Typical Noise Level (dB) at 50 Feet
Air compressor	78	Generator	81
Backhoe/Loader	78	Hoe ram extension	90
Compactor	83	Jack hammer	89
Concrete breaker	82	Pneumatic tools	85
Concrete saw	90	Scraper	84
Crane, mobile	81	Trucks	74-81
Dozer	82	Water pump	81

dBA = A-weighted decibels. All equipment fitted with properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are the actual measured noise levels for each piece of heavy construction equipment.  
 Sources: FTA 2006.

- e) No Impact. The proposed project is not located within an airport land use plan area, or within two miles of an airport. As a result, the proposed project would not expose persons residing or working in the area to excessive noise.
- f) No Impact: The proposed project is not located in the vicinity of a private airstrip. As a result, the proposed project would not expose persons residing or working in the area to excessive noise.

### 13. Population and Housing

Would the project:	Potentially Significant	Less than Significant With Mitigation I	Less Than Significant Impact	No Impact
a) Induce substantial 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)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

- a) No impact. The proposed project involves mainly construction activities limited to a total of 2 to 3 months. The project does not include new residential or commercial uses and would not foster economic activity which could cause population growth in the area. While contractors would be engaged to conduct some project activities, the limited size of the project would not induce long term employment or substantial population growth.
- b) and c) No impact. The proposed project does not include any removal of existing housing or structures and thus would not displace housing or persons.

## 14. Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Fire protection?				X
b) Police protection?				X
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X

- a) through e) No impact: As the proposed project would not induce population growth of the area or displace any housing or people, the proposed project would not increase demand for fire protection, police protection, schools, parks or other public facilities or affect levels of those public services. No impacts to public services would result.

## 15. Recreation

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
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?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

- a) and b) No Impact. No recreational amenities are present at or near the project area. The project area is fenced and locked gates on the Palm Street, Virginia Street and Edwards Avenue ramps currently and would continue to limit access to authorized personnel. The

proposed project does not include recreational facilities and would not increase demand on recreational facilities. No impact would result to recreational resources.

## 16. Transportation and Traffic

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

- a) and b) No impact. Phase 1 construction of the project would generate vehicle trips on local roads during the construction period which could last up to one month, including daily commute trips by the estimated four to five construction workers, vehicle trips to deliver equipment and supplies, and about 120 round trips by haul trucks to transport gravel and cobbles. The maximum number of vehicle round trips generated during a single day would be no more than 30 and these trips would be spread over the work day. Phase 2 construction would also generate up to 30 vehicle round trips per day during the construction period which could last up to two months.

During Phase 1, the proposed project would be staged so that vehicles, including haul trucks, would enter the project area via the existing Edwards Avenue ramp and exit via the existing West Virginia Street ramp. During Phase 2, construction traffic would use the existing ramps connecting to West Virginia and Palm Street to create a one-way traffic

pattern accessing the construction staging area. Splitting haul truck and other construction traffic among two ramps during each construction phase ramps would reduce the potential for slow-moving construction vehicles to disrupt traffic on public streets. Construction traffic entering and exiting the project area could pose a hazard to motorists, bicyclists, and pedestrians using Edwards Avenue, West Virginia Street, and Palm Street, and sidewalks adjoining those streets. To minimize any potential impact relating to road hazards, the District would implement BMP TR-1, which requires measures to ensure the safety of vehicle operations at the entrances to and egresses from the project site. Signs would be posted to warn other street users of the entering and existing construction vehicles and flag persons would be used as necessary to direct traffic during both the Phase 1 and Phase 2 construction periods.

After the brief construction period, District staff would periodically visit the site to monitor habitat conditions and channel sustainability. Monitoring activities would generate up to 12 round trips per year which would result in a negligible increase in traffic levels on local roads.

Project construction and monitoring would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system or an applicable congestion management program.

- c) No Impact. The proposed project would not generate change in air traffic patterns. The project would not affect the safety of air travel.
- d) Less than significant Impact: The project would not affect the design of any roadways or transportation systems. In addition, the project would not include design features that could result in hazards to road users. The existing ramps providing river access at Palm Street, West Virginia Street, and Edwards Avenue provide adequate vehicle access for project construction and monitoring. No design changes would occur to those ramps. The project would continue existing use of the river channel and adjoining floodplain for flow conveyance and flood protection; no new incompatible uses would be introduced by the project. Construction traffic entering and exiting the project area could pose a hazard to motorists, bicyclists, and pedestrians using Palm Street, West Virginia Street, Edwards Avenue, and sidewalks adjoining those streets. The District would implement BMP TR-1, which requires measures to ensure the safety of vehicle operations at the entrances to and egresses from the project site. Signs would be posted to warn other street users of the entering and existing construction vehicles and flag persons would be used as necessary to direct traffic. The impact relating to traffic hazards would be less than significant.
- e) No Impact: The project would not close any roads or lanes and would have no effect on availability of public roads for emergency access purposes. The project would not result in inadequate emergency access.
- f) No impact: The project would not affect public transit, bicycle, or pedestrian facilities or infrastructure, and would not increase demand for public transit, bicycle, or pedestrian facilities. Existing sidewalks, bicycle lanes, and bus stops on Palm Street, West Virginia Street, and Edwards Avenue would continue in operation throughout project construction. The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

## 17. Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in the 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 the Native American tribe, and that is:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources code section 5020.1(k), or				X
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				X

### Regulatory Setting

Assembly Bill (AB) 52, which was passed in September 2014, creates a new category of environmental resources, i.e., tribal cultural resources, that much be considered under CEQA. In addition, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe. ~~To date, the District has not received request by any tribes to receive notification of District's proposed projects.~~ At the time the District released the draft MND in January 2017, it had not received requests by any tribes to be notified of District's projects under AB 52, and thus no AB 52 consultation was required pursuant to Section 21080.3.1 of the Public Resources Code (PRC).

Tribal cultural resource (TCR) is defined by Section 21074 of the PRC as a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American tribe, which may include non-unique archeological resources. Tribal cultural resources could include those listed on the California Register of Historical Resources (CRHR) or a local historical registry; or a resource determined by a lead agency to be a significant tribal cultural resource, based on substantial evidence. Tribal cultural resources could also include non-archaeological resources (e.g. sacred mountains), as well as cultural landscapes.

### Analysis

- a) and b) No impact: The project area is completely within the area disturbed during construction of the Guadalupe River Reach 6 channel and floodplain improvements in 2011. The project area was analyzed for the presence of historical and archaeological resources during preparation of the UGRFPP Final Environmental Impact Statement / Environmental

Impact Report. Based on searches of state and local historic registries and filed investigations, TCRs are not present in the project area. No impacts to TCRs would result.

## 18. Utilities and Service Systems

Would the project:	Potentially Significant	Less than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e) 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?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

a) No impact. The project would not generate wastewater. No new water or wastewater treatment facilities would be required. In conformance with District BMP WQ-17, temporary sanitary facilities would be installed at the project site for use by construction workers and would be removed after each phase of construction is complete. The river channel would be temporarily dewatered during the construction period via installation of coffer dams and pipes routing water around the construction area. Water flowing in the upstream channel, urban runoff entering the river, and water seeping into the project area would be intercepted, collected and routed around the project area. This water would be tested twice daily in conformance with Regional Water Quality Control Board requirements, and only water meeting the applicable quality standards would be discharged to the river downstream of the construction area.

b) No Impact: see analysis under criterion a above.

- c) No Impact: The project would not create new impervious surfaces or change stormwater runoff rates. The project would not alter or modify existing storm drains system, which would remain unchanged during and after project construction.
- d) No Impact: Modest amounts of water would be used for dust suppression during construction. Recycled or reclaimed water would be used for dust suppression. No water consumption would occur after construction ends. The project would not require new or expanded water entitlements.
- e) No Impact: In conformance with District BMP WQ-17, temporary sanitary facilities would be installed at the project site for use by construction workers and would be removed after each phase of construction is completed. The project would not generate wastewater after construction is completed. The Project would not create demand for wastewater treatment and thus would not require a determination by a wastewater treatment provider that it has adequate capacity to serve the project's demand in addition to the provider's existing commitments.
- f) No Impact: The project would generate small amounts of solid wastes, including removed vegetation and sediment. Because the project would not involve demolition of structures or infrastructure, the amount of solid waste generated by the project would be minimal. The vegetative waste would be chipped and spread as mulch on the flood plain area adjacent to the project site and would not require off-site disposal. The amount of wastes requiring off-site disposal would not exceed the capacity of local waste disposal facilities.
- g) No Impact: The project would generate minimal amounts of solid waste, composed of vegetation removed and sediment removed from the river channel to prepare for gravel placement. The vegetative waste would be chipped and spread as mulch on the flood plain area adjacent to the project site. Excess sediment removed from the river channel could contain elevated levels of mercury that would be subject to specific solid waste laws or regulations prior to disposal. The District would implement AMM-10, which requires that excavated sediment or soil be tested for the presence of mercury. Excavated sediment or soil containing mercury levels exceeding levels specified in AMM-10 would be remediated or removed for proper off-site disposal. The District would comply with all applicable solid waste related laws and regulations. There would be no impact.

## 19. Energy

<u>Does the project:</u>	<u>Potentially Significant Issues</u>	<u>Potentially Significant Unless Mitigation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
<u>a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?</u>			<u>X</u>	
<u>b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?</u>				<u>X</u>

- a) Less than significant impact. Project construction and operation would utilize vehicles and equipment that primarily operate on oil or natural gas. The Air Quality, Greenhouse Gas Emissions, and Transportation sections describe in detail the use of equipment and vehicles. Vehicle trips and equipment operation would be limited to the maximum necessary needed to complete the project and equipment idling would be limited as much as possible. BMP AQ-1 requires that equipment and vehicles be properly maintained and tuned, and tires be properly inflated. It also prohibits excess idling of engines. These measures would ensure that vehicles operate efficiently, and fuel is not consumed in wasteful manner. In general, project construction and operation would be of relatively short duration and utilize limited equipment, and therefore the amount of energy consumed would be minimal. Vehicles and fuel would be required during project operation for travel to the project site for monitoring and mitigation. BMP AQ-1 would also apply during project operation and the amount of energy consumed would be minimal.
- b) No impact. The project site is entirely within the City of San Jose. The City of San Jose General Plan, Envision 2040 (adopted in 2011), details specific goals and actions relating to energy conservation, renewable energy, and energy security (City of San Jose, 2011). Due to the short-duration and low-intensity of project construction, the project would not conflict with any of the goals or actions established in the General Plan relating to renewable energy or energy efficiency. Similarly, the project would not conflict with any state policies or plans relating to renewable energy or energy efficiency, such as the California Energy Action Plan (2008) or the Renewable Portfolio Standard. Project operation would not utilize energy resources. Therefore, the project would not conflict with any state or local plans for renewable energy or energy efficiency.

**20. Wildfire**

<u>Does the project:</u>	<u>Potentially Significant Issues</u>	<u>Potentially Significant Unless Mitigation</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>
<u>Is the project located in or near state responsibility areas or lands classified as high fire hazard severity zones?</u> <u>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</u>	<u>Yes</u>		<u>X No</u>	
<u>a) Substantially impair an adopted emergency response plan or emergency evacuation plan?</u>				<u>X</u>

Does the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation	Less Than Significant Impact	No Impact
b) <u>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?</u>				<u>X</u>
c) <u>Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</u>				<u>X</u>
d) <u>Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</u>				<u>X</u>

- a) No impact. The project is not located in or near state responsibility areas or lands classified as high fire hazard severity zones.
- b) No impact. The project is not located in or near state responsibility areas or lands classified as high fire hazard severity zones.
- c) No impact. The project is not located in or near state responsibility areas or lands classified as high fire hazard severity zones.
- d) No impact. The project is not located in or near state responsibility areas or lands classified as high fire hazard severity zones.

## 21. Mandatory Findings of Significance

Does the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation	Less Than Significant Impact	No Impact
a) Have the potential to 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, 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?		X		

Does the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation	Less Than Significant Impact	No Impact
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of the past projects, the effects of other current projects, and the effects of probable future projects.)			X	
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

- a) The proposed project would have the potential to result in significant adverse effects on the federally threatened CCC Steelhead, California species of special concern Pacific lamprey, and other sensitive aquatic wildlife species (i.e., western pond turtle and San Francisco dusky-footed woodrat) during dewatering of the Guadalupe River channel to allow gravel placement. To mitigate impacts of the proposed project, the District would implement Measures BIO-A, BIO-B, BIO-C, BIO-D, BIO-E, and BIO-F, which would reduce this impact to a less than significant level.
- b) Project impacts to aquatic wildlife would add to the impacts on these species from past and present development which has resulted in extensive urbanization of the Guadalupe River watershed. Urban development of the Guadalupe River watershed is expected to continue into the future. The USACE with the District as the local non-federal sponsor, continues to implement the UGRFPP. The SCVWD Board of Directors certified the UGRFPP Final Environmental Impact Report (FEIR) by approving Resolution 2011-51 on August 15, 2001. The Board of Directors found that implementing the UGRFPP would result in less than significant impacts on air quality, geology/soils/seismicity, hazardous materials, historic and archaeological resources, land use and general plan, noise, public services and utilities, public safety, surface and groundwater hydrology, socioeconomics, traffic, vegetation/wildlife/fisheries, and visual aesthetic resources. After application of mitigation measures listed in the FEIR, these impacts would be reduced to less than significant (SCVWD, 2001). UGRFPP, along with other past projects, current projects, and probable future projects, would result in cumulative impacts in the topic areas listed above. However, those impacts would be reduced to less than significant levels though application of mitigation measures. The Board of Directors found that UGRFPP would not result in either significant project impacts or significant cumulative impacts that cannot be mitigated to less than significant.

This project would result in potentially significant impacts in area of biological resources, which could add to impacts of the UGRFPP to cause significant cumulative impacts in these topic areas. The potentially significant impacts in the area of biological resources would be short term during project construction. Potentially significant impacts to biological resources would result during the temporary dewatering of the river to allow gravel placement during Phase 1 and 2 construction. To mitigate impacts to aquatic wildlife, the District would implement mitigation measures BIO-A, BIO-B, BIO-D, BIO-E, and BIO-F. These measures would reduce project impacts in the area of biological resources to less than significant

levels, and thus the project would not make a considerable contribution to cumulative impacts on biological resources.

The project would result in less than significant impacts in the topic areas other than biological resources. Project impacts in these topic areas would occur during construction. UGRFPP construction is not expected to occur in proximity to or at the same time as construction of the proposed project. Based on the lack of overlap in construction timing and considerable distances between UGRFPP construction areas and the proposed project construction areas, project impacts would have minimal overlap with UGRFPP impacts. The contribution of the proposed project to overall cumulative impacts in these topic areas resulting from past, current, and probable future projects would not be cumulatively considerable. Overall, the proposed project would not cause a cumulatively considerable contribution to potentially significant impacts resulting from past projects, current projects, and probable future projects.

- c) The proposed project would result in less than significant effects on human beings in the areas of aesthetics, air quality, geology/soils, greenhouse gases, hazards/hazardous materials, hydrology/water quality, noise/vibration, and transportation/traffic. The impact analysis contained in Section 4 of this document demonstrates that those impacts would be less than significant. Potentially significant effects on human beings could result from the proposed project in the areas of biological resources; however, any such impacts would be reduced to a level of less-than-significant through implementation of BMPs and AMMs, and specified mitigation measures.

## SECTION 5. REPORT PREPARATION

This section lists those individuals who contributed to the preparation of this Mitigated Negative Declaration.

### SANTA CLARA VALLEY WATER DISTRICT

<b>Contributor</b>	<b>Position</b>
<u>Alex Hunt</u>	<u>Planner of Record</u>
James Manidakos	<del>Planner of Record</del> <u>Associate Water Resource Specialist</u>
Carole Foster	Environmental Planner I
Clayton Leal	Biologist II
Alex Perdomo	Assistant Civil Engineer II
Javier Valencia	Associate Civil Engineer
Jennifer Watson	Biologist I

### AGENCIES OR PERSONS CONTACTED

The following agencies were contacted during the preparation of this document.

- City of San Jose Planning, Building and Code Enforcement Department
- San Francisco Bay Regional Water Quality Control Board
- California Department of Fish and Wildlife, Bay-Delta Region
- U.S. Fish & Wildlife Service, Sacramento Fish & Wildlife Office
- National Oceanic and Atmospheric Administration National Marine Fisheries Service
- U.S. Army Corps of Engineers, San Francisco District, Regulatory Branch

## SECTION 6. REFERENCES

1. BAAQMD. *CEQA Air Quality Guidelines*. Updated May 2011.
2. BAAQMD. *Community Air Risk Evaluation Program*, [http://www.baaqmd.gov/?sc\\_itemid=AD652ACE-4CD0-4283-8992-BDF6FB0AAB65](http://www.baaqmd.gov/?sc_itemid=AD652ACE-4CD0-4283-8992-BDF6FB0AAB65), accessed September 25, 2016.
3. California Air Resources Board (ARB). 1998. Initial Statement of Reasons for Rulemaking, Staff Report, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant. June. Website: <http://www.arb.ca.gov/toxics/dieseltac/staffrpt.pdf>. Accessed September 12, 2016.
4. California Air Resources Board. 1998. Initial Statement of Reasons for Rulemaking, Staff Report, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant. June. Website: <http://www.arb.ca.gov/toxics/dieseltac/staffrpt.pdf>. Accessed February 7, 2016.
5. California Air Resources Board. 2005. Section 2485. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Website: <http://www.arb.ca.gov/msprog/truck-idling/2485.pdf>. Accessed September 12, 2016.
6. California Department of Fish and Wildlife (CDFW). 2018. Central Valley Fall-Run Chinook Salmon *Oncorhynchus tshawytscha* ESU. Prepared by CDFW, accessed on February 26, 2019, from <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=104280&inline>.
7. California Department of Transportation. *2008 Motor Vehicle Stock, Travel, and Fuel Forecast*. June 2009.
8. Catrans, California Scenic Highway Mapping System. [http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/). accessed September 12, 2016.
9. City of San Jose. *San Jose Envision 2040 General Plan*. Prepared by City of San Jose. 2011.
10. EDAW / AECOM. *Biological Resources and Wetland Assessment: Upper Guadalupe River, Reach 6. Upper Guadalupe River Flood Protection Project, San Jose, Santa Clara County, California. Prepared for the Santa Clara Valley Water District, San Jose, California. January 2009.*
11. Federal Transit Administration (FTA). *Transit Noise and Vibration Impact Assessment, Final Report*. May 2006.
12. Geotracker. <https://geotracker.waterboards.ca.gov/>. Accessed October 1, 2014.

13. Leal, C. C. and Watson J. T. 2018. Historical Occurrence of Chinook Salmon (*Oncorhynchus tshawytscha*) in the Guadalupe River Watershed, Santa Clara County, California. Santa Clara Valley Water District, San Jose, California.
14. National Marine Fisheries Service (NMF). 2009. Species of Concern, Chinook Salmon *Oncorhynchus tshawytscha* Central Valley Fall, Late-fall run ESU. Prepared by NMFS, accessed February 26, 2019, available from [https://www.westcoast.fisheries.noaa.gov/publications/SOC/chinooksalmon\\_detailed.pdf](https://www.westcoast.fisheries.noaa.gov/publications/SOC/chinooksalmon_detailed.pdf).
15. Sacramento Metropolitan Air Quality Management District (SMAQMD). *GHG Thresholds of Significance Concepts*. 2014.
16. San Francisco Bay Regional Water Quality Control Board. Order R2-2003-0115, Santa Clara Valley Water District, and U.S. Army corps of Engineers Upper Guadalupe River Flood control Project, Santa Clara County. December 3, 2003.
17. Santa Clara Valley Water District. *2014-2023 Stream Maintenance Program Manual, Attachment G, Sediment characterization Plan*. 2014
18. Santa Clara Valley Water District. *Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project Biological Assessment*. July 2016.
19. Santa Clara Valley Water District. *Final Environmental Impact Report/Statement for the Upper Guadalupe River Flood Control Project*. November 1999.
20. SCVWD (Santa Clara Valley Water District). 2001. *Draft Environmental Impact Report and Stream Maintenance Program Report for the Multi-Year Stream Maintenance Program*.
21. Santa Clara Valley Water District. *Resolution No. 2011-51, Adopting Certain Findings for flood Control Work on Guadalupe River from Highway 101 to Interstate 880 and Interstate 280 to Blossom Hill Road*. August 15, 2001.
22. Santa Clara Valley Water District. *Second Addendum to the Final Environmental Impact Report for Reach 6 of the Upper Guadalupe River Flood Protection Project*. March 2009.
23. The Engineering Tools Box. [http://www.engineeringtoolbox.com/inverse-square-law-d\\_890.html](http://www.engineeringtoolbox.com/inverse-square-law-d_890.html). Accessed October 21, 2016.
24. U.S. Army Corps of Engineers, McBain & Trush, Inc., and Moffat & Nichol, Upper Guadalupe River Gravel Augmentation Study. September 6, 2013.
25. U.S. Environmental Protection Agency Office of Transportation and Air Quality. *Emissions Facts*, EPA-420-F-08-024. October 2008.
26. U.S. Environmental Protection Agency Office of Transportation and Air Quality. *EPA and NHSTA Adopt First Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium and Heavy Duty Vehicles*, EPA-420-F-11-031. August 2011.

**ATTACHMENT 1**  
**RWQCB EARLY CONSULTATION RESPONSE**



**From:** [Glendening, Susan@Waterboards](mailto:Glendening, Susan@Waterboards)  
**To:** [James Manitakos](mailto:James.Manitakos)  
**Cc:** [Ngoc Nguyen](mailto:Ngoc.Nguyen); [Lotina Nishijima](mailto:Lotina.Nishijima); [Jennifer Castillo](mailto:Jennifer.Castillo); [Hurley, Bill@Waterboards](mailto:Hurley, Bill@Waterboards); [Lichten, Keith@Waterboards](mailto:Lichten, Keith@Waterboards)  
**Subject:** Responding to Questions in Letter RE: Upper Guadalupe River Reach Habitat Improvement Project  
**Date:** Monday, May 18, 2015 6:42:27 PM  
**Attachments:** [image001.png](#)  
[Upper Guadalupe Flood Control Project Reaches 6 7 8.msg](#)

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Hello Jim,

You requested we respond by May 20, 2015 to the following questions in your letter of April 3, 2015 regarding the “Upper Guadalupe River, Reach 6 Habitat Improvement Project” for implementing gravel augmentation in Reach 6. Please see below for our responses.

1. *What is the proper level of CEQA documentation for the gravel augmentation tasks in Reach 6?*

Please contact the State Office of Planning and Research which is responsible for CEQA and updating CEQA Guidelines every year.

2. *What environmental resources may be affected by the project?*

You should be able to find this in the CEQA document for the Upper Guadalupe River Flood Control Project.

3. *What environmental or regulatory approvals or permits would be required to implement the proposed project?*

I can only speak for the Regional Water Board. We require the District implement gravel augmentation and grade control for the Upper Guadalupe River Flood Control Project, pursuant to Order No. R2-2003-0115-*Waste Discharge Requirements and Water Quality Certification for Upper Guadalupe Flood Control Project* (Order). As such, you would require the Regional Water Board Executive Officer’s approval of the proposed plan. In the email I sent to District staff on April 20, 2015 (see attached) I notified the District that the Regional Water Board agrees with the proposed plan, and I outlined some additional steps for the District to prepare a comprehensive work plan and other requirements consistent with the recommendations in the Gravel Augmentation Study (McBain and Trush, 2013). Once we receive an acceptable work plan and the District demonstrates steps to meet the other requirements discussed in the April 20, 2015 email, the Executive Officer will issue a letter granting approval of the project.

I look forward to hearing from you as you prepare the comprehensive work plan for Reach 6 gravel augmentation. Please let me know if you have any questions about this matter.

Regards,  
Susan

**Susan Glendening**  
Environmental Specialist

San Francisco Estuary Partnership  
San Francisco Regional Water Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612  
510.622.2462  
[SGlending@waterboards.ca.gov](mailto:SGlending@waterboards.ca.gov)

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**From:** James Manidakos [mailto:[JManidakos@valleywater.org](mailto:JManidakos@valleywater.org)]  
**Sent:** Friday, April 03, 2015 5:24 PM  
**To:** Glendening, Susan@Waterboards  
**Cc:** Ngoc Nguyen; Lotina Nishijima; Jennifer Castillo  
**Subject:** Upper Guadalupe River Reach Habitat Improvement Project

Hi Susan:

Please find attached an informal consultation request letter for this project. The Water District appreciates your input on this proposed project.



James Manidakos  
Environmental Planner II  
Environmental Planning Unit -247  
Santa Clara Valley Water District  
5750 Almaden Expy, San Jose, CA 95118  
(408) 630-2833

[imanidakos@valleywater.org](mailto:imanidakos@valleywater.org)

**ATTACHMENT 2**  
**AIR EMISSIONS DATA SHEETS**



## Upper Guadalupe River Reach 6 Gravel Augmentation Santa Clara County, Summer

### 1.0 Project Characteristics

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#### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	0.60	Acre	0.60	26,136.00	0

#### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	58
<b>Climate Zone</b>	4			<b>Operational Year</b>	2017
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

#### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - No archit coating require

Off-road Equipment - No industrial saw required

Grading - sitre prep area is 0.6 ac

Architectural Coating - No coatings

Road Dust -

Water And Wastewater - No water use

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	NumDays	100.00	9.00
tblConstructionPhase	NumDays	10.00	2.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	5.00	1.00
tblConstructionPhase	NumDays	1.00	3.00
tblConstructionPhase	PhaseEndDate	7/31/2017	7/28/2017
tblConstructionPhase	PhaseStartDate	7/29/2017	7/28/2017
tblConstructionPhase	PhaseStartDate	7/15/2017	7/17/2017
tblConstructionPhase	PhaseStartDate	7/8/2017	7/10/2017
tblGrading	AcresOfGrading	1.50	0.60
tblGrading	MaterialExported	0.00	50.00
tblGrading	MaterialImported	0.00	1,160.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2017
tblWater	OutdoorWaterUseRate	714,888.81	0.00

## 2.0 Emissions Summary

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/3/2017	7/4/2017	5	2	
2	Site Preparation	Site Preparation	7/5/2017	7/7/2017	5	3	
3	Grading	Grading	7/10/2017	7/14/2017	5	5	
4	Building Construction	Building Construction	7/17/2017	7/27/2017	5	9	
5	Paving	Paving	7/28/2017	7/28/2017	5	1	
6	Architectural Coating	Architectural Coating	7/28/2017	7/28/2017	5	1	

Acres of Grading (Site Preparation Phase): 0.6

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 39,204; Non-Residential Outdoor: 13,068 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Paving	Pavers	1	7.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	255	0.40
Grading	Rubber Tired Dozers	1	1.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	6.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	145.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	11.00	4.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT









**3.4 Grading - 2017**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					0.7790	0.0000	0.7790	0.4178	0.0000	0.4178							0.0000
Off-Road	1.2049	10.4761	8.5825	0.0120		0.7266	0.7266		0.6930	0.6930							1,188.7118
<b>Total</b>	<b>1.2049</b>	<b>10.4761</b>	<b>8.5825</b>	<b>0.0120</b>	<b>0.7790</b>	<b>0.7266</b>	<b>1.5056</b>	<b>0.4178</b>	<b>0.6930</b>	<b>1.1107</b>							<b>1,188.7118</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.5305	7.4798	5.2650	0.0217	0.5052	0.0993	0.6044	0.1383	0.0913	0.2296							2,155.2236
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000							0.0000
Worker	0.0361	0.0418	0.4908	1.1300e-003	0.0943	6.9000e-004	0.0950	0.0250	6.4000e-004	0.0257							91.4725
<b>Total</b>	<b>0.5666</b>	<b>7.5216</b>	<b>5.7557</b>	<b>0.0228</b>	<b>0.5995</b>	<b>0.1000</b>	<b>0.6994</b>	<b>0.1633</b>	<b>0.0919</b>	<b>0.2553</b>							<b>2,246.6961</b>

**3.4 Grading - 2017****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7790	0.0000	0.7790	0.4178	0.0000	0.4178						0.0000
Off-Road	1.2049	10.4761	8.5825	0.0120		0.7266	0.7266		0.6930	0.6930						1,188.7118
<b>Total</b>	<b>1.2049</b>	<b>10.4761</b>	<b>8.5825</b>	<b>0.0120</b>	<b>0.7790</b>	<b>0.7266</b>	<b>1.5056</b>	<b>0.4178</b>	<b>0.6930</b>	<b>1.1107</b>						<b>1,188.7118</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5305	7.4798	5.2650	0.0217	0.5052	0.0993	0.6044	0.1383	0.0913	0.2296						2,155.2236
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	0.0361	0.0418	0.4908	1.1300e-003	0.0943	6.9000e-004	0.0950	0.0250	6.4000e-004	0.0257						91.4725
<b>Total</b>	<b>0.5666</b>	<b>7.5216</b>	<b>5.7557</b>	<b>0.0228</b>	<b>0.5995</b>	<b>0.1000</b>	<b>0.6994</b>	<b>0.1633</b>	<b>0.0919</b>	<b>0.2553</b>						<b>2,246.6961</b>











### 3.7 Architectural Coating - 2017

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000							0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733							282.0721
<b>Total</b>	<b>0.3323</b>	<b>2.1850</b>	<b>1.8681</b>	<b>2.9700e-003</b>		<b>0.1733</b>	<b>0.1733</b>		<b>0.1733</b>	<b>0.1733</b>							<b>282.0721</b>

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000							0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000							0.0000
Worker	7.2200e-003	8.3700e-003	0.0982	2.3000e-004	0.0189	1.4000e-004	0.0190	5.0000e-003	1.3000e-004	5.1300e-003							18.2945
<b>Total</b>	<b>7.2200e-003</b>	<b>8.3700e-003</b>	<b>0.0982</b>	<b>2.3000e-004</b>	<b>0.0189</b>	<b>1.4000e-004</b>	<b>0.0190</b>	<b>5.0000e-003</b>	<b>1.3000e-004</b>	<b>5.1300e-003</b>							<b>18.2945</b>

### 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0300e-003	5.7000e-003	0.0273	6.0000e-005	4.3000e-003	8.0000e-005	4.3800e-003	1.1500e-003	7.0000e-005	1.2200e-003						5.1571
Unmitigated	3.0300e-003	5.7000e-003	0.0273	6.0000e-005	4.3000e-003	8.0000e-005	4.3800e-003	1.1500e-003	7.0000e-005	1.2200e-003						5.1571

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.95	0.95	0.95	2,037	2,037
Total	0.95	0.95	0.95	2,037	2,037

### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.551854	0.058218	0.185395	0.123453	0.029544	0.004438	0.012761	0.022956	0.001780	0.001269	0.006045	0.000523	0.001763

### 5.0 Energy Detail

#### 4.4 Fleet Mix

Historical Energy Use: N





### 6.2 Area by SubCategory

#### Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0747					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.5593					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.0000e-005	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000						1.4000e-004
<b>Total</b>	<b>0.6340</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>						<b>1.4000e-004</b>

#### Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0747					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.5593					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	1.0000e-005	0.0000	6.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000						1.4000e-004
<b>Total</b>	<b>0.6340</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>						<b>1.4000e-004</b>

### 7.0 Water Detail

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

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## Upper Quad R6 Gravel Augmentation Phase 2 Santa Clara County, Winter

### 1.0 Project Characteristics

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#### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.32	Acre	1.32	57,499.20	0

#### 1.2 Other Project Characteristics

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	58
<b>Climate Zone</b>	4			<b>Operational Year</b>	2014
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	641.35	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

#### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Engineer estimate of duration

Off-road Equipment - Saw not required

Grading - Based on project plans

Architectural Coating - No coatings

Area Coating - no coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	0.00
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	NumDays	200.00	1.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	PhaseEndDate	9/1/2020	8/31/2020
tblConstructionPhase	PhaseEndDate	9/1/2020	8/31/2020
tblConstructionPhase	PhaseStartDate	9/1/2020	8/31/2020
tblConstructionPhase	PhaseStartDate	8/29/2020	8/31/2020
tblConstructionPhase	PhaseStartDate	7/18/2020	7/20/2020
tblConstructionPhase	PhaseStartDate	9/1/2020	8/31/2020
tblConstructionPhase	PhaseStartDate	7/11/2020	7/13/2020
tblGrading	AcresOfGrading	11.25	1.30
tblGrading	AcresOfGrading	2.50	1.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

## 2.0 Emissions Summary

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**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2305	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.9000e-004	2.9000e-004	0.0000		3.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	9.0900e-003	0.0186	0.0883	1.3000e-004	9.4600e-003	2.6000e-004	9.7100e-003	2.5200e-003	2.4000e-004	2.7600e-003		11.5369	11.5369	5.8000e-004		11.5492
<b>Total</b>	<b>1.2396</b>	<b>0.0186</b>	<b>0.0884</b>	<b>1.3000e-004</b>	<b>9.4600e-003</b>	<b>2.6000e-004</b>	<b>9.7100e-003</b>	<b>2.5200e-003</b>	<b>2.4000e-004</b>	<b>2.7600e-003</b>		<b>11.5372</b>	<b>11.5372</b>	<b>5.8000e-004</b>	<b>0.0000</b>	<b>11.5495</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2305	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.9000e-004	2.9000e-004	0.0000		3.1000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	9.0900e-003	0.0186	0.0883	1.3000e-004	9.4600e-003	2.6000e-004	9.7100e-003	2.5200e-003	2.4000e-004	2.7600e-003		11.5369	11.5369	5.8000e-004		11.5492
<b>Total</b>	<b>1.2396</b>	<b>0.0186</b>	<b>0.0884</b>	<b>1.3000e-004</b>	<b>9.4600e-003</b>	<b>2.6000e-004</b>	<b>9.7100e-003</b>	<b>2.5200e-003</b>	<b>2.4000e-004</b>	<b>2.7600e-003</b>		<b>11.5372</b>	<b>11.5372</b>	<b>5.8000e-004</b>	<b>0.0000</b>	<b>11.5495</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/6/2020	7/10/2020	5	5	
2	Site Preparation	Site Preparation	7/13/2020	7/17/2020	5	5	
3	Grading	Grading	7/20/2020	8/28/2020	5	30	
4	Building Construction	Building Construction	8/31/2020	8/31/2020	5	1	
5	Paving	Paving	8/31/2020	8/31/2020	5	1	
6	Architectural Coating	Architectural Coating	8/31/2020	8/31/2020	5	1	

Acres of Grading (Site Preparation Phase): 1.3

Acres of Grading (Grading Phase): 1.3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 86,249; Non-Residential Outdoor: 28,750 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Site Preparation	Graders	1	8.00	174	0.41
Paving	Pavers	1	6.00	125	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Paving	Paving Equipment	1	8.00	130	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Building Construction	Welders	3	8.00	46	0.45

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	24.00	9.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

### 3.2 Demolition - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5909	16.4632	14.7750	0.0182		0.8655	0.8655		0.7963	0.7963		1,765.3747	1,765.3747	0.5710		1,777.3648
<b>Total</b>	<b>1.5909</b>	<b>16.4632</b>	<b>14.7750</b>	<b>0.0182</b>		<b>0.8655</b>	<b>0.8655</b>		<b>0.7963</b>	<b>0.7963</b>		<b>1,765.3747</b>	<b>1,765.3747</b>	<b>0.5710</b>		<b>1,777.3648</b>

### 3.2 Demolition - 2020

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0272	0.0386	0.3488	1.0400e-003	0.0943	6.5000e-004	0.0950	0.0250	6.0000e-004	0.0256		74.8299	74.8299	3.4700e-003			74.9026
<b>Total</b>	<b>0.0272</b>	<b>0.0386</b>	<b>0.3488</b>	<b>1.0400e-003</b>	<b>0.0943</b>	<b>6.5000e-004</b>	<b>0.0950</b>	<b>0.0250</b>	<b>6.0000e-004</b>	<b>0.0256</b>		<b>74.8299</b>	<b>74.8299</b>	<b>3.4700e-003</b>			<b>74.9026</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	1.5909	16.4632	14.7750	0.0182		0.8655	0.8655		0.7963	0.7963	0.0000	1,765.3747	1,765.3747	0.5710			1,777.3648
<b>Total</b>	<b>1.5909</b>	<b>16.4632</b>	<b>14.7750</b>	<b>0.0182</b>		<b>0.8655</b>	<b>0.8655</b>		<b>0.7963</b>	<b>0.7963</b>	<b>0.0000</b>	<b>1,765.3747</b>	<b>1,765.3747</b>	<b>0.5710</b>			<b>1,777.3648</b>

### 3.2 Demolition - 2020

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0272	0.0386	0.3488	1.0400e-003	0.0943	6.5000e-004	0.0950	0.0250	6.0000e-004	0.0256		74.8299	74.8299	3.4700e-003			74.9026
<b>Total</b>	<b>0.0272</b>	<b>0.0386</b>	<b>0.3488</b>	<b>1.0400e-003</b>	<b>0.0943</b>	<b>6.5000e-004</b>	<b>0.0950</b>	<b>0.0250</b>	<b>6.0000e-004</b>	<b>0.0256</b>		<b>74.8299</b>	<b>74.8299</b>	<b>3.4700e-003</b>			<b>74.9026</b>

### 3.3 Site Preparation - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					5.5451	0.0000	5.5451	2.9262	0.0000	2.9262			0.0000			0.0000	
Off-Road	1.7646	17.9430	13.7796	0.0171		0.9292	0.9292		0.8548	0.8548		1,657.4350	1,657.4350	0.5361			1,668.6920
<b>Total</b>	<b>1.7646</b>	<b>17.9430</b>	<b>13.7796</b>	<b>0.0171</b>	<b>5.5451</b>	<b>0.9292</b>	<b>6.4742</b>	<b>2.9262</b>	<b>0.8548</b>	<b>3.7811</b>		<b>1,657.4350</b>	<b>1,657.4350</b>	<b>0.5361</b>			<b>1,668.6920</b>

### 3.3 Site Preparation - 2020

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0218	0.0309	0.2791	8.3000e-004	0.0754	5.2000e-004	0.0760	0.0200	4.8000e-004	0.0205		59.8639	59.8639	2.7700e-003			59.9221
<b>Total</b>	<b>0.0218</b>	<b>0.0309</b>	<b>0.2791</b>	<b>8.3000e-004</b>	<b>0.0754</b>	<b>5.2000e-004</b>	<b>0.0760</b>	<b>0.0200</b>	<b>4.8000e-004</b>	<b>0.0205</b>		<b>59.8639</b>	<b>59.8639</b>	<b>2.7700e-003</b>			<b>59.9221</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					5.5451	0.0000	5.5451	2.9262	0.0000	2.9262			0.0000			0.0000	
Off-Road	1.7646	17.9430	13.7796	0.0171		0.9292	0.9292		0.8548	0.8548	0.0000	1,657.4349	1,657.4349	0.5361			1,668.6920
<b>Total</b>	<b>1.7646</b>	<b>17.9430</b>	<b>13.7796</b>	<b>0.0171</b>	<b>5.5451</b>	<b>0.9292</b>	<b>6.4742</b>	<b>2.9262</b>	<b>0.8548</b>	<b>3.7811</b>	<b>0.0000</b>	<b>1,657.4349</b>	<b>1,657.4349</b>	<b>0.5361</b>			<b>1,668.6920</b>

### 3.3 Site Preparation - 2020

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0218	0.0309	0.2791	8.3000e-004	0.0754	5.2000e-004	0.0760	0.0200	4.8000e-004	0.0205		59.8639	59.8639	2.7700e-003			59.9221
<b>Total</b>	<b>0.0218</b>	<b>0.0309</b>	<b>0.2791</b>	<b>8.3000e-004</b>	<b>0.0754</b>	<b>5.2000e-004</b>	<b>0.0760</b>	<b>0.0200</b>	<b>4.8000e-004</b>	<b>0.0205</b>		<b>59.8639</b>	<b>59.8639</b>	<b>2.7700e-003</b>			<b>59.9221</b>

### 3.4 Grading - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Fugitive Dust					4.5625	0.0000	4.5625	2.4876	0.0000	2.4876			0.0000			0.0000	
Off-Road	1.4399	14.6718	11.3637	0.0141		0.7572	0.7572		0.6966	0.6966		1,361.5850	1,361.5850	0.4404			1,370.8327
<b>Total</b>	<b>1.4399</b>	<b>14.6718</b>	<b>11.3637</b>	<b>0.0141</b>	<b>4.5625</b>	<b>0.7572</b>	<b>5.3197</b>	<b>2.4876</b>	<b>0.6966</b>	<b>3.1843</b>		<b>1,361.5850</b>	<b>1,361.5850</b>	<b>0.4404</b>			<b>1,370.8327</b>

### 3.4 Grading - 2020

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0218	0.0309	0.2791	8.3000e-004	0.0754	5.2000e-004	0.0760	0.0200	4.8000e-004	0.0205		59.8639	59.8639	2.7700e-003		59.9221
<b>Total</b>	<b>0.0218</b>	<b>0.0309</b>	<b>0.2791</b>	<b>8.3000e-004</b>	<b>0.0754</b>	<b>5.2000e-004</b>	<b>0.0760</b>	<b>0.0200</b>	<b>4.8000e-004</b>	<b>0.0205</b>		<b>59.8639</b>	<b>59.8639</b>	<b>2.7700e-003</b>		<b>59.9221</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.5625	0.0000	4.5625	2.4876	0.0000	2.4876			0.0000			0.0000
Off-Road	1.4399	14.6718	11.3637	0.0141		0.7572	0.7572		0.6966	0.6966	0.0000	1,361.5850	1,361.5850	0.4404		1,370.8327
<b>Total</b>	<b>1.4399</b>	<b>14.6718</b>	<b>11.3637</b>	<b>0.0141</b>	<b>4.5625</b>	<b>0.7572</b>	<b>5.3197</b>	<b>2.4876</b>	<b>0.6966</b>	<b>3.1843</b>	<b>0.0000</b>	<b>1,361.5850</b>	<b>1,361.5850</b>	<b>0.4404</b>		<b>1,370.8327</b>

### 3.4 Grading - 2020

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0218	0.0309	0.2791	8.3000e-004	0.0754	5.2000e-004	0.0760	0.0200	4.8000e-004	0.0205		59.8639	59.8639	2.7700e-003			59.9221
<b>Total</b>	<b>0.0218</b>	<b>0.0309</b>	<b>0.2791</b>	<b>8.3000e-004</b>	<b>0.0754</b>	<b>5.2000e-004</b>	<b>0.0760</b>	<b>0.0200</b>	<b>4.8000e-004</b>	<b>0.0205</b>		<b>59.8639</b>	<b>59.8639</b>	<b>2.7700e-003</b>			<b>59.9221</b>

### 3.5 Building Construction - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	2.0231	14.7007	13.1537	0.0220		0.7923	0.7923		0.7655	0.7655		1,992.0882	1,992.0882	0.3686			1,999.8279
<b>Total</b>	<b>2.0231</b>	<b>14.7007</b>	<b>13.1537</b>	<b>0.0220</b>		<b>0.7923</b>	<b>0.7923</b>		<b>0.7655</b>	<b>0.7655</b>		<b>1,992.0882</b>	<b>1,992.0882</b>	<b>0.3686</b>			<b>1,999.8279</b>

### 3.5 Building Construction - 2020

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0788	0.5729	1.1942	2.1200e-003	0.0598	9.0000e-003	0.0688	0.0171	8.2800e-003	0.0254		198.0221	198.0221	1.5500e-003			198.0546
Worker	0.0653	0.0926	0.8372	2.5000e-003	0.2263	1.5600e-003	0.2279	0.0600	1.4500e-003	0.0615		179.5917	179.5917	8.3200e-003			179.7663
<b>Total</b>	<b>0.1441</b>	<b>0.6656</b>	<b>2.0313</b>	<b>4.6200e-003</b>	<b>0.2862</b>	<b>0.0106</b>	<b>0.2967</b>	<b>0.0771</b>	<b>9.7300e-003</b>	<b>0.0868</b>		<b>377.6137</b>	<b>377.6137</b>	<b>9.8700e-003</b>			<b>377.8209</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	2.0231	14.7007	13.1537	0.0220		0.7923	0.7923		0.7655	0.7655	0.0000	1,992.0882	1,992.0882	0.3686			1,999.8279
<b>Total</b>	<b>2.0231</b>	<b>14.7007</b>	<b>13.1537</b>	<b>0.0220</b>		<b>0.7923</b>	<b>0.7923</b>		<b>0.7655</b>	<b>0.7655</b>	<b>0.0000</b>	<b>1,992.0882</b>	<b>1,992.0882</b>	<b>0.3686</b>			<b>1,999.8279</b>

### 3.5 Building Construction - 2020

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0788	0.5729	1.1942	2.1200e-003	0.0598	9.0000e-003	0.0688	0.0171	8.2800e-003	0.0254		198.0221	198.0221	1.5500e-003		198.0546
Worker	0.0653	0.0926	0.8372	2.5000e-003	0.2263	1.5600e-003	0.2279	0.0600	1.4500e-003	0.0615		179.5917	179.5917	8.3200e-003		179.7663
<b>Total</b>	<b>0.1441</b>	<b>0.6656</b>	<b>2.0313</b>	<b>4.6200e-003</b>	<b>0.2862</b>	<b>0.0106</b>	<b>0.2967</b>	<b>0.0771</b>	<b>9.7300e-003</b>	<b>0.0868</b>		<b>377.6137</b>	<b>377.6137</b>	<b>9.8700e-003</b>		<b>377.8209</b>

### 3.6 Paving - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8294	8.3378	8.7538	0.0133		0.4640	0.4640		0.4277	0.4277		1,277.8356	1,277.8356	0.4050		1,286.3397
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8294</b>	<b>8.3378</b>	<b>8.7538</b>	<b>0.0133</b>		<b>0.4640</b>	<b>0.4640</b>		<b>0.4277</b>	<b>0.4277</b>		<b>1,277.8356</b>	<b>1,277.8356</b>	<b>0.4050</b>		<b>1,286.3397</b>

### 3.6 Paving - 2020

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0354	0.0502	0.4535	1.3500e-003	0.1226	8.5000e-004	0.1234	0.0325	7.9000e-004	0.0333		97.2788	97.2788	4.5000e-003		97.3734
<b>Total</b>	<b>0.0354</b>	<b>0.0502</b>	<b>0.4535</b>	<b>1.3500e-003</b>	<b>0.1226</b>	<b>8.5000e-004</b>	<b>0.1234</b>	<b>0.0325</b>	<b>7.9000e-004</b>	<b>0.0333</b>		<b>97.2788</b>	<b>97.2788</b>	<b>4.5000e-003</b>		<b>97.3734</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8294	8.3378	8.7538	0.0133		0.4640	0.4640		0.4277	0.4277	0.0000	1,277.8356	1,277.8356	0.4050		1,286.3397
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8294</b>	<b>8.3378</b>	<b>8.7538</b>	<b>0.0133</b>		<b>0.4640</b>	<b>0.4640</b>		<b>0.4277</b>	<b>0.4277</b>	<b>0.0000</b>	<b>1,277.8356</b>	<b>1,277.8356</b>	<b>0.4050</b>		<b>1,286.3397</b>

### 3.6 Paving - 2020

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0354	0.0502	0.4535	1.3500e-003	0.1226	8.5000e-004	0.1234	0.0325	7.9000e-004	0.0333		97.2788	97.2788	4.5000e-003			97.3734
<b>Total</b>	<b>0.0354</b>	<b>0.0502</b>	<b>0.4535</b>	<b>1.3500e-003</b>	<b>0.1226</b>	<b>8.5000e-004</b>	<b>0.1234</b>	<b>0.0325</b>	<b>7.9000e-004</b>	<b>0.0333</b>		<b>97.2788</b>	<b>97.2788</b>	<b>4.5000e-003</b>			<b>97.3734</b>

### 3.7 Architectural Coating - 2020

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218			281.9057
<b>Total</b>	<b>0.2422</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>			<b>281.9057</b>

### 3.7 Architectural Coating - 2020

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000			0.0000
Worker	0.0136	0.0193	0.1744	5.2000e-004	0.0472	3.3000e-004	0.0475	0.0125	3.0000e-004	0.0128		37.4149	37.4149	1.7300e-003			37.4513
<b>Total</b>	<b>0.0136</b>	<b>0.0193</b>	<b>0.1744</b>	<b>5.2000e-004</b>	<b>0.0472</b>	<b>3.3000e-004</b>	<b>0.0475</b>	<b>0.0125</b>	<b>3.0000e-004</b>	<b>0.0128</b>		<b>37.4149</b>	<b>37.4149</b>	<b>1.7300e-003</b>			<b>37.4513</b>

#### Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218			281.9057
<b>Total</b>	<b>0.2422</b>	<b>1.6838</b>	<b>1.8314</b>	<b>2.9700e-003</b>		<b>0.1109</b>	<b>0.1109</b>		<b>0.1109</b>	<b>0.1109</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0218</b>			<b>281.9057</b>

### 3.7 Architectural Coating - 2020

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0136	0.0193	0.1744	5.2000e-004	0.0472	3.3000e-004	0.0475	0.0125	3.0000e-004	0.0128		37.4149	37.4149	1.7300e-003		37.4513
<b>Total</b>	<b>0.0136</b>	<b>0.0193</b>	<b>0.1744</b>	<b>5.2000e-004</b>	<b>0.0472</b>	<b>3.3000e-004</b>	<b>0.0475</b>	<b>0.0125</b>	<b>3.0000e-004</b>	<b>0.0128</b>		<b>37.4149</b>	<b>37.4149</b>	<b>1.7300e-003</b>		<b>37.4513</b>

### 4.0 Operational Detail - Mobile

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.0900e-003	0.0186	0.0883	1.3000e-004	9.4600e-003	2.6000e-004	9.7100e-003	2.5200e-003	2.4000e-004	2.7600e-003		11.5369	11.5369	5.8000e-004		11.5492
Unmitigated	9.0900e-003	0.0186	0.0883	1.3000e-004	9.4600e-003	2.6000e-004	9.7100e-003	2.5200e-003	2.4000e-004	2.7600e-003		11.5369	11.5369	5.8000e-004		11.5492

### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	2.10	2.10	2.10	4,481	4,481
Total	2.10	2.10	2.10	4,481	4,481

### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.552333	0.058138	0.185246	0.125281	0.029961	0.004506	0.012317	0.020953	0.001764	0.001280	0.005920	0.000536	0.001765

### 5.0 Energy Detail

#### 4.4 Fleet Mix

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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

### 5.2 Energy by Land Use - NaturalGas

#### Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

#### Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2305	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.9000e-004	2.9000e-004	0.0000		3.1000e-004
Unmitigated	1.2305	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.9000e-004	2.9000e-004	0.0000		3.1000e-004

## 6.2 Area by SubCategory

### Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2305					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.9000e-004	2.9000e-004	0.0000		3.1000e-004
<b>Total</b>	<b>1.2305</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.9000e-004</b>	<b>2.9000e-004</b>	<b>0.0000</b>		<b>3.1000e-004</b>

## 6.2 Area by SubCategory

### Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2305					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.9000e-004	2.9000e-004	0.0000		3.1000e-004
<b>Total</b>	<b>1.2305</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.9000e-004</b>	<b>2.9000e-004</b>	<b>0.0000</b>		<b>3.1000e-004</b>

## 7.0 Water Detail

---

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

---

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

---

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

## 10.0 Vegetation

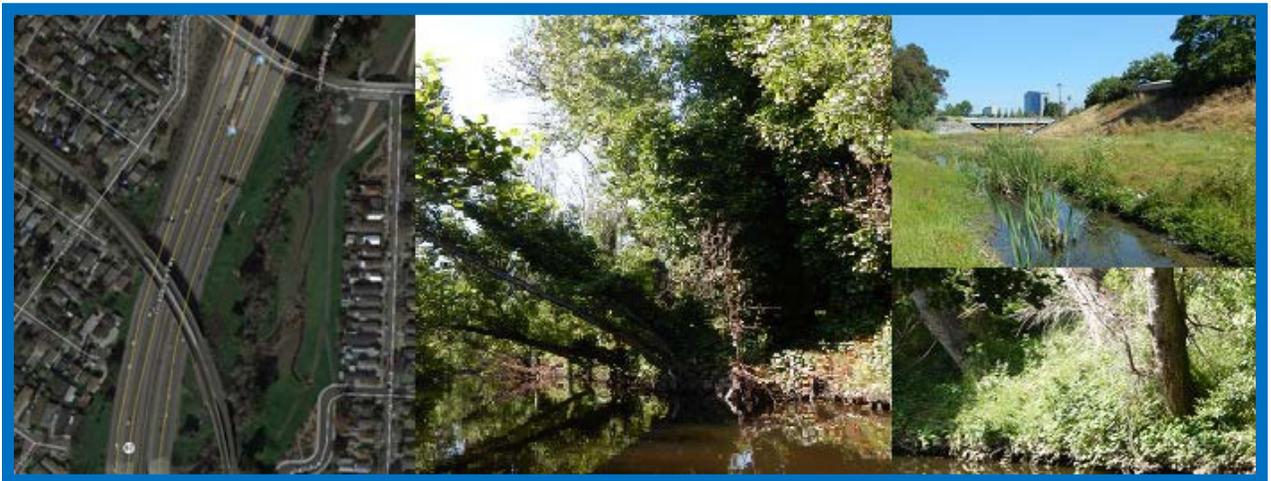
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**ATTACHMENT 3**  
**REVISED PROJECT BIOLOGICAL ASSESSMENT**





**Upper Guadalupe River, Reach 6 Aquatic Habitat Improvement Project  
Biological Assessment**



**Prepared by:**

**Santa Clara Valley Water District**

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**August 2, 2016**

**Revised: March 22, 2019**

## **Report Summary**

The Santa Clara Valley Water District (District) proposes to conduct the Upper Guadalupe River, Reach 6 Aquatic Habitat Improvement Project (Project), which would consist of a two-phased gravel augmentation to improve channel conditions by increasing the occurrences of riffles and removing deep pools. The objectives of the Project are to address gravel shortages in the watershed and improve aquatic habitats, water quality, and channel stability.

Phase 1 of the Project would include placement of a maximum of 1,160 cubic yards (CY) of a mix of gravels and cobbles within two deep pools in the Guadalupe River channel upstream of W. Virginia Street in San Jose. Construction staging would occur on the floodplain east of the river and would temporarily disturb approximately 0.25 acre of upland habitat. Dewatering would impact up to 0.75 acre of aquatic habitat within the channel. Long-term beneficial impacts to 0.49 acre of aquatic/open water and riparian habitat would occur due to the permanent placement of gravel in the river channel. Temporary river access points to install the gravel would result in 0.05 acre of riparian, 0.01 acre of seasonal wetland, and 0.01 acre of perennial marsh impacts.

Phase 2 of the Project would occur approximately 6 years after implementation of Phase 1 and would consist of the placement of approximately 3,000 CY of gravel at five pools downstream of the W. Virginia Street bridge, as well as fill the upper two feet of the armored bed at the Reach 6-3C transition with approximately 200 CY of gravels and cobbles. The final design of Phase 2 would be based on the results of Phase 1 monitoring to determine if continuation of the augmentation Project is beneficial and satisfies objectives. Therefore, this biological assessment primarily evaluates impacts to the Phase 1 portion of the Project. To minimize these impacts, the District will incorporate a wide range of best management practices (BMPs) and avoidance and mitigation measures into the Project design. These measures would limit impacts to listed species and habitat.

Searches of the California Natural Diversity Database, United States Fish and Wildlife Service Environmental Conservation Online System, Santa Clara Valley Habitat Plan, and California Native Plant Society Rare Plant Inventory, as well as professional judgment were used to generate lists of sensitive species that could potentially occur within the Phase 1 Project area. The Phase 1 Project site was then assessed for potential impacts to biological resources by conducting a biological assessment of the area. All genera of special status and sensitive wildlife were considered in the analysis. Based on the research and field investigation it was determined that Central California coast steelhead, Central Valley Fall-run Chinook salmon, pacific lamprey, western pond turtle, white-tailed kite, American Peregrine Falcon, and San Francisco dusky-footed woodrat are most likely to occur. Due to degraded habitat, urbanization, lack of suitable habitat, and lack of historical occurrences within the watershed, other listed species are unlikely to occur at the Project site.

During the field investigation, vegetative communities were identified and placed into 6 habitat types. These habitats were mapped and impacts were determined based on the Phase 1 Project footprint. All impacts were determined as acreages, and individual tree impacts were estimated. Based on the habitat being impacted and the life histories of special status species likely to occur, the significance of impacts was determined.

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## **Description of Proposed Work**

Reach 6 is the most downstream reach of the Upper Guadalupe River Flood Protection Project (UGRFPP). Reach 6 is bound to the north by Interstate 280 (I-280) and to the west and south by State Highway 87 (see Figure 1). Reach 3C is downstream of Reach 6 and is part of the transition between the Upper Guadalupe River and Downtown Guadalupe River project areas. Residential uses occur to the east of the Reach 6/3C project area. The existing West Virginia Street and Union Pacific Railroad (UPRR) bridges cross the river in Reach 6. In 2012, the Reach 6 channel was improved and an adjoining floodplain created to provide 1% flow conveyance capacity. The proposed project includes two main elements:

1. Gravel augmentation within Reach 6, to be implemented in two phases
2. Filling of voids between existing boulder at the Reach 6/3C Transition

### **Improvement 1: Gravel Augmentation**

The District proposes to implement gravel augmentation at Reach 6 in two phases. The project would include a robust monitoring program implemented between phases 1 and 2 to determine the project's effectiveness in improving aquatic habitat and channel stability.

Construction activities during Phase 1 would take 2 to 4 weeks during the dry season (June 15 through October 15). Construction would require dewatering about between 800 linear feet (LF) and 1,100 LF of the low-flow river channel during the dry season. The downstream coffer dam would be located near Station 726+00 (Option B) or Station 728+00 (Option A) and the upstream coffer dam would be near Station 737+00. It is also possible that dewatering will occur in two stages specific to each of the two gravel augmentation sites (described below) being conducted under Phase 1 in order to minimize the total area dewatered (from up to 1,100 LF down to approximately 800 LF), area dewatered at any given time, and simplify the dewatering operation. Under a staged dewatering approach, dewatering would occur across Site 1 extending up to 300 linear feet and across Site 2 extending up to 500 linear feet (order of site dewatering to be determined). To dewater the stream, coffer dams would be temporarily installed upstream and downstream of the gravel placement locations. Qualified biologists would capture and relocate stranded fish, if any, outside the project area. A high-density polyethylene (HDPE) pipe would be placed on the floodplain east of the low-flow channel to transport water collecting at the upstream dam to a discharge point below the downstream coffer dam. The water would be discharged onto energy dissipation devices (e.g. rock riprap, hay bales) to prevent bed scour at the discharge location. The diverted river water would be tested daily for temperature, turbidity, dissolved oxygen, and oil and grease to prevent adverse effects on the receiving waters. Diverted water not meeting standards for discharge would be collected for treatment prior to release.

The District would stage Phase 1 construction activities at grassy areas on the floodplain east of the river. The Reach 6 floodplain consists of compacted clay subsoil remnant after excavation with herbaceous vegetation per the UGRFPP design condition. Construction equipment (e.g. front loaders, bulldozers, graders), haul trucks, and workers would access the site via existing ramps connecting to McLellan Avenue and Virginia Street, and the existing depressed access road between those two

streets. The existing depressed access road is currently surfaced with compacted aggregate and connects to the proposed construction staging area of the project. Construction activities would be laid out to provide one-way traffic to/from the construction area. Materials would be stockpiled at the roughly 0.25-acre staging area, and transported to the river bed via a new temporary access road to be built as part of the project. The temporary access road would be about 150 feet (ft) in length and about 24 ft wide. The District would place steel plates to create a temporary crossing across the small constructed drainage swale and on top of seasonal/perennial wetlands between the staging area and the river. The crossing over the drainage swale would be designed to allow continuous flow in the drainage. During Phase 1, up to 0.38 acre of upland (grassland and ruderal vegetation) would be temporarily disturbed at the staging area and access routes. Approximately 0.02 acre of seasonal and perennial wetland would be temporarily disturbed for access, but would be allowed to passively revegetate. Approximately 0.05 acre of riparian forest would be temporarily impacted to facilitate access by construction vehicles and equipment to the river channel. The riparian habitat is mitigation for the UGRFPP and is seven years old as of 2019. Willow stakes will be installed in the impacted riparian habitat after gravel placement and their reestablishment monitored under the current UGRFPP monitoring program.

During Phase 1 the District would use haul trucks to move a maximum of about 1,160 cubic yards (CY) of gravel from the staging area to the dewatered section of river via the newly constructed temporary access road. Because the existing river banks are steep, construction of two temporary earthen ramps would be necessary for construction equipment to access the gravel placement sites. Two ramps, each about 30 ft in length and 20 ft in width, would be installed between the floodplain and low-flow channel to provide access to the gravel placement areas within the low-flow channel. The ramps would be composed of compacted soil and surfaced with crushed rock. The ramp soil and surface rock would be removed after project construction is complete. The gravel would contain a well-graded mix of grain sizes with 84% of the grains having a diameter less than 6 inches i.e. ( $D_{84} = 6$  inches) and a maximum grain size of 8 inches in diameter ( $D_{max} = 8$  inches). Once placed in the dry river bed, the gravel would be moved to the two placement locations and shaped into riffles. A maximum of 550 linear feet (LF) and 0.39 acres of the river channel within the low-flow channel would be disturbed during Phase 1 for the formation of the riffles.

After placement of the Phase 1 gravel, the temporary access road and staging area on the floodplain east of the river would be removed. This area would be hydroseeded to re-establish vegetative cover. The two newly constructed temporary ramps would be removed.

After Phase 1 construction is complete, the District would monitor channel morphology and habitat conditions of Reach 6 for approximately five years post-project before implementing Phase 2 as well as after implementation of Phase 2 (if gravel is installed by the District). Monitoring and measurement of river morphology and biological parameters would occur annually for approximately five years after Phase 1 is implemented at Reach 6 of the river to measure the following parameters:

- Longitudinal channel profile
- Channel cross-section
- Tracer rock movement
- Suitable habitat area

The following field conditions will be monitored through the ongoing UGRFPP monitoring program and the District's Fish and Aquatic Habitat Collaborative Effort (FAHCE):

- Native vegetative cover
- Nonnative vegetative cover
- Shaded stream surface
- Undercut banks
- Qualitative assessments
- Juvenile trout (*steelhead *Oncorhynchus mykiss**) rearing

The monitoring results would provide the District with a better understanding of the effectiveness of the Phase 1 gravel augmentation at restoring river geomorphology and improving aquatic habitat.

Phase 2 gravel augmentation would occur approximately six years after implementation of Phase 1, if monitoring finds that Phase 1 resulted in achievement of the GAP goals for Reach 6: a) redistributing elevation drops more evenly through the reach, b) increasing spawning habitat availability for salmonids and lamprey, c) preserving existing shaded riverine aquatic habitat and minimizing disturbance to recent riparian mitigation plantings, d) increasing low flow velocities adjacent to undercut banks and large wood to improve fish habitat, and e) minimizing future maintenance in the downtown Guadalupe River Project reach by using an appropriately sized gravel distribution.

Phase 2 would occur in a different river section of Reach 6 than Phase 1. The Phase 2 work area would be located downstream of West Virginia Street. In Phase 2, the District would place about 3,000 CY of gravel in Reach 6 at five pools downstream of the West Virginia Street bridge. The precise locations and amount of gravel placed during Phase 2 may be modified based on the results of the Phase 1 monitoring. Potential modifications of the design would include changes in grain-size distribution, geomorphic shape or size of the installed gravel bars, crest height of the gravel bar, etc. The Phase 2 construction work area would be accessible via two existing permanent ramps that connect to West Virginia Street and Palm Street. Those permanent ramps would connect to the existing depressed

maintenance road located at the eastern edge of the floodplain which runs the entire length of the project area and to an existing concrete apron located underneath and upstream of the I-280 Bridge. The portion of the concrete apron south of the I-280 bridge support pillars and has an area of about ¼ acre, and would provide a suitable construction staging area. The final design of the Phase 2 gravel placement would account for the need to reduce or avoid adverse environmental effects, and ensure long-term sustainability of habitat improvements. Implementation of Phase 2 gravel placement is expected to take 1 to 2 months.

### **Improvement 2: Filling of Bed Armor Voids**

Improvement 2 would be constructed concurrent with implementation of Phase 2 of the gravel augmentation. The existing bed armoring in the roughened channel at the Reach 6/3C transition (upstream of the Interstate 280 Bridge) is supposed to contain ungrouted cobbles and gravel. However, cobbles and gravel were not placed among the boulders during construction of the roughened channel as part of the Reach 6 improvements constructed in 2010 and 2011. The Reach 6 improvements completed in 2011 included removing residential structures, excavating an enlarged floodplain on the east bank of the river, installing a drainage swale to carry storm runoff from the urban area east of the river to the river channel, constructing a depressed access road running the length of the floodplain and ramps connecting the channel access road to surface streets, installing rock riprap in the river channel at the Reach 6/3C transition area, and planting riparian vegetation. The current dearth of cobble and gravel in the river is believed to decrease biological productivity of the river and reduce the number of macrobenthic invertebrates living in this reach. To improve the existing condition, the District proposes to fill the existing voids in the upper two feet of the bed armor with about 200 CY of cobbles and gravel. The gravel and cobbles would be placed between Sta 714+00 and 717+20 of the channel. The addition of gravel and cobbles to the Reach 6/3C transition would result in a more natural and diverse range of sediment sizes, resulting in improved aquatic habitat for fish and other aquatic life. Placement of gravel and cobbles at Reach 6/3C transition would occur concurrently with the Phase 2 river channel gravel placement. The Phase 2 dewatering system would extend to the Reach 6/3C transition area and construction staging would occur at the same location as staging for the Phase 2 gravel augmentation (i.e. the existing concrete apron under the I-280 Bridge). Filling of voids in the Reach 6/3C transition area would occur concurrently with Phase 2 of gravel augmentation.

Maintenance of Reach 6 after gravel augmentation will be done under the District's Stream Maintenance Program (SMP). The SMP has its own CEQA coverage and environmental permits, requiring extensive resource agency review and approvals every year, including approving work twice annually prior to its implementation. Impacts for maintenance performed must be mitigated following SMP conditions. River channel maintenance for both flood projects is conducted under the SMP.

### **Environmental Protection Measures to Incorporate into the Project**

Best Management Practices (BMPs) are standard operating procedures that prevent, avoid, or minimize effects associated with construction and other activities. The District routinely incorporates a wide range of BMPs into project design as described in detail in its Best Management Practices Handbook (District 2011). The proposed Project would include the applicable District standard BMPs, as summarized in Table 1.

This Phase 1 Project would be considered a covered activity under the Santa Clara Valley Habitat Plan (VHP),

which is a joint habitat and natural communities conservation plan developed to serve as the basis for issuance of incidental take permits and authorizations pursuant to Section 10 of the federal Endangered Species Act and California Natural Community Conservation Planning Act. As a covered activity under the VHP, all activities, including investigation and construction activities, associated with implementation of the Upper Guadalupe River, Reach 6 Habitat Improvement Project are subject to all applicable requirements outlined in the VHP. The impacts associated with the covered activities were previously evaluated at a programmatic level in the VHP Final Environmental Impact Report/Environmental Impact Statement, August 2012 (ICF 2012).

The District will adhere to all applicable VHP conditions, listed in Table 1, during Phase 1 Project implementation. Therefore, this Project incorporates all applicable Avoidance and Minimization Measures (AMMs) from Table 6-2 of the VHP; these AMMs are also listed in Table 1. In addition, where applicable, BMPs from the District's Best Management Practices Handbook (District 2011) have been incorporated into the Project. BMPs incorporated into this Project are identified in Table 1. In addition, Table 1 includes site- and species-specific mitigation measures determined based on current site conditions.

**Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project**

Number	Title	Description
VHP Condition 1	Avoid Direct Impacts on Legally Protected Plant and Wildlife Species	All migratory birds shall be subject to Migratory Bird Treaty Act prohibitions. In addition, there shall be no take of special status plant and wildlife species.
VHP Condition 3	Maintain Hydrologic Conditions and Protect Water Quality	See AMMs below.
VHP Condition 4	In-stream Projects	See AMMs below.
VHP Condition 19	Plant Salvage when Impacts are Unavoidable	Where impacts to covered plant species cannot be avoided, plants may be salvaged at the District's discretion.
VHP Condition 20	Avoid and Minimize Impacts to Covered Plant Species	Surveys for covered plant species shall be conducted in serpentine-dominated habitats during the appropriate season(s) for detecting these species. In order to reduce impacts to covered plants, all covered activities will be confined to the minimum area necessary to complete the activity or construction. A setback buffer will be established around covered plant occurrences located on any Project site or in an adjacent area that could be affected by construction traffic or activities. The setback buffer will be adequate to prevent or minimize impacts during or after Project implementation. The plants and buffer area will be protected from encroachment and damage during construction by installing temporary construction fencing. Fencing will be bright-colored and highly visible. Fencing will be designed to keep construction equipment away from plants and prevent unnecessary damage to or loss of plants on the Project site. Fencing will be installed under the supervision of a qualified biologist to ensure proper location and prevent damage to plants during installation. Fencing will be installed before any site preparation or construction work begins

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
		and will remain in place for the duration of construction. Construction personnel will be prohibited from entering these areas (the exclusion zone) for the duration of Project construction.
AMM-1	Minimize Impacts to Covered Species	Minimize the potential impacts on covered species most likely to be affected by changes in hydrology and water quality.
AMM-2	Pollutant Reduction	Reduce stream pollution by removing pollutants from surface runoff before the polluted surface runoff reaches local streams.
AMM-3	Flow Conditions	Maintain the current hydrograph and, to the extent possible, restore the hydrograph to more closely resemble predevelopment conditions.
AMM-5	Invasive Species Control	Invasive plant species removed during maintenance will be handled and disposed of in such a manner as to prevent further spread of the invasive species.
AMM-7	Accidental Release Prevention	Personnel shall prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water into channels.
AMM-8	Spill Prevention Kits	Spill prevention kits shall always be in proximity when using hazardous materials (e.g., crew trucks and other logical locations).
AMM-9	Hazardous Materials Handling	Personnel shall implement measures to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means when removing sediments from the streams.
AMM-11	Vehicle Washing	Vehicles shall be washed only at approved areas. No washing of vehicles shall occur at job sites.
AMM-12	Vehicle Servicing	No equipment servicing shall be done in the stream channel or immediate flood plain, unless equipment stationed in these locations cannot be readily relocated (i.e. pumps, generators).

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
AMM-13	Use Appropriate Equipment	Personnel shall use the appropriate equipment for the job that minimizes disturbance to the stream bottom. Appropriately-tired vehicles, either tracked or wheeled, shall be used depending on the situation.
AMM-15	Fish Relocation	If native fish or non-covered, native aquatic vertebrates are present when cofferdams, water bypass structures, and silt barriers are to be installed, a native fish and aquatic vertebrate relocation plan shall be implemented when ecologically appropriate as determined by a qualified biologist to ensure that significant numbers of native fish and aquatic vertebrates are not stranded. Prior to the start of work or during the installation of water diversion structures, native aquatic vertebrates shall be captured in the work area and transferred to another reach as determined by a qualified biologist. Timing of work in streams that supports a significant number of amphibians will be delayed until metamorphosis occurs to minimize impacts to the resource. Capture and relocation of aquatic native vertebrates is not required at individual Project sites when site conditions preclude reasonably effective operation of capture gear and equipment, or when the safety of biologist conducting the capture may be compromised. Relocation of native fish or aquatic vertebrates may not always be ecologically appropriate. Prior to capturing native fish and/or vertebrates, the qualified biologist will use a number of factors, including site conditions, system carrying capacity for potential relocated fish, and flow regimes (e.g., if flows are managed) to determine whether a relocation effort is ecologically appropriate. If so, the following factors will be considered when selecting release site(s): 1.similar water temperature as capture location; 2. ample habitat availability prior to release of captured individuals; 3. presence of other same species so that relocation of new individuals will not upset the existing prey/predation function; 4. carrying capacity of the relocation location; 5. potential for relocated individual to transport disease; and 6. low likelihood of fish reentering work site or becoming impinged on exclusion net or screen. Proposals to translocate any covered species will be reviewed and approved by the Wildlife Agencies.
AMM-16	Water Diversions	When work in a flowing stream is unavoidable, the entire streamflow shall be diverted around the work area by a barrier, except where it has been determined by a qualified biologist that the least

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
		environmentally disruptive approach is to work in a flowing stream. Where feasible, water diversion techniques shall allow stream flows to gravity flow around or through the work site.
AMM-20	Water Diversions	Diversions shall maintain ambient stream flows below the diversion, and waters discharged below the Project site shall not be diminished or degraded by the diversion. All materials placed in the channel to dewater the channel shall be removed when the work is completed. Normal flows shall be restored to the affected stream as soon as is feasible and safe after completion of work at that location.
AMM-21	In-Channel Work	To the extent that stream bed design changes are not part of the Project, the stream bed will be returned to as close to pre-Project condition as appropriate.
AMM-22	In-Channel Work	To the extent feasible, all temporary diversion structures and the supportive material shall be removed no more than 48 hours after work is completed
AMM-23	Temporary Fill Removal	Temporary fills, such as for access ramps, diversion structures, or cofferdams, shall be completely removed upon finishing the work.
AMM-24	Bypass Pumping	To prevent increases in temperature and decreases in dissolved oxygen (DO), if bypass pipes are used, they shall be properly sized (i.e., larger diameter pipes to better pass the flows). Use of bypass pipes may be avoided by creating a low-flow channel or using other methods to isolate the work area
AMM-29	Native Vegetation Retainage	Existing native vegetation shall be retained by removing only as much vegetation as necessary to accommodate the trail clearing width. Maintenance roads should be used to avoid effects on riparian corridors.
AMM-30	Vegetation Removal	Vegetation control and removal in channels, on stream banks, and along levees and maintenance roads shall be limited to removal necessary for facility inspection purposes, or to meet regulatory requirements or guidelines.

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
AMM-31	Vegetation Management	When conducting vegetation management, retain as much understory brush and as many trees as feasible, emphasizing shade producing and bank stabilizing vegetation. If riparian vegetation is to be removed with chainsaws, consider using saws currently available that operate with vegetable-based bar oil.
AMM-33	Water Quality	Regional Board objectives for temperature change in receiving waters (measured 100 feet downstream of discharge point) shall not be exceeded. Receiving water and discharge water may be monitored for temperature changes after a comparison of ambient temperature to pipeline water temperature suggests the potential for change.
AMM-39	Minimize Alterations to Contours and Slopes	Minimize alterations to existing contours and slopes, including grading the minimum area necessary.
AMM-40	Maintain Native Vegetation	Maintain native shrubs, trees, and groundcover whenever possible and revegetate disturbed areas with local native or non-invasive plants.
AMM-49	Riparian Vegetation Removal	The Project or activity must be designed to avoid the removal of riparian vegetation, if feasible. If the removal of riparian vegetation is necessary, the amount shall be minimized to the amount necessary to accomplish the required activity and comply with public health and safety directives
AMM-53	Vegetated Buffer Strip	When possible, maintain a vegetated buffer strip between staging/excavation areas and receiving waters.
AMM-58	Use Existing Routes	Existing access routes and levee roads shall be used if available to minimize impacts of new construction in special-status species habitats and riparian zones.
AMM-61	Minimize Ground Disturbance	Minimize ground disturbance to the smallest area feasible.

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
AMM-62	Avoid Off-road Travel	Use existing roads for access and disturbed areas for staging as site constraints allow. Off road travel will avoid sensitive communities such as wetlands and known occurrences of covered plants.
AMM-68	Stabilize Stockpiled Soil	Stabilize stockpiled soil with geotextile or plastic covers.
AMM-69	Minimize Area of Disturbance	Maintain construction activities within a defined Project area to reduce the amount of disturbed area.
AMM-70	Minimize Land Clearance	Only clear/prepare land which will be actively under construction in the near term.
AMM-71	Preserve Existing Vegetation	Preserve existing vegetation to the extent possible.
AMM-72	Equipment Storage and Fueling	Equipment storage, fueling and staging areas will be sited on disturbed areas or non-sensitive habitat outside of a stream channel.
AMM-73	Construction Timing	Avoid wet season construction.
AMM-74	Slope Stabilization	Stabilize site ingress/egress locations.
AMM-76	Spill Clean-up	Prevent spills and clean up spilled materials.
AMM-77	Street Sweeping	Sweep nearby streets at least once a day.
AMM-78	Protect Aquatic Resources	In-stream Projects occurring while the stream is flowing must use appropriate measures to protect water quality, native fish and covered wildlife species at the Project site and downstream of the Project site.
AMM-80	Personnel Training	All personnel working within or adjacent to the stream setback (i.e., those people operating ground-disturbing equipment) will be trained by a qualified biologist in these AMMs and the permit

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
		obligations of Project proponents working under this Plan.
AMM-81	Minimize Vegetation Disturbance and Removal	Temporary disturbance or removal of aquatic and riparian vegetation will not exceed the minimum necessary to complete the work.
AMM-82	Channel Bed Restoration	Channel bed temporarily disturbed during construction activities will be returned to pre-Project or ecologically improved conditions at the end of construction.
AMM-87	Proper Vehicle Maintenance	Vehicles operated within and adjacent to streams will be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life.
AMM-88	Vehicle Parking	Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas.
AMM-89	Traffic Impacts	The potential for traffic impacts on terrestrial animal species will be minimized by adopting traffic speed limits.
AMM-90	Trash Control	All trash will be removed from the site daily to avoid attracting potential predators to the site. Personnel will clean the work site before leaving each day by removing all litter and construction-related materials.
AMM-92	Pathogen Control	To minimize the spread of pathogens, all staff working in aquatic systems (i.e., streams, ponds, and wetlands) – including site monitors, construction crews, and surveyors – will adhere to the most current guidance for equipment decontamination provided by the Wildlife Agencies at the time of activity implementation. Guidance may require that all materials that come in contact with water or potentially contaminated sediments, including boot and tire treads, be cleaned of all organic matter and scrubbed with an appropriate cleansing solution, and that disposable gloves be worn and changed between handling equipment or animals. Care should be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat.

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
AMM-94	Proper Access Route Construction	Personnel shall use existing ramps and roads as available. If temporary access points are necessary, they shall be constructed in a manner that minimizes impacts to streams.
AMM-95	Prevent Animal Entrapment	To prevent inadvertent entrapment of animals during excavation, all excavated, steep-walled holes or trenches more than 2-feet deep will be 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.
AMM-99	Street Cleaning	Conduct street cleaning on a regular basis.
AMM-100	Proper Storage of Contaminated Materials	Potential contaminating materials must be stored in covered storage areas or secondary containment that is impervious to leaks and spills.
AMM-102	Stabilize Exposed Soils	Immediately after Project completion and before close of seasonal work window, stabilize all exposed soil with mulch, seeding, and/or placement of erosion control blankets.
AMM-103	Revegetate Disturbed Soils	All disturbed soils will be revegetated with native plants and/or grasses or sterile nonnative species suitable for the altered soil conditions upon completion of construction. Local watershed native plants will be used if available. If sterile nonnative species are used for temporary erosion control, native seed mixtures must be used in subsequent treatments to provide long-term erosion control and slow colonization by invasive nonnatives. All disturbed areas that have been compacted shall be de-compacted prior to planting or seeding. Cut-and-fill slopes will be planted with local native or non-invasive plants suitable for the altered soil conditions.
AMM-109	Woody Material Retention	In streams not managed for flood control purposes, woody material (including live leaning trees, dead trees, tree trunks, large limbs, and stumps) will be retained unless it is threatening a structure, impedes reasonable access, or is causing bank failure and sediment loading to the stream.
AMM-112	Pump and Generator	Pumps and generators shall be maintained and operated in a manner that minimizes impacts to

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
	Maintenance	water quality and aquatic species.
AMM-114	Erosion Control	Erosion control methods shall be used as appropriate during all phases of routine maintenance Projects to control sediment and minimize water quality impacts.
AMM-115	Structure Inspection	All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that area stored at a construction site for one or more overnight periods will be thoroughly inspected for wildlife by properly trained construction personnel before the pipe is subsequently buried, capped, or otherwise used or moved in any way.
BMP-AQ-1	Use Basic Dust Control Measures for All Construction Sites	<p>Implement BAAQMD Basic Control Measures for construction emissions of PM10 at all construction sites. Current measures stipulated by the BAAQMD CEQA Guidelines (BAAQMD 2010a) include the following:</p> <p>All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.</p> <p>All haul trucks transporting soil, sand, or other loose material off-site shall be covered.</p> <p>All visible mud or dirt track-out on adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.</p> <p>All vehicle speeds on unpaved roads shall be limited to 15 mph.</p> <p>All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.</p> <p>Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations). Clear signage stating this measure shall</p>

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
		<p>be provided for Project workers at all access points.</p> <p>All equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</p> <p>A sign with the telephone number and person to contact at the District regarding dust complaints shall be visibly and publicly posted. This contact person shall respond and take corrective action within 48 hours. The BAAQMD’s phone number shall also be visible to ensure compliance with applicable regulations.</p>
BMP-AQ-2	ATCM Dust Control Measures	<p>Implement ATCM dust control measures for construction emissions of NOA at construction sites. Current measures stipulated by the ATCM include the following:</p> <p>Construction vehicle speed at the work site must be limited to 15 miles per hour or less;</p> <p>Prior to any ground disturbance, sufficient water must be applied to the area to be disturbed to prevent visible emissions from crossing the property line;</p> <p>Areas to be graded or excavated must be kept adequately wetted to prevent visible emissions from crossing the property line;</p> <p>Storage piles must be kept adequately wetted, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile;</p> <p>Equipment must be washed down before moving from the property onto a paved public road; and</p> <p>Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within 24 hours.</p>

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
BMP-BIO-1	Avoid Impacts to Nesting Birds	Nesting birds are protected by state and federal laws. The District shall protect nesting birds and their nests from abandonment, loss, damage, or destruction. Nesting bird surveys shall be performed by a qualified individual prior to any activity that could result in the abandonment, loss, damage, or destruction of birds, bird nests, or nesting migratory birds. Inactive bird nests may be removed, with the exception of raptor nests. Birds, nests with eggs, or nests with hatchlings shall be left undisturbed.
BMP-BIO-2	Minimize Impacts to Steelhead	Minimize potential impacts to salmonids by avoiding routine use of vehicles and equipment in salmonid streams between January 1 and June 15.
BMP-BIO-3	Remove Temporary Fill	Temporary fill materials, such as for diversion structures or cofferdams, will be removed upon finishing the work or as appropriate. The creek channels and banks will be re-contoured to match pre-construction conditions to the extent possible. Low-flow channels within non-tidal streams will be contoured to facilitate fish passage and will emulate the preconstruction conditions as closely as possible, within the finished channel topography.
BMP-BIO-4	Minimize Impacts to Vegetation from Clearing and Trimming	<p>Vegetation to be trimmed or cleared will be evaluated by a qualified vegetation specialist or qualified biologist prior to impacts; and, the qualified vegetation specialist or qualified biologist recommendations will be followed.</p> <p>Cutting vegetation will be limited to the minimum length, width, and height necessary while conforming to International Society of Arboriculture (ISA) pruning standards.</p> <p>Woody vegetation (i.e. native trees and shrubs) which require pruning for equipment access, construction operations, etc, shall be pruned consistent with <u>all three</u> of the following complementary guidance or their updates:</p> <p>'BEST MANAGEMENT PRACTICES, TREE PRUNING' 2008, INTERNATIONAL SOCIETY OF</p>

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
		<p>ARBORICULTURE; and</p> <p>American National Standards Institute (ANSI) A300 (Part 1) – 2008 PRUNING; and</p> <p>ANSI Z133.1, 2008, SAFETY REQUIREMENTS.</p> <p>Woody material (including live leaning trees, dead trees, tree trunks, large limbs, and stumps) will be retained on site, unless it is threatening a structure or impedes access, in which case it must be moved to a less threatening position.</p>
BMP-BIO-5	Choose Local Ecotypes Of Native Plants and Appropriate Erosion-Control Seed Mixes	<p>Whenever native species are prescribed for installation the following steps will be taken by a qualified biologist or vegetation specialist:</p> <p>Evaluate whether the plant species currently grows wild in Santa Clara County; and,</p> <p>If so, the qualified biologist or vegetation specialist will determine if any need to be local natives, i.e. grown from propagules collected in the same or adjacent watershed, and as close to the Project site as feasible.</p> <p>Also, consult a qualified biologist or vegetation specialist to determine which seeding option is ecologically appropriate and effective, specifically:</p> <p>For areas that are disturbed, an erosion control seed mix may be used consistent with the SCVWD Guidelines and Standards for Land Use Near Streams, Design Guide 5, ‘Temporary Erosion Control Options.’</p> <p>In areas with remnant native plants, the qualified biologist or vegetation specialist may choose an abiotic application instead, such as an erosion control blanket or seedless hydro-mulch and tackifier to facilitate passive revegetation of local native species.</p>

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
		<p>Temporary earthen access roads may be seeded when site and horticultural conditions are suitable.</p> <p>If a gravel or wood mulch has been used to prevent soil compaction, this material may be left in place [if ecologically appropriate] instead of seeding.</p> <p>Seed selection shall be ecologically appropriate as determined by a qualified biologist, per Guidelines and Standards for Land Use Near Streams, Design Guide 2: Use of Local Native Species.</p>
BMP-BIO-6	Avoid Animal Entry and Entrapment	<p>All pipes, hoses, or similar structures less than 12 inches diameter will be closed or covered to prevent animal entry. All construction pipes, culverts, or similar structures, greater than 2-inches diameter, stored at a construction site overnight, will be inspected thoroughly for wildlife by a qualified biologist or properly trained construction personnel before the pipe is buried, capped, used, or moved. If inspection indicates presence of sensitive or state- or federally-listed species inside stored materials or equipment, work on those materials will cease until a qualified biologist determines the appropriate course of action.</p> <p>To prevent entrapment of animals, all excavations, steep-walled holes or trenches more than 6-inches deep will be secured against animal entry at the close of each day. Any of the following measures may be employed, depending on the size of the hole and method feasibility:</p> <p>Hole to be securely covered (no gaps) with plywood, or similar materials, at the close of each working day, or any time the opening will be left unattended for more than one hour; or</p> <p>In the absence of covers, the excavation will be provided with escape ramps constructed of earth or untreated wood, sloped no steeper than 2:1, and located no farther than 15 feet apart; or</p> <p>In situations where escape ramps are infeasible, the hole or trench will be surrounded by filter fabric fencing or a similar barrier with the bottom edge buried to prevent entry.</p>

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
BMP-BIO-7	Minimize Predator-Attraction	Remove trash daily from the worksite to avoid attracting potential predators to the site.
BMP-CUL-1	Accidental Discovery of Archaeological or Burial Finds	<p>If historical or unique archaeological artifacts are accidentally discovered during construction, work in affected areas will be restricted or stopped until proper protocols are met. Work at the location of the find will halt immediately within 30 feet of the find. A Consulting Archaeologist will visit the discovery site as soon as practicable for identification and evaluation pursuant to Section 21083.2 of the Public Resources Code and Section 15126.4 of the California Code of Regulations. If the archaeologist determines that the artifact is not significant, construction may resume. If the archaeologist determines that the artifact is significant, the archaeologist will determine if the artifact can be avoided and, if so, will detail avoidance procedures. If the artifact cannot be avoided, the archaeologist will develop within 48 hours an Action Plan which will include provisions to minimize impacts and, if required, a Data Recovery Plan for recovery of artifacts in accordance with Public Resources Code Section 21083.2 and Section 15126.4 of the CEQA Guidelines.</p> <p>If burial finds are accidentally discovered during construction, work in affected areas will be restricted or stopped until proper protocols are met. Upon discovering any burial site as evidenced by human skeletal remains, the County Coroner will be immediately notified. No further excavation or disturbance within 30 feet of the site or any nearby area reasonably suspected to overlie adjacent remains may be made except as authorized by the County Coroner, California Native American Heritage Commission, and/or the County Coordinator of Indian Affairs.</p>
BMP-WQ-1	Evaluate Use of Wheel and Track Mounted Vehicles in Stream Bottoms	Field personnel will use the appropriate equipment for the job that minimizes disturbance to the stream bottom. Appropriately tired vehicles, either tracked or wheeled, will be used depending on the situation. Tracked vehicles (bulldozers, loaders) may cause scarification. Wheeled vehicles may cause compaction. Heavy equipment will not operate in the live stream.
BMP-WQ-2	Limit Impact of Pump and	Pumps and generators will be maintained and operated in a manner that minimizes impacts to water

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
	Generator Operation and Maintenance	<p>quality and aquatic species.</p> <p>Pumps and generators will be maintained according to manufacturers’ specifications to regulate flows to prevent dry-back or washout conditions.</p> <p>Pumps will be operated and monitored to prevent low water conditions, which could pump muddy bottom water, or high water conditions, which creates ponding.</p> <p>Pump intakes will be screened to prevent uptake of fish and other vertebrates. Pumps in steelhead creeks will be screened according to NMFS criteria.</p> <p>Sufficient back-up pumps and generators will be onsite to replace defective or damaged pumps and generators.</p>
BMP-WQ-3	Limit Impacts From Staging and Stockpiling Materials	<ol style="list-style-type: none"> <li>1. To protect on-site vegetation and water quality, staging areas should occur on access roads, surface streets, or other disturbed areas that are already compacted and only support ruderal vegetation. Similarly, all equipment and materials (e.g., road rock and Project spoil) will be contained within the existing service roads, paved roads, or other pre-determined staging areas.</li> <li>2. Building materials and other Project-related materials, including chemicals and sediment, will not be stockpiled or stored where they could spill into water bodies or storm drains.</li> <li>3. No runoff from the staging areas may be allowed to enter water ways, including the creek channel or storm drains, without being subjected to adequate filtration (e.g., vegetated buffer, swale, hay wattles or bales, silt screens).</li> <li>4. The discharge of decant water to water ways from any on-site temporary sediment stockpile or storage areas is prohibited.</li> <li>5. During the wet season, no stockpiled soils will remain exposed, unless surrounded by properly</li> </ol>

Table 1. VHP Conditions, AMMs, BMPs, and other mitigation measures Incorporated into Project

Number	Title	Description
		installed and maintained silt fencing or other means of erosion control. During the dry season; exposed, dry stockpiles will be watered, enclosed, covered, or sprayed with non-toxic soil stabilizers.
MIT-BIO-1	Western Pond Turtle Avoidance	Conduct survey within 48 hours in advance to the start of construction for western pond turtles.  If an individual is located, California Department of Fish and Wildlife can direct relocation efforts.
MIT-BIO-2	San Francisco dusky-footed woodrat Avoidance	Conduct pre-construction survey within 14 days in advance to the start of construction for the presence of active dusky-footed woodrat nests. Nests can be demarcated to avoid disturbance.  If nests will be impacted by the Project, California Department of Fish and Wildlife can direct a relocation effort.

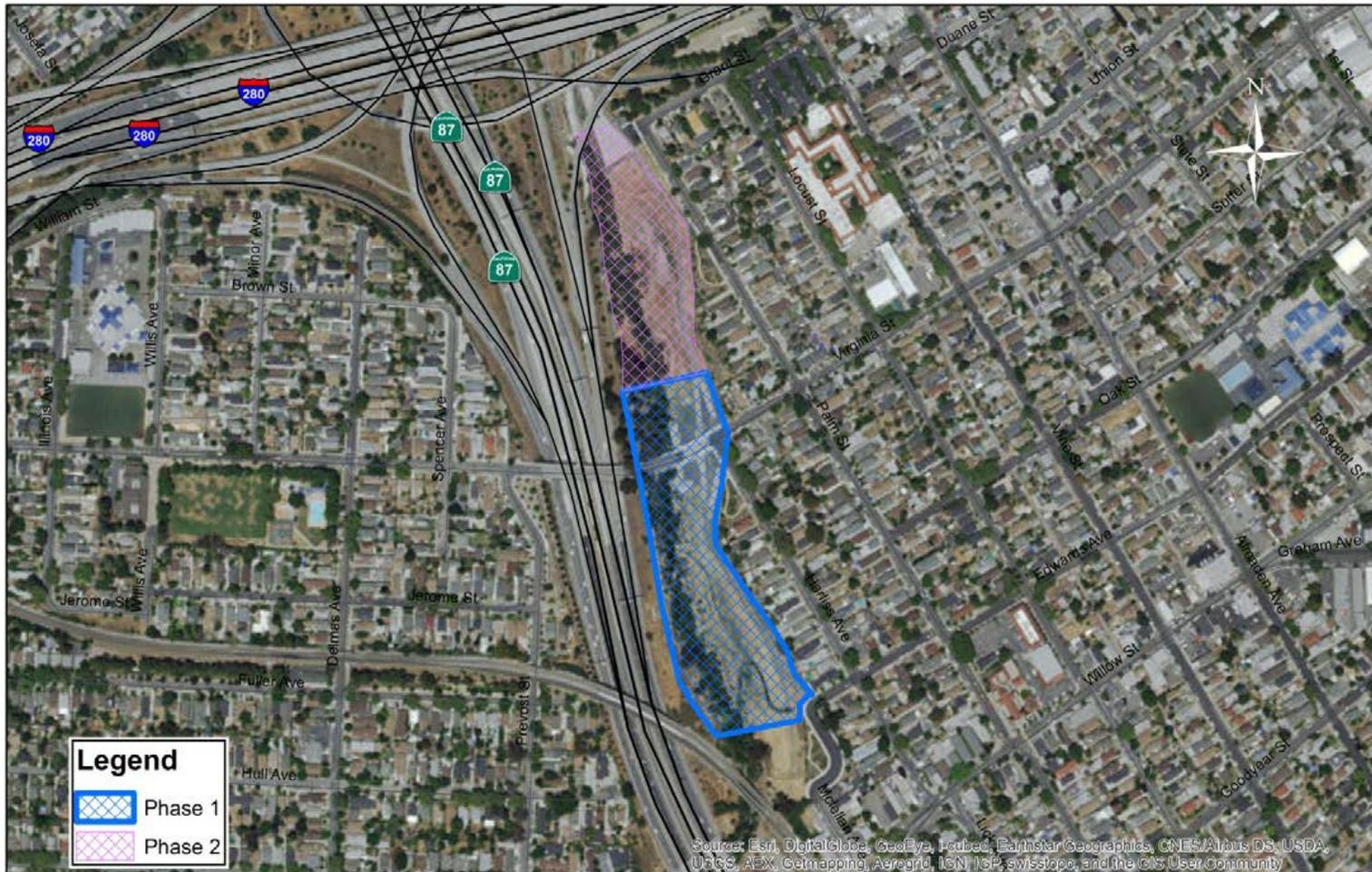
## **Environmental Setting**

Phase 1 of the Project would be located on the Guadalupe River within UGRFPP Reach 6. The nearest cross street of the Phase 1 Project is Virginia Street which spans the creek approximately 250 ft upstream of the downstream extent of the Phase 1 Project. The upstream end of the Phase 1 area is approximately 150 ft downstream of the Union Pacific Railroad crossing. This portion of creek is within urban residential areas bordered on the west with Highway 87 and single family homes on the east (Figure 1). In 2011, the UGRFPP expanded the floodplain on the east bank by removing residential areas, grading, and replanting of the mitigation area with native plants. The newly excavated and graded floodplain is managed to eliminate woody plants and partly mowed annually up to 40 feet east of the river channel, where the riparian mitigation is located in accordance to the UGRP design condition. The river's east bank has preserved hills with excavated floodplain connections, west bank is steep, and both banks are densely vegetated. Almost the entire east bank has young riparian mitigation (7 years old in 2019) for the UGRP. The habitat within the Project area shows the effects of its urban proximity and is fragmented.

Phase 2 of the Project is located directly downstream of the Phase 1 Project area and extends to the armored section of channel upstream of Highway 280/87 over crossing. This area has the same surrounding land use (urban development and floodplain on the east bank) as the Phase 1 area but water appears to accumulate on the floodplain and create a ponded area.

Flow conditions in the Guadalupe River within the Project area are highly variable and change in magnitude rapidly due to urbanization and hardscapes throughout the watershed. At the time of the survey, flow was isolated within the channel and estimated at less than 10 cubic feet per second (cfs). The channel is designed so that flows may exceed the capacity of the main channel and inundate the floodplain during a 1.5 year or greater flow event. An outfall is located at the upstream end of the Phase 1 Project area (east side) and provides continuous urban flow to the floodplain and drains to Guadalupe River via a swale/channel created as part of the UGRFPP. Portions of this drainage swale contain water even through the dry season.

# Upper Guadalupe River, Reach 6 Aquatic Habitat Improvement Project Biological Assessment Area



Santa Clara Valley  
Water District

Figure 1: Aerial image of biological assessment area and surrounding land uses for Phase 1 and 2

## **Methodology**

The Phase 1 Project site (Study Area) was assessed for potential impacts to biological resources by referencing available local literature, historical occurrences, using best professional judgment of the biologists, and by conducting a biological assessment of the area. All genera of special status wildlife were considered in the analysis.

Searches of the California Natural Diversity Database (CNDDDB; Appendix A), United States Fish and Wildlife Service Environmental Conservation Online System (ECOS) (USFWS; Appendix B), California Native Plant Society (CNPS) Rare Plant Inventory (CNPS; Appendix C), the VHP, and professional judgment were used to generate a list of sensitive species that could potentially occur within the Study Area. The CNDDDB records were cartographically presented and narrowed from a quadrant search to a 2-mile radius around the Study Area. Due to urban conditions, this is a more realistic approach to determine potential impacts to the Study Area. Lists generated by the USFWS database and CNPS were left more broad as specific locations of occurrences are not included.

Fisheries biologist Clayton Leal, M.S., plant ecologist Matt Parsons, M.S., and wildlife biologist Jennifer Watson, B.S., conducted a field survey at the Study Area on April 29, 2016 with a follow up visit on June 6, 2016. The purpose of the survey was to determine the presence of and potential impacts to biological resources within the Study Area footprint. These surveys documented the physical habitat characteristics, assessed potential of occurrences of sensitive species, and determined the potential impacts to vegetative communities. This analysis considered current conditions at the Study Area.

Vegetative communities were identified and placed into 6 habitat types: riparian, seasonal wetland, perennial marsh, upland, aquatic, and potential aquatic. The potential aquatic habitat type at the time of the evaluation was dry and supported upland plants. Based on the inundation occurrence of the floodplain (1.5-year flow event), the habitat is considered aquatic, but does not stay inundated long enough to support hydrophytic vegetation. The habitat types were mapped on an aerial image and then transferred to geographical information system (GIS) software representing current conditions. To assess the impact associated with loss of trees in the riparian area, only trees greater than 2-inch diameter at breast height (DBH) were considered in the individual tree impacts.

Potential Study Area impacts were determined based on available literature, historical occurrences, and actual site conditions. Results of the efforts are presented in text and graphically throughout the document.

## **Biologist Qualifications**

Clayton Leal, M.S., Fisheries Biologist. Mr. Leal has a M.S. in Environmental Studies from San Jose State University with an emphasis on ecological restoration. He has over 9 years of experience in both fisheries and wildlife biology and possesses local knowledge about the fish and wildlife communities present within Santa Clara County. He specializes in fisheries and aquatic communities but also has extensive experience with terrestrial wildlife. He is a National Marine Fisheries Service 10(a)1(A) Steelhead recovery research permit

point of contact and co-investigator and possesses a California Department of Fish and Wildlife Scientific Collecting Permit.

Matt Parsons, M.S., Plant Ecologist. Mr. Parsons has a M.S. in Plant Ecology with a focus in restoration ecology, forestry, soil science, and plant ecology. He has over 13 years of diverse experience with natural resource management ranging from applied management to academic research in a variety of ecosystems throughout the country. He is an Associate Ecologist with the Ecological Society of America and certified in wetland delineation.

Jennifer Watson, B.S., Wildlife Biologist. Ms. Watson received a B.S. in Fisheries and Wildlife Science from Oregon State University and a Certificate in Conservation Biology from the University of Missouri St. Louis. She has 7 years of diverse experience in fisheries and wildlife biology including special-status wildlife surveys, on-site biological monitoring, general habitat assessments, and environmental impact surveys.

## **Habitat Conditions**

### **Vegetative Communities**

Vegetative communities and developed landscapes (access roads, concrete pads, rip rap) were mapped to graphically display habitat distribution (Figure 2). A description of what each habitat contains can be seen below.

#### *Floodplain Uplands*

The floodplain portion of the Study Area, occurring on the east bank, consists of a mosaic of upland, wetland, aquatic, and riparian habitats. Floodplain uplands consist of areas dominated by ruderal upland plant species such as black mustard (*Brassica nigra*), foxtail barley (*Hordeum murinum*), and cut-leaved geranium (*Geranium dissectum*). The floodplain contains an intermediate mix of upland species and marginal wetland species (species categorized as facultative wetland indicators [FAC]) such as curly dock (*Rumex crispus*) and Italian ryegrass (*Festuca perennis*).

#### *Channel/Open Water (Aquatic)*

Open water (aquatic) habitat areas occur throughout the floodplain. These areas either contain surface water or, where surface water is absent, are unvegetated or sparsely vegetated. The substrate of these areas is composed of fine-textured soils or coarse-textured material such as rock and gravel. Hydrology originates from storm drains and overbank flows from the river.

#### *Perennial Marsh and Seasonal Wetlands*

Wetland habitat is found throughout the floodplain in depressions and within/along the channel network. A stormwater conveyance channel was constructed through the floodplain. The entire floodplain area is designed to be grassy, void of woody vegetation with portions annually mowed for hydraulic flow conveyance according to the UGRP design. Areas of perennial marsh are dominated by species such as cattail (*Typha* sp.) and several species of smartweed (*Persicaria* spp.), and are found in the more perennially wetted areas of the site. Areas of seasonal marsh are dominated by species such as curly dock and Italian ryegrass.

### *Riparian*

Dense riparian habitat occurs along the Guadalupe River. The riparian habitat along the right bank (looking downstream) is composed mostly of native woody species, whereas riparian habitat along the left bank is composed of a mix of native and non-native woody species. Dominant native species include Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), and arroyo willow (*S. lasiolepis*). Prevalent non-native species include blue gum (*Eucalyptus globulus*) and black locust (*Robinia pseudoacacia*).

# Upper Guadalupe River, Reach 6 Aquatic Habitat Improvement Project Vegetative Communities



Figure 2: Aerial image of vegetative communities and developed areas within the Phase 1 Study Area.

## Fish and Wildlife Habitat

### *Aquatic Habitats*

The main channel of the Guadalupe River within the Study Area primarily consists of low gradient pool habitats, thus the reason for the Project. Pool habitats are separated by short high gradient riffles, which could be defined as rapids under certain flows. Within the approximate 1,500 LF of channel, only three riffle habitats are present. Riffle habitat is estimated to make up less than 10% of the habitat types available in the reach (Figure 3).



**Figure 3: High gradient riffle (left) and deep pool habitat (right) within the Study Area.**

The riffles that are present consist of large boulders, concrete rubble, and gravels. Limited spawning gravels for steelhead and lamprey are available within the riffle habitats. The most extensive riffle is located under the W. Virginia Street Bridge. This area provides the most suitable spawning substrate and has habitat complexities in the form of submerged roots, boulders, and bubble curtains. The velocity in the reach could provide opportunity for drift feeding by salmonids and the habitat complexities could provide rearing habitat. The downstream end of other riffles within the Study Area could provide potential rearing habitat, and substrate could create velocity refuge during high flows.

The deep pools (in excess of 4 feet in depth) support fine silt and sandy substrate. The pools are very low gradient with limited water exchange. Water conditions are very turbid throughout the reach. Based on empirical data collected by the District, water temperatures within the reach create marginal rearing habitat for salmonids during the summer months (United States Army Corps of Engineers, McBain & Trush, Inc., and Moffatt & Nichol 2013). Undercut banks and large woody debris are present, creating refugia habitat for rearing juvenile and up-migrating adult salmonids. Though these habitat complexities are present, the potential for non-native predators, increased temperature, and poor water quality contribute to the Project Area being marginal rearing habitat and only a migration corridor for adult and juvenile salmonids. The fine substrates would create conditions that could support ammocoetes (lamprey larva), but the warm temperatures, poor water quality, and lack of flow through the system would limit success of the species during the summer months.

The deep pools with undercut banks, large woody debris, emergent vegetation, and high level of productivity, as well as the channel within the floodplain create conditions that support the aquatic requirements of the western pond turtle including basking, foraging, and cover (Figure 4). The upland area within the floodplain provides habitat for reproduction and estivation. During the survey, non-native red-eared slider turtles (*Trachemys scripta elegans*) were observed throughout the Study Area along with three additional turtles that were not able to be identified.



**Figure 4: Deep pool habitat within the Study Area with emergent vegetation and woody debris.**

The channel created by the storm drain outfall on the floodplain creates a perennial water source with depths to 2 feet deep and supports emergent vegetation (Figure 5). This habitat currently supports non-native red-eared slider turtles, and therefore has the potential to support western pond turtles. The topography of the floodplain creates areas of pooling water. During the survey, Sierran treefrog (*Pseudacris sierra*) tadpoles were observed in these isolated pools. The habitat could support successful reproduction of amphibians.



**Figure 5: Channel on floodplain.**

### *Wetland and Upland Habitat*

The created floodplain and access road within the Project area creates useable upland and wetland habitat for wildlife. The ruderal upland vegetation supports nesting of waterfowl species (mallard (*Anas platyrhynchos*) and Canada geese (*Branta canadensis*) were observed with broods. Other species such as song sparrows (*Melospiza melodia*) and northern rough-winged swallows (*Stelgidopteryx serripennis*) were observed foraging. Dense stands of cattails are present along the edges of the Guadalupe River and around portions of the floodplain channel (Figure 6). This vegetation could support shrub-nesting species. The access roads and areas of fluvial deposited material could support barren ground nesting birds. The floodplain habitat is also one of the only open and undeveloped areas surrounding the creek, making the habitat beneficial for foraging of birds and bats. The stormwater conveyance channel shown in Figure 6 was constructed through the floodplain, then partly altered by high flood flows. The entire floodplain area is designed to be grassy, void of woody vegetation with parts annually mowed for hydraulic flow conveyance, according to the UGRP design. Mowing also reduces fire risk to neighboring residences. There are years when mowing gets delayed or deferred, but the design condition is grassy with areas mowed annually. As a result, vegetation and associated habitat values are reduced in the Reach 6 floodplain.



Figure 6: Dense cattail stands along the channel in the floodplain.

### *Riparian Habitat*

The riparian area through the reach provides cover, foraging, and nesting habitat for many species of wildlife and provides shade to the stream channel. The reach has both a well-established riparian area and young riparian mitigation (7 years old in 2019), but it lacks width due to the urban nature of the stream. The west bank supports tall (greater than 100 feet) eucalyptus trees and cottonwoods as well as many standing snags that could support perennial nesting species such as raptors or members of the Ardeidae family. No perennial nests were observed during the survey. The tall trees could also support roosting conditions for hoary bat. The west bank understory is heavily vegetated with limited exposed ground. This bank is also steeper than the east bank and does not get inundated as often due to the presence of the floodplain. A homeless encampment is located on the east bank within the Study Area.

The east bank has mature riparian trees, but also has smaller stature mitigation plantings (Figure 7). The

presence of willows and shrubby trees create ideal nesting conditions for migratory birds. The dense understory could support San Francisco dusky-footed woodrat, but the inundation risk from the flashy flow conditions limits the potential for woodrats. The riparian area on the east bank also contains standing snags that support foraging, cover, and nesting for many bird species. The dense riparian area could serve as a migration corridor for small mammals through the surrounding urban areas.



Figure 7: Riparian area along the east bank of the Study Area.

Species observed during the survey included acorn woodpecker (*Melanerpes formicivorus*), American crow (*Corvus brachyrhynchos*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), bushtit (*Psaltriparus minimus*), California towhee (*Melospiza crissalis*), Canada goose, house finch (*Haemorrhous mexicanus*), killdeer (*Charadrius vociferous*), mallard, northern mockingbird (*Mimus polyglottos*), northern rough-winged swallow, rock pigeon (*Columba livia*), song sparrow, Sierran treefrog, red-eared slider turtle, and California ground squirrel (*Otospermophilus beecheyi*).

### **Special Status Species**

#### **Special Status Plants**

Based on CNDDDB records, the CNPS Inventory, USFWS ECOS database, and the VHP list of special-status species, 36 special-status plant species (CNPS status 2B or higher) are either known to occur or have the potential to occur within the general vicinity of the Study Area. Species were determined to be absent from the site based upon lack of suitable habitat, lack of specific edaphic requirements such as serpentine soils, elevation range of the species, or the species is considered extirpated from the immediate vicinity based upon CNDDDB records. It was determined that zero of the 36 species could occur onsite based on the criteria listed above. Nonetheless, 4 species have CNDDDB known occurrences within a 2-mile radius of the site: robust spineflower (*Chorizanthe robusta* var. *robusta*), Congdon's tarplant (*Centromadia parryi* ssp. *Congdonii*), hairless popcornflower (*Plagiobothrys glaber*), and saline clover (*Trifolium hydrophilum*) (Figure 8). Though there was minimal potential to encounter these species, the biological assessment conducted on April 29, 2016 included surveys for these plant species. No occurrences were documented.

## Upper Guadalupe River, Reach 6 Aquatic Habitat Improvement Project California Natural Diversity Database Occurrences

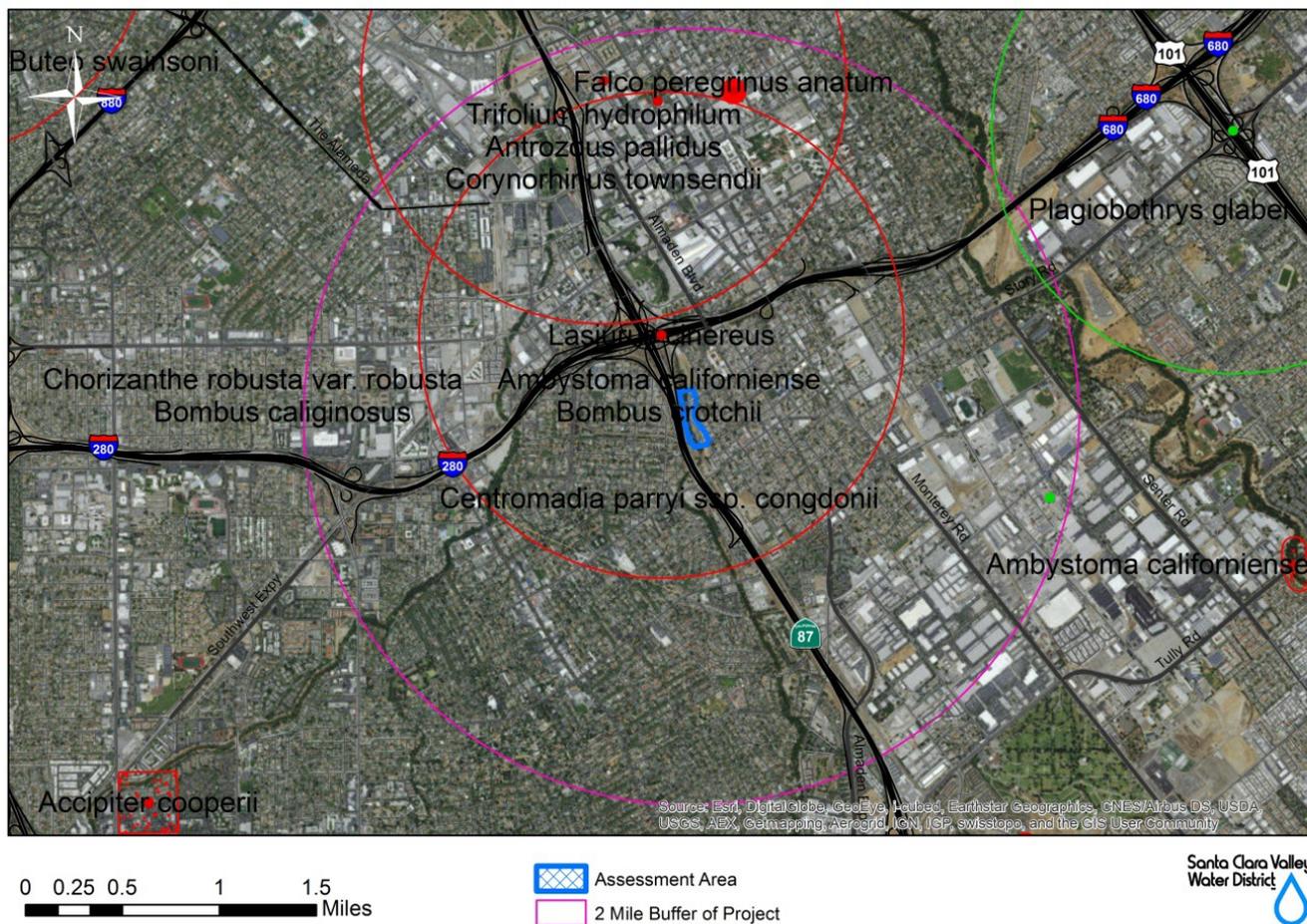


Figure 8: CNDDDB occurrences within a 2-mile radius of the Study Area.

## Special Status Fish and Wildlife

The USFWS ECOS Species List Generator, which considers a surrounding nine quadrant search for federally threatened, endangered, proposed for listing, and candidate species, provided 8 species with special status including California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), Ridgway's rail (formerly known as California clapper rail; *Rallus obsoletus*), California least tern (*Sterna antillarum browni*), delta smelt (*Hypomesus transpacificus*), Central California coast steelhead (*Oncorhynchus mykiss*; steelhead), bay checkerspot butterfly (*Euphydryas editha bayensis*) and San Bruno elfin butterfly (*Callophrys mossii bayensis*). Within a 2-mile radius of the Study Area, the CNDDDB indicated 5 different sensitive species occurrences including Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), California tiger salamander, Crotch's bumblebee (*Bombus crotchii*), and obscure bumblebee (*Bombus caliginosus*) (Figure 8). Pacific lamprey (*Entosphenus tridentatus*), southern western pond turtle (*Actinemys pallida*), white-tailed kite (*Elanus leucurus*) and San Francisco dusky-footed woodrat (*Neotoma fuscipes*) were not accounted for by the CNDDDB or the USFWS but were considered in the analysis due to habitat conditions present in the reach. Chinook salmon (*Oncorhynchus tshawytscha*) have the potential to occur within the Study Area, but genetic testing indicates that Chinook salmon within the Santa Clara County systems are not endemic to these drainages. Based on the analysis, these fish are closely related to Central Valley Fall-run stock (Garcia-Rossi and Hedgecock 2003, Garza and Pearse 2008). The historical hydrologic conditions of Santa Clara County streams do not favor the life cycle of Chinook salmon in most years, further confirming that these fish are not endemic to these drainages. Table 2 provides an overview of the species and their potential for occurrences in the Study Area.

**Table 2. List of species generated from the CNDDDB, USFWS, and best professional judgment including habitat requirements, status, and potential to occur.**

Species	Status	Habitat	Potential to Occur
Central California Coast Steelhead ( <i>Oncorhynchus mykiss</i> )	FT	Perennial streams, rivers, estuaries and marine systems with cool well oxygenated water.	Present. The Guadalupe River supports <i>O. mykiss</i> . The habitat available within the reach is poor quality and lacks beneficial spawning habitat. The reach would serve as a migration corridor for adults and potential rearing for juveniles.
Central Valley Fall Run Chinook Salmon ( <i>Oncorhynchus tshawytscha</i> )	CSC NSC	Perennial streams, rivers, estuaries and marine systems with cool well oxygenated water.	Present. The Guadalupe River supports a population of hatchery stray Chinook Salmon. The habitat available within the reach is poor quality and spawning habitat is limited. The reach would serve as a migration corridor for adults and potential spawning and rearing for habitat.
Delta Smelt ( <i>Hypomesus transpacificus</i> )	FT SE	Open water bays, tidal river, channels, and sloughs with various degrees of salinity.	None. No historical occurrences of delta smelt are available for the Guadalupe River or Santa Clara County. The lack of tidal conditions and open water habitat within the reach limit the potential of the species.
Pacific Lamprey ( <i>Entosphenus tridentatus</i> )	CSC	Perennial streams, rivers, estuaries and marine systems with cool well oxygenated water.	Present. The Guadalupe River supports Pacific lamprey. The habitat available within the reach is poor quality and lacks beneficial spawning habitat. The reach would serve as a migration corridor for adults and potential rearing for ammocoetes.

Species	Status	Habitat	Potential to Occur
California Red-legged Frog ( <i>Rana draytonii</i> )	FT VHP	Permanent or semi-permanent aquatic breeding areas and upland dispersal habitats. Breeding sites include pools and backwaters within streams, ponds, marshes, springs, sag ponds, dune ponds and lagoons.	Low. Channels on flood plain could create breeding habitat and riparian areas adjacent to the creek channel could support upland dispersal, but urbanization and presence of predatory fish limit the potential for occurrence of red-legged frog.
California Tiger Salamander ( <i>Ambystoma californiense</i> )	FT ST CSC VHP	Grasslands and foothills that contain small mammal burrows (for dry-season retreats) and seasonal ponds and pools (for breeding during the rainy season).	Low. Current site conditions including urbanization, , predatory fish, flow in creek, and inundation of upland habitat create limited habitat potential for California tiger salamander.
Western Pond Turtle ( <i>Actinemys marmorata</i> )	CSC VHP	Ponds, lakes, perennial and intermittent streams, and wetlands with vegetation, basking habitat, and upland areas for reproduction.	High. No CNDDDB occurrences of western pond turtle within two miles of the site, but conditions within the channel and surrounding habitat may support all life stages. Non-native turtles were present in the reach at the time of the survey.
Hoary Bat ( <i>Lasiurus cinereus</i> )	NL	Roost in trees at the edge of clearings, but have been found in trees in heavy forests, open wooded glades, and shade trees along urban streets and in city parks.	Moderate. Roost trees are present within the Project area and the bats are known to inhabit urban areas. The Project area could support hoary bat.
Pallid Bat ( <i>Antrozous pallidus</i> )	CSC	Grasslands, shrublands, and woodlands with rocky areas for roosting. Use a variety of roost sites including trees, snags, buildings, rock cracks, caves, and mines.	Low. Roosting habitat is available under bridges near the Project area but limited foraging habitat is available. Urbanization and other anthropogenic disturbances limit the likelihood of occurrence of pallid bat.
Townsend's Big-eared Bat ( <i>Corynorhinus townsendii</i> )	SCT CSC	Open caves, mines, or undisturbed manmade structures for roosting. Inhabits a variety of habitats including oak and conifer woodlands, arid grasslands, and deserts.	Low. Roosting habitat is available under bridges surrounding the Project area but limited foraging habitat is available. Urbanization and other anthropogenic disturbances limit the likelihood of occurrence of Townsend's big-eared bat.
San Francisco Dusky-footed Woodrat ( <i>Neotoma fuscipes annectens</i> )	CSC	Oak woodlands and riparian areas with dense shrub and tree species.	Moderate. No woodrats were observed and no occurrences are documented within the Project footprint, but areas of dense shrubs and trees near the riparian area could support woodrats.
American Peregrine Falcon ( <i>Falco peregrinus anatum</i> )	FP BCC	Associated with coastal dunes, grasslands, croplands, pastures, woodlands, and mixed-chaparral. Nest on cliffs and rocky areas, tall bridges and buildings.	Moderate. Known to nest in downtown San Jose approximately 1.1 mile from the Project area. The west bank supports tall trees and standing snags that could support perching and the floodplain may provide open areas suitable for foraging. Lack of suitable nesting habitat in the Project area limits nesting potential.
California Least Tern ( <i>Sternula antillarum browni</i> )	FE SE FP	Coastal areas, beaches, bays, estuaries, lagoons, lakes, and rivers with breeding occurring on sandy or gravelly areas near water.	Low. The Project area lacks open water that would support California least terns' aerial diving feeding behavior and adequate breeding substrate is not available.
	FE SE FP	Salt marshes, tidal brackish marshes, and wetland areas	None. The Project area lacks tidal and brackish marsh areas and inundation of the flood plain

Species	Status	Habitat	Potential to Occur
<i>obsoletus</i> )		with access to mudflats or shallow waters for foraging.	would limit success of the species. The project site lacks conditions that would support Ridgway's rail.
White-tailed Kite ( <i>Elanus leucurus</i> )	FP	Coastal and valley lowlands. Forage in open grasslands, meadows, agricultural, and marsh habitats. Nest high in dense tree stands near foraging habitat.	Moderate. Known to nest along the edge of San Francisco Bay at the northern edge of Santa Clara County. The nearest CNDDDB occurrence is approximately 7.7 miles away. The riparian area has potential to support nesting, and the floodplain could provide foraging habitat.
Crotch's Bumblebee ( <i>Bombus crotchii</i> )	NL	Dry open grasslands, scrub communities, and desert regions.	Low. The Project area lacks dry open conditions preferred by Crotch's bumblebee.
Obscure Bumblebee ( <i>Bombus caliginosus</i> )	NL	Coastal prairies and coast range meadows.	Low. The urbanization and lack of open prairie or meadow habitat would limit success of obscure bumblebee. Constant inundation of floodplain limits potential for ground nests.
Bay Checkerspot Butterfly ( <i>Euphydryas editha bayensis</i> )	FT VHP	Shallow, serpentine soils, with open grasslands. Rare serpentine plants serve as host for reproduction.	Low. The lack of serpentine soils and the host plant for reproduction limits the potential for bay checkerspot butterflies to persist in the Project area. Any butterflies in the area would be using the habitat transiently while looking for suitable habitat.
San Bruno Elfin Butterfly ( <i>Callophrys mossii bayensis</i> )	FE	Rocky outcrops and cliffs in coastal scrub habitat.	Low. The lack of rocky habitats and scrub plant communities limits the potential of San Bruno elfin butterfly within the Project area.
<b>CSC</b> -California Species of Special Concern <b>ST</b> -State Threatened <b>SE</b> -State Endangered <b>SCT</b> -State Candidate for Threatened <b>FE</b> -Federally Endangered <b>FP</b> -California Fully Protected <b>NSC</b> -NMFS Species of Concern <b>USC</b> -USFWS Species Special Concern <b>BCC</b> -USFWS Birds of Conservation Concern <b>VHP</b> -Species covered under Valley Habitat Plan <b>NL</b> -No State or Federal listing			

The Study Area is not considered Critical Habitat for any sensitive species. Based on the analysis of the special status species potential within the Project area it was determined that steelhead, pacific lamprey, western pond turtle, white-tailed kite, American peregrine falcon, and San Francisco dusky-footed woodrat are most likely to occur. Degraded habitat, urbanization, lack of suitable habitat, and lack of historical occurrences within the watershed limit the potential occurrence of the other listed species. Although potential of other species was limited, efforts were made during the survey to locate these species and their potential habitat.

### Valley Habitat Plan (VHP) Requirements for Phase 1

The Project area is mapped as tricolored blackbird habitat and agricultural and valley floor fee land in the VHP. Only the area proposed in Phase 1 of the Project was evaluated under the VHP at this time. The valley floor land cover types that will potentially be impacted include willow riparian forest scrub, coastal valley freshwater marsh, seasonal wetlands, and riverine/stream habitat (Table 3). The impact determination was based on land cover definitions from the VHP (ICF 2012); therefore, the impact numbers will not directly correlate to the vegetative community impacts discussed later in the document.

In accordance with the Tricolored Blackbird section of the VHP, habitat surveys for tricolored blackbird were conducted (ICF 2012). The proposed Phase 1 Project would occur within 250 feet of riparian habitat that could support tricolored blackbird (Figure 9). Nesting substrate for tricolored blackbirds, which generally includes flooded thorny or spiny vegetation, is present but marginal within the Study Area. The stands of emergent vegetation along the Guadalupe River and floodplain channel are narrow and intermittent amongst grasses

and other habitats that are not suitable for nesting. The channel margin does support dense willows and other trees and shrubs that could support nesting, but tricolored blackbirds are not likely to nest in woody riparian areas without the extensive emergent vegetation component (Rottenborn, 2007). The vegetated area is heavily altered and channelized, limiting availability of foraging areas. Figure 9 indicates the area of potentially flooded riparian and areas of emergent vegetation. No occurrence data within the quadrant of the Project area is available and no tricolored blackbirds were observed during the survey. It is not likely that tricolored blackbirds would use the Study Area more than transiently.

**Table 3: Estimated VHP land cover impacts table.**

<b>Natural Community and Land Cover Types</b>	<b>Permanently Impacted (Acres*)</b>	<b>Temporarily Impacted (Acres*)</b>
<b>Willow Riparian Forest and Scrub</b>	--	0.05
<b>Coastal and Valley Freshwater Marsh</b>	--	0.01
<b>Seasonal Wetland</b>	--	0.01
<b>Riverine/Stream (linear Feet)</b>	300 - 550	500 – 800
*All measurements are in acres unless otherwise noted by the land cover type.		

## Upper Guadalupe River, Reach 6 Aquatic Habitat Improvement Project Santa Clara Valley Habitat Plan Potential Tricolored Blackbird Habitat



0 100 200 400 600  
Feet

 Potential Tricolored Blackbird Habitat  
 Assessment Area

Santa Clara Valley  
Water District 

Figure 9: Santa Clara Valley Habitat Plan special status species tricolored blackbird habitat map for Phase 1.

## Impacts of the Phase 1 Project

### **Impacts to Habitat**

The Phase 1 Project has been designed to limit potential habitat impacts, and BMPs and AMMs identified in Table 1 would be implemented during both Phases 1 and 2 to avoid and minimize impacts to biological resources. The proposed Project would remove trees along the access routes, contribute to ground disturbance in the wetland, upland, and riparian areas, and potentially reduce habitat complexity within the channel. Most Phase 1 Project impacts would be associated with temporary construction activities including ground disturbance, vegetation removal and replacement, and dewatering for placement of gravel in the stream. The AMMs and BMPs would reduce impacts during construction. The issues associated with minor and temporary loss of riparian, wetland, and upland habitat would be minimal since access would occur at up to 5 specific locations and would be isolated on the east bank. Minor tree trimming may occur on the west bank, but all large stature trees will remain unaltered. In-channel impacts would have a net benefit as the Phase 1 Project is designed to improve channel conditions and water quality while removing areas of unnatural bed scour. The total area potentially impacted (including the temporarily dewatered area) would be 1.20 acre. The impacts are separated into temporary and permanent (Table 4). The vegetative communities and habitat to be impacted can be seen in Figure 10.

**Table 4. Phase 1 habitat impacts in acres including areas only subject to dewatering.**

<b>Habitat Type</b>	<b>Temporary Impacts</b>	<b>Permanent Impacts</b>
<b>Riparian</b>	0.05	--
<b>Seasonal Wetland</b>	0.01	--
<b>Perennial Marsh</b>	0.01	--
<b>Upland</b>	0.38	--
<b>Aquatic/Open Water</b>	0.36	0.39
<b>Total</b>	<b>0.81</b>	<b>0.39</b>

Temporary impacts would occur on the floodplain at channel access locations and staging area, as well as within the river channel at coffer dam locations, and all areas experiencing dewatering, but not gravel augmentation. These impacts would be limited to temporary ground disturbance, disturbance of upland and wetland vegetation, and dewatering. Impacts to open water habitat of the floodplain drainage channel and wetlands would be limited by placing steel plates across the channel and wetlands where applicable. While some riparian vegetation would be removed for access, it would be replaced with the same species after construction is complete. About 0.39 acres of aquatic/open water habitat would be permanently affected by the placement of gravel, which would result in an improvement in the quality of this habitat.

The removal/trimming of the trees would not limit available perching, nesting, or roosting habitat for native birds or bats. Ample trees are available in the reach that would not be altered, and any areas of ground disturbance to the creek would be replanted with native vegetation.

The trees that would be removed could serve as potential wildlife habitat and contribute to riparian shading and stream complexities, but the overall impact is limited and the trees would be replaced. The trees to be removed are for access areas for equipment to enter the channel. The access is to occur on the east bank within a mitigation planting area; therefore, few of the trees are large in stature. The Phase 1 Project can shift access points to avoid large stature trees that provide beneficial habitat. The total number of trees to be removed due to the Phase 1 Project is estimated at 18 and limited to three different species (Table 5). The largest tree to be removed is approximately 6 inch DBH. The removal and replacement of these estimated 18 trees will not significantly reduce riparian shading or limit wildlife habitat in the reach.

Channel dewatering during the work period would cause temporary impacts to in-channel habitat within the Phase 1 Project area and the area upstream that will experience inundation behind the coffer dam. Impacts downstream of the Phase 1 Project would be limited by the recommended BMPs and AMMS as the pipe would be adequate size to convey flows downstream. The current in-channel habitat conditions are poor, thus the reason for this project. Temporary impacts to in-channel habitats associated with dewatering would be mitigated through the Project. In the long term, the Phase 1 Project would improve habitat conditions within the channel, which would support a higher abundance and diversity of benthic macroinvertebrates, provide improved habitat for native fishes, and improve water quality.



Figure 10: Aerial image showing vegetative communities that will be impacted during Phase 1.

**Table 5. Potential number of trees (greater than 2 inch DBH) to be impacted at Phase 1 channel access areas.**

Site	Common Name	Scientific Name	Quantity	DBH (inches)
Upstream Coffer Dam	Sandbar Willow	<i>Salix exigua</i>	1	2.0
	Fremont Cottonwood	<i>Populus fremontii</i>	1	2.0
Downstream Coffer Dam	Fremont Cottonwood	<i>Populus fremontii</i>	1	3.5
	Fremont Cottonwood	<i>Populus fremontii</i>	1	6.0
Access Area # 1	Fremont Cottonwood	<i>Populus fremontii</i>	1	3.0
	Fremont Cottonwood	<i>Populus fremontii</i>	1	5.5
	Fremont Cottonwood	<i>Populus fremontii</i>	1	2.0
	Fremont Cottonwood	<i>Populus fremontii</i>	2	
	Fremont Cottonwood	<i>Populus fremontii</i>	2	2.0
Access Area #2	<b>No tree greater than 2 inch DBH will be impacted</b>			
Access Area #3	Fremont Cottonwood	<i>Populus fremontii</i>	1	4.0
	Fremont Cottonwood	<i>Populus fremontii</i>	1	2.0
	Arroyo Willow	<i>Salix lasiolepis</i>	7	2.7
<b>Total Number of Trees: 18</b>				

**Phase 2 Impacts to Habitat**

Phase 2 of the Project would be implemented a minimum of six years after Phase 1 construction to allow time for monitoring the Phase 1 performance and incorporate design changes based on lessons learned from Phase 1 monitoring. As a result, Phase 2 design is at a lesser level of detail than the Phase 1 design. Additionally, Phase 2 would be implemented several years in the future and baseline environmental conditions may change during the interim period. For these reasons, the analysis of Phase 2 impacts to biological resources is less definitive than the Phase 1 analysis.

During Phase 2 of the project, the District would place about 3,000 CY of gravel in 5 pools located between the W. Virginia Street Bridge and the I-280 crossing of the Guadalupe River. This gravel would have the same grain size distribution as the Phase 1 gravel. Additionally, about 200 CY of gravel would be placed at the Reaches 3C/6 transition, which is located under the I-280 crossing of the river. Similar to Phase 1, implementation of Phase 2 actions would require dewatering of the river low-flow channel for up to 8 weeks. Staging of equipment and materials would occur on the east bank floodplain, including the placement of a dewatering system. The floodplain adjacent to the void fill area includes a large concrete apron that could be used to stage

work, minimizing habitat impacts. The types of habitat affected would include aquatic/open water, riparian, and grassland/upland habitat. In addition, very small areas of seasonal wetland and perennial marsh located at the edge of the river channel may be unavoidable and may be affected. Phase 2 impacts would be very similar to Phase 1 impacts, although a longer reach of the river would be impacted, resulting in a somewhat larger area of impact. Table 6 provides an estimated area of impact. The numbers in Table 6 are only estimates and were not measured in the field. The number of trees removed during Phase 2 is also expected to be modestly more than during Phase 1. The permanent changes to aquatic/open water habitat would be beneficial by creating more natural river morphology as five new riffles would replace existing, unnaturally deep pools.

**Table 6. Estimated Maximum Phase 2 habitat impacts in acres.**

Habitat Type	Temporary Impacts	Permanent Impacts
<b>Riparian</b>	0.05 – 0.10	--
<b>Seasonal Wetland</b>	0.0 – 0.01	--
<b>Perennial Marsh</b>	0.0 – 0.01	--
<b>Upland</b>	0.5 - 1.0	--
<b>Aquatic/Open Water</b>	0.6	0.6
<b>Total</b>	<b>1.1 to 1.72</b>	<b>0.6</b>

Since both Phase 1 and Phase 2 of the Project would be implemented during the dry season, when only summer base flow is present in the river, inundation upstream of the upper coffer dam would be limited in extent. Sediment transport through the system during the dry season would be limited; therefore, only minor amounts of sediment would accumulate upstream of the upper coffer dam. The level of sediment accumulation and inundation would not exceed the capacity of the channel or flood vegetation that is not capable of withstanding temporary root inundation. The Project is not expected to result in loss of upstream habitat due to inundation.

**Impacts to Special Status Species Most likely to Occur  
Central California Coast Steelhead**

Central California Coast Steelhead are a federally threatened Distinct Population Segment (DPS) of *O. mykiss* which are known to occur in the Guadalupe River. The Study Area is not federally defined critical habitat for the species, but steelhead are likely to occur seasonally. The main stem of the Guadalupe River within the Project area is primarily a migration corridor for adult steelhead returning to spawn and juveniles out-migrating to the ocean during the winter and spring months. The Project reach could also potentially be used by juveniles during smoltification and for refugia during out-migration, which also occurs during the winter and spring months. The Project area lacks spawning substrate and steelhead prefer spawning in tributaries, thus summer and fall rearing occurs primarily in the upper watershed tributaries (Guadalupe Creek and Alamos Creek). The temperatures during the summer months within the Project area often exceed optimal rearing temperature and water quality is degraded (United States Army Corps of Engineers, McBain & Trush, Inc., and Moffatt & Nichol 2013). The deep water habitat and lack of flow limit drift feeding capabilities for the species and also harbor non-native predatory fish. The conditions present during the summer months are not ideal,

thus it is not expected that steelhead will occur in the reach during construction. The work window for the Project (June 1-October 15) and the AMMs and BMPs listed in Table 1 will further limit impacts to steelhead. Based on the habitat conditions, the proposed timing of work, and implementation of AMMs and BMPs the impacts to steelhead are not significant. The Project will also create beneficial habitat and reduce current poor water quality conditions, further contributing to a less than significant impact.

### **Central Valley Fall-Run Chinook Salmon**

Central Valley Fall Run Chinook Salmon are a California Species of Special Concern and a NMFS Species of Concern. The NMFS designation only applies to "...all naturally spawned populations of fall-run Chinook Salmon in the Sacramento and San Joaquin River Basin and their tributaries, east of Carquinez Strait, California" (NMFS 2009). CDFW consider Chinook salmon a species of special concern and indicate that the species is found within Central Valley river and streams and range maps do not include Santa Clara County (CDFW 2018). The Study Area is not included in the areas designated by NMFS and CDFW and further, Chinook salmon in Santa Clara County are of hatchery origin based on historical occurrence data, genetic testing, and the presence of adipose fin-clipped fish in the system (Garcia-Rossi and Hedgecock 2003; Garza and Pearse 2008; Leal and Watson 2018). Hatcher stray Chinook salmon have been observed in the Guadalupe Watershed since the mid 1980's, and are likely to occur seasonally in the project area. The main stem of the Guadalupe River within the Project area is primarily a migration corridor for stray adult Chinook salmon returning to spawn and if spawning is successful, for juveniles out-migrating to the ocean during the winter and spring months. The Project reach could also potentially be used by juveniles during rearing, smoltification, and for refugia during out-migration, which also occurs during the winter and spring months. The Project area currently lacks abundant spawning substrate, but spawning has occurred in close proximity. The deep-water mid-channel pool habitat and lack of velocity limit drift feeding capabilities for the species and harbor non-native predatory fish. The life history of Chinook salmon (adult up-migration in October-January and Juvenile outmigration from November-June), limit the potential of the species to be present during construction. The work window for the Project (June 1-October 15) and the AMMs and BMPs listed in Table 1 will further limit impacts to Chinook salmon. Based on the habitat conditions, the proposed timing of work, and implementation of AMMs and BMPs the impacts to Chinook salmon are not significant. The Project will also create beneficial habitat and reduce current poor water quality conditions, further contributing to a less than significant impact.

### **Pacific Lamprey**

Pacific lamprey is a California Species of Special Concern. This species had no occurrences within 2 miles of the Project on the CNDDDB but has unprocessed occurrences in the quadrant. This species was included in the analysis as it is known to occur within the Guadalupe Watershed. Similar to steelhead, adult lamprey migrate upstream during the winter and spring months to spawn. The Project reach has limited spawning gravel available. The substrate throughout the reach would be beneficial to ammocoetes (juveniles), but lack of flow would limit filter feeding capabilities of the species and high temperatures (greater than 22°C) that can contribute to mortality or deformation (Meeuwig et al 2005) would limit the likelihood the species could persist in the reach. The work window for the Project (June 1-October 15) and associated seasonal warm water, as well as the AMMs and BMPs listed in Table 1, will further limit impacts to Pacific lamprey. Based on the habitat conditions, proposed timing of work, and implementation of AMMs and BMPs the impacts to

Pacific lamprey are less than significant.

### **Western Pond Turtle**

Western pond turtles are a California Species of Special Concern and have CNDDDB occurrences approximately 3 miles upstream of the Project area. The western pond turtle is an aquatic turtle that can persist in a variety of lentic and lotic habitats, and use upland areas for over wintering and nest building. During the warmer months (April-September) turtles are primarily found in or near aquatic habitats. Western pond turtles require aquatic sites with suitable basking areas and in-stream complexities for cover (Rathburn et al., 2002). The deep slow moving water, undercut banks, and presence of woody debris within the Project area create habitat that can support western pond turtles. No western pond turtles were observed during the survey but multiple non-native red-eared sliders were present. Since these two species have similar life histories, the presence of the red-eared slider indicates that habitat conditions are suitable for aquatic turtles. The presence of the non-native turtle also indicates that competition for resources is present, as red-eared sliders are documented to outcompete and forcibly take over basking sites, forcing western pond turtles to relocate to different areas (Polo-Cavia et al., 2007). Though the habitat is present and suitable for western pond turtles, direct competition from non-native turtles, non-native predation (e.g. bullfrogs, feral cats), and minimal nesting habitat limits the potential of occurrence in the reach. It is possible that a small population of western pond turtles could be present, but the AMMs, BMPs, and additional mitigation measures listed in Table 1 would limit the impacts to the species to less than significant.

### **American Peregrine Falcon, White-Tailed Kite, and Migratory Birds**

The American peregrine falcon is a California Fully Protected species that nests on cliff ledges, tall concrete structures, and occasionally tall trees. The use of trees is uncommon in California (Comrack and Logsdon 2007). Peregrine falcons forage in open areas with high perches available. CNDDDB occurrence of the falcon is present within 2 miles of the Project and is a known breeding location. The peregrine falcon occurrence is a breeding pair utilizing a nest box located on San Jose City Hall. These birds are adapted to urban living and could use the creek corridor for foraging, but nesting is not expected.

White-tailed kite is another California Fully Protected species that nests in dense trees (away from high human activity) near foraging habitat that consists of open grasslands, meadows, agricultural fields, and marsh habitat. The nearest CNDDDB occurrence is approximately 8 miles away. Most nesting and other occurrences within Santa Clara County are along San Francisco Bay and the northern edge of the county (Bousmn 2007). The riparian area within the Project has habitat that could support nesting and foraging could occur along the floodplain, but the habitat is marginal and highly disturbed. Breeding of white-tailed kite is not expected. Native migratory birds are protected under the Federal Migratory Bird Treaty Act of 1918. The dense riparian area, upland area, and marsh vegetation could support nesting migratory birds and provide habitat for foraging. As mentioned above, no nesting of American peregrine falcon or white-tailed kite is expected in the reach, and the available foraging habitat is marginal. Other foraging habitat is located both up and downstream of the Project area and the impacts to the foraging area are temporary and limited to the construction window.

Nesting and foraging of other migratory birds is likely to occur, but impacts will be temporary and limited to the construction window. The loss of riparian area will not impact the overall density of riparian habitat, and

no old large stature trees or snags will be removed. The overall impact duration and minimal habitat loss resulting from the Project associated with the implementation of AMMs and BMPs listed in Table 1 would limit the impacts to the species to less than significant.

#### **San Francisco Dusky-Footed Woodrat**

San Francisco dusky-footed woodrat is a California Species of Special Concern found throughout Santa Clara County. Woodrats prefer riparian and oak woodland forests with dense understory cover, or thick chaparral habitat (Lee and Tietje 2005). They build large, complex nests of sticks and other woody debris, which may be maintained by a series of occupants for several years. This makes determining presence of these species easier than most small mammals. There are no CNDDDB occurrences within 10 miles of the Study Area and no woodrats or nests were observed during the survey. The habitat could support woodrats but since the lodges were not detected during initial surveys, it is not likely this species is present within the work area, and the constant inundation of the floodplain would limit their success. Furthermore, limited useable habitat for woodrats is proposed to be impacted. The overall impact duration and minimal habitat loss resulting from the Phase 1 Project associated with the implementation of AMMs, BMPs, and other mitigation measures listed in Table 1 would limit the impacts to the species to less than significant.

#### **Summary of Impacts to Special Status Species**

At the time of the survey no special status or other sensitive species were observed. The areas within the Phase 1 Project footprint could serve as habitat for some special status species, but no evidence of presence was observed. The area is highly disturbed, fragmented, and urban. To further understand the impacts associated with wetlands along the flood plain a wetland delineation is recommended.

With appropriate AMMs, BMPs, and other mitigation measures potential impacts associated with the Phase 1 Project would be limited. The long term impacts of the Phase 1 Project would be limited due to the nature of the site and high level of disturbance in the area currently present. The augmentation of gravels, cobbles, and boulders in the reach would benefit steelhead and Pacific lamprey by creating habitat that is better suited for all of their life stages. Any loss of habitat complexities would be mitigated for by the improvements the Phase 1 Project provides.

## **Works Cited**

- Bousman, W. G. 2007. Breeding Bird Atlas of Santa Clara County, California. Santa Clara Valley Audubon Society, Cupertino, CA.
- California Department of Fish and Wildlife (CDFW). 2018. Central Valley Fall-Run Chinook Salmon *Oncorhynchus tshawytscha* ESU. Prepared by CDFW, accessed on February 26, 2019, from <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=104280&inline>.
- Comrack, L. A. and R. J. Logsdon. 2007. Evaluation of Petition to Delist American Peregrine Falcon (*Falco peregrinus anatum*). Department of Fish and Game, Wildlife Branch, Nongame Wildlife Program Report 2007-03.
- Garcia-Rossi D. and D. Hedgecock. 2002. Provenance analysis of Chinook salmon (*Oncorhynchus tshawytscha*) in the Santa Clara Valley Watershed. Prepared by the Bodega Marine Laboratory, University of California at Davis. Prepared for the Santa Clara Valley Water District, San Jose, CA.
- Garza, J. C. and D. Pearse. 2008. Population genetics of *Oncorhynchus mykiss* in the Santa Clara Valley Region. Final Report for the Santa Clara Valley Water District, San Jose, CA.
- [ICF] ICF International. 2012. Final Santa Clara Valley Habitat Plan. Santa Clara County, California. Prepared by the City of Gilroy, City of Morgan Hill, City of San Jose, County of Santa Clara, Santa Clara Valley Transportation Authority, and Santa Clara Valley Water District. August. <http://www.scv-habitatplan.org>.
- Leal, C. C. and Watson J. T. 2018. Historical Occurrence of Chinook Salmon (*Oncorhynchus tshawytscha*) in the Guadalupe River Watershed, Santa Clara County, California. Santa Clara Valley Water District, San Jose, California.
- Lee, D. E., and W. D. Tietje. 2005. Dusky-footed woodrat demography and prescribed fire in a California oak woodland. *Journal of Wildlife Management* 69:1211-1220.
- Meeuwig, M.H., J.M. Bayer, and J.G. Seelye. 2005. Effects of temperature on survival and development of early life stage Pacific and western brook lampreys. *Transactions of the American Fisheries Society* 134: 19-27.
- National Marine Fisheries Service (NMFS). 2009. Species of Concern, Chinook Salmon *Oncorhynchus tshawytscha* Central Valley Fall, Late-fall run ESU. Prepared by NMFS, accessed February 26, 2019, available from [https://www.westcoast.fisheries.noaa.gov/publications/SOC/chinooksalmon\\_detailed.pdf](https://www.westcoast.fisheries.noaa.gov/publications/SOC/chinooksalmon_detailed.pdf).
- Polo-Cavia, N., Lopez, P., & Martin, J. (2010). Competitive interactions during basking between native and invasive freshwater turtle species. *Biological Invasions*, 12, 2141-2152.
- Rottenborn, S. C. 2007. Tricolored Blackbird. Pages 426-427 in W. G. Bousman (ed.), *Breeding Bird Atlas of Santa Clara County*. Santa Clara Valley Audubon Society, Cupertino, California.
- Rathbun, G. B., Scott, N. J., & Murphey, T. G. (2002). Habitat use by pacific pond turtles in a Mediterranean climate. *The Southwestern Naturalist*, 47(2), 225-235.

United States Army Corps of Engineers, McBain & Trush, Inc., and Moffatt & Nichol. 2013. Upper Guadalupe River Gravel Augmentation Study. United States Army Corps of Engineers, San Francisco District, September 6, 2013.

# Appendix A

**CNDDDB Quad Species List 31 records.**

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA		Quad Name	Data Status	Taxonomic Sort
							Rare Plant Code	Quad Rank			
Animals - Amphibians	Ambystoma californiense	California tiger salamander	AAAAA01180	Threatened	Threatened	SSC	-	3712138	San Jose West	Mapped	Animals - Amphibians - Ambystomatidae - Ambystoma californiense
Animals - Amphibians	Rana draytonii	California red-legged frog	AAABH01022	Threatened	None	SSC	-	3712138	San Jose West	Unprocessed	Animals - Amphibians - Ranidae - Rana draytonii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3712138	San Jose West	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3712138	San Jose West	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Spizella passerina	chipping sparrow	ABPBX94020	None	None	-	-	3712138	San Jose West	Unprocessed	Animals - Birds - Emberizidae - Spizella passerina
Animals - Birds	Falco peregrinus anatum	American peregrine falcon	ABNKD06071	Delisted	Delisted	FP	-	3712138	San Jose West	Mapped	Animals - Birds - Falconidae - Falco peregrinus anatum
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3712138	San Jose West	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	-	3712138	San Jose West	Unprocessed	Animals - Birds - Parulidae - Icteria virens
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	-	3712138	San Jose West	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Phalacrocorax auritus	double-crested cormorant	ABNFD01020	None	None	WL	-	3712138	San Jose West	Unprocessed	Animals - Birds - Phalacrocoracidae - Phalacrocorax auritus
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3712138	San Jose West	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Fish	Lavinia symmetricus subditus	Monterey roach	AFCJB19026	None	None	SSC	-	3712138	San Jose West	Unprocessed	Animals - Fish - Cyprinidae - Lavinia symmetricus subditus
Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	SSC	-	3712138	San Jose West	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3712138	San Jose West	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	-	3712138	San Jose West	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Insects	Bombus caliginosus	obscure bumble bee	IIHYM24380	None	None	-	-	3712138	San Jose West	Mapped	Animals - Insects - Apidae - Bombus caliginosus
Animals - Insects	Bombus crotchii	Crotch bumble bee	IIHYM24480	None	None	-	-	3712138	San Jose West	Mapped	Animals - Insects - Apidae - Bombus crotchii
Animals - Insects	Bombus occidentalis	western bumble bee	IIHYM24250	None	None	-	-	3712138	San Jose West	Mapped	Animals - Insects - Apidae - Bombus occidentalis

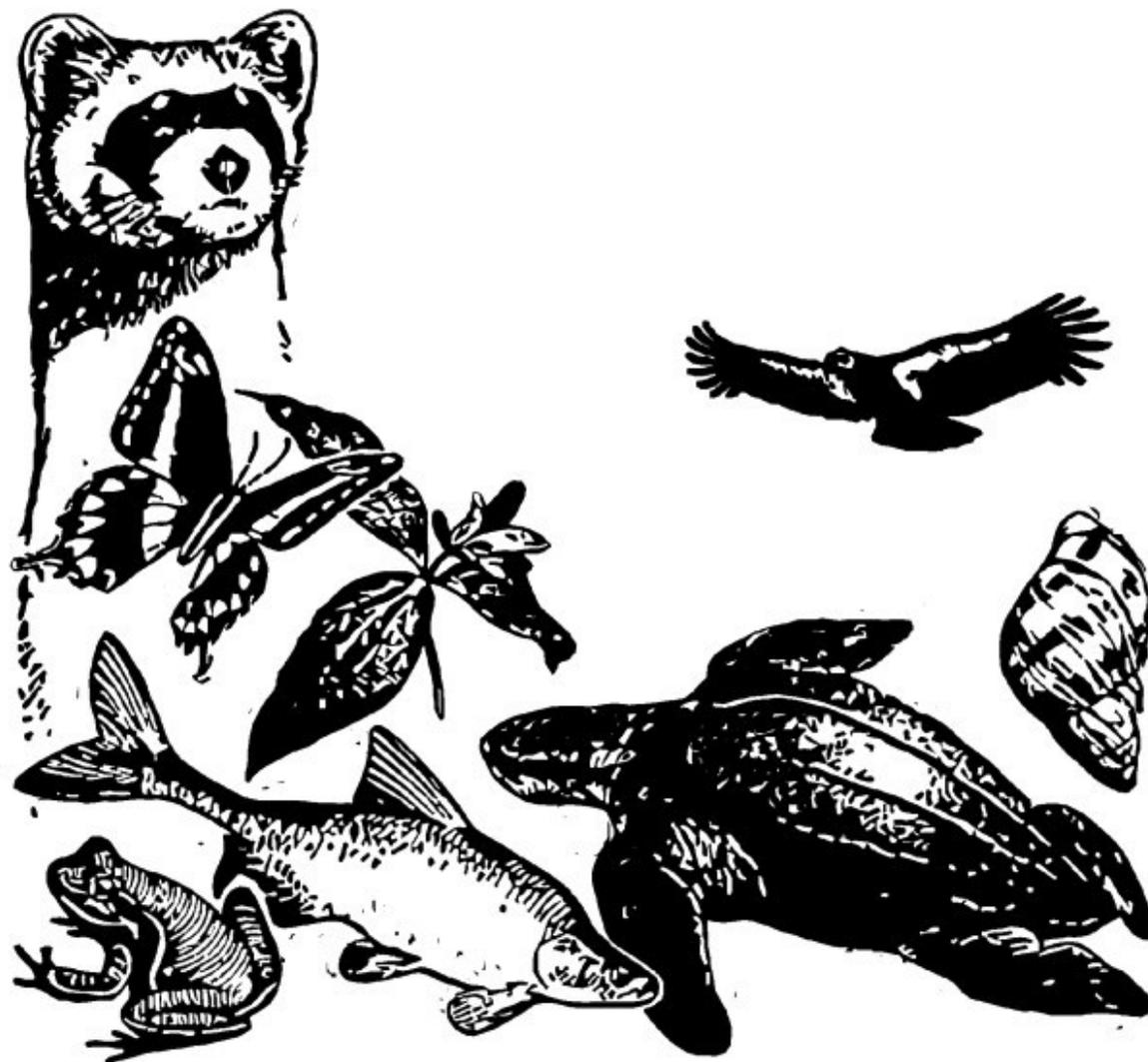
Animals - Mammals	<i>Antrozous pallidus</i>	pallid bat	AMACC10010	None	None	SSC	-	3712138	San Jose West	Mapped	Animals - Mammals - Vespertilionidae - <i>Antrozous pallidus</i>
Animals - Mammals	<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	AMACC08010	None	Candidate Threatened	SSC	-	3712138	San Jose West	Mapped	Animals - Mammals - Vespertilionidae - <i>Corynorhinus townsendii</i>
Animals - Mammals	<i>Lasiurus cinereus</i>	hoary bat	AMACC05030	None	None	-	-	3712138	San Jose West	Mapped	Animals - Mammals - Vespertilionidae - <i>Lasiurus cinereus</i>
Animals - Mollusks	<i>Anodonta californiensis</i>	California floater	IMBIV04020	None	None	-	-	3712138	San Jose West	Unprocessed	Animals - Mollusks - Unionidae - <i>Anodonta californiensis</i>
Animals - Mollusks	<i>Gonidea angulata</i>	western ridged mussel	IMBIV19010	None	None	-	-	3712138	San Jose West	Unprocessed	Animals - Mollusks - Unionidae - <i>Gonidea angulata</i>
Animals - Reptiles	<i>Emys marmorata</i>	western pond turtle	ARAAD02030	None	None	SSC	-	3712138	San Jose West	Mapped and Unprocessed	Animals - Reptiles - Emydidae - <i>Emys marmorata</i>
Animals - Reptiles	<i>Phrynosoma blainvillii</i>	coast horned lizard	ARACF12100	None	None	SSC	-	3712138	San Jose West	Unprocessed	Animals - Reptiles - Phrynosomatidae - <i>Phrynosoma blainvillii</i>
Plants - Vascular	<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	PDAST4R0P1	None	None	-	1B.1	3712138	San Jose West	Mapped	Plants - Vascular - Asteraceae - <i>Centromadia parryi</i> ssp. <i>congdonii</i>
Plants - Vascular	<i>Plagiobothrys glaber</i>	hairless popcornflower	PDBOR0V0B0	None	None	-	1A	3712138	San Jose West	Mapped	Plants - Vascular - Boraginaceae - <i>Plagiobothrys glaber</i>
Plants - Vascular	<i>Trifolium hydrophilum</i>	saline clover	PDFAB400R5	None	None	-	1B.2	3712138	San Jose West	Mapped	Plants - Vascular - Fabaceae - <i>Trifolium hydrophilum</i>
Plants - Vascular	<i>Malacothamnus hallii</i>	Hall's bush-mallow	PDMAL0Q0F0	None	None	-	1B.2	3712138	San Jose West	Mapped	Plants - Vascular - Malvaceae - <i>Malacothamnus hallii</i>
Plants - Vascular	<i>Clarkia lewisii</i>	Lewis' clarkia	PDONA050N0	None	None	-	4.3	3712138	San Jose West	Unprocessed	Plants - Vascular - Onagraceae - <i>Clarkia lewisii</i>
Plants - Vascular	<i>Chorizanthe robusta</i> var. <i>robusta</i>	robust spineflower	PDPGN040Q2	Endangered	None	-	1B.1	3712138	San Jose West	Mapped	Plants - Vascular - Polygonaceae - <i>Chorizanthe robusta</i> var. <i>robusta</i>

# Appendix B

# IPaC Trust Resources Report

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This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (<https://ecos.fws.gov/ipac/>): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

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U.S. Fish & Wildlife Service

# IPaC Trust Resources Report



LOCATION

Santa Clara County, California

IPAC LINK

<https://ecos.fws.gov/ipac/project/TDM3Q-VP2VF-AOHOC-GTPAD-VHRS5A>



## U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

**Sacramento Fish And Wildlife Office**

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

# Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the [Endangered Species Program](#) of the U.S. Fish & Wildlife Service.

**This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.**

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

[Section 7](#) of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

**A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.**

The list of species below are those that may occur or could potentially be affected by activities in this location:

## Amphibians

**California Red-legged Frog** *Rana draytonii* Threatened

CRITICALHABITAT

There is **final** critical habitat designated for this species.

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=D02D](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=D02D)

**California Tiger Salamander** *Ambystoma californiense* Threatened

CRITICALHABITAT

There is **final** critical habitat designated for this species.

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=D01T](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=D01T)

## Birds

**California Clapper Rail** *Rallus longirostris obsoletus* Endangered

CRITICALHABITAT

No critical habitat has been designated for this species.

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?spcode=B04A](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B04A)

**California Least Tern** *Sterna antillarum browni* Endangered

CRITICALHABITAT

No critical habitat has been designated for this species.

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?spcode=B03X](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B03X)

## Fishes

**Delta Smelt** *Hypomesus transpacificus* Threatened

CRITICALHABITAT

There is final critical habitat designated for this species.

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?spcode=E070](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E070)

**Steelhead** *Oncorhynchus (=Salmo) mykiss* Threatened

CRITICALHABITAT

There is final critical habitat designated for this species.

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?spcode=E08D](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E08D)

## Flowering Plants

**Robust Spineflower** *Chorizanthe robusta var. robusta* Endangered

CRITICALHABITAT

There is final critical habitat designated for this species.

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?spcode=Q3O7](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q3O7)

## Insects

**Bay Checkerspot Butterfly** *Euphydryas editha bayensis* Threatened

CRITICALHABITAT

There is final critical habitat designated for this species.

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?spcode=I021](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=I021)

**San Bruno Elfin Butterfly** *Callophrys mossii bayensis* Endangered

CRITICALHABITAT

No critical habitat has been designated for this species.

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?spcode=I00Q](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=I00Q)

## Critical Habitats

**There are no critical habitats in this location**

# Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the [Bald and Golden Eagle Protection Act](#).

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.<sup>[1]</sup> There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

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1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern  
<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds  
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data  
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php>

The following species of migratory birds could potentially be affected by activities in this location:

<b>Allen's Hummingbird</b> <i>Selasphorus sasin</i>	Bird of conservation concern
Season: Breeding <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0LI">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0LI</a>	
<b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i>	Bird of conservation concern
Year-round <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B008">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B008</a>	
<b>Bell's Sparrow</b> <i>Amphispiza belli</i>	Bird of conservation concern
Year-round <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HE">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HE</a>	
<b>Black Rail</b> <i>Laterallus jamaicensis</i>	Bird of conservation concern
Season: Breeding <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B09A">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B09A</a>	

**Black Swift** *Cypseloides niger*

Season: Breeding

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0FW](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0FW)

Bird of conservation concern

**Black-chinned Sparrow** *Spizella atrogularis*

Season: Breeding

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0IR](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0IR)

Bird of conservation concern

**Burrowing Owl** *Athene cunicularia*

Year-round

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0NC](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0NC)

Bird of conservation concern

**Costa's Hummingbird** *Calypte costae*

Season: Breeding

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0JE](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0JE)

Bird of conservation concern

**Fox Sparrow** *Passerella iliaca*

Season: Wintering

**Lawrence's Goldfinch** *Carduelis lawrencei*

Season: Breeding

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0J8](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0J8)

Bird of conservation

concern Bird of

conservation concern

**Least Bittern** *Ixobrychus exilis*

Season: Breeding

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B092](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B092)

**Lesser Yellowlegs** *Tringa flavipes*

Season: Wintering

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0MD](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0MD)

Bird of conservation concern

**Lewis's Woodpecker** *Melanerpes lewis*

Season: Wintering

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0HQ](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HQ)

Bird of conservation concern

**Long-billed Curlew** *Numenius americanus*

Season: Wintering

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B06S](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B06S)

Bird of conservation concern

**Marbled Godwit** *Limosa fedoa*

Season: Wintering

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0JL](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0JL)

Bird of conservation concern

**Nuttall's Woodpecker** *Picoides nuttallii*

Year-round

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0HT](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HT)

Bird of conservation concern

**Oak Titmouse** *Baeolophus inornatus*

Year-round

[http://ecos.fws.gov/tess\\_public/profile/speciesProfile.action?sPCODE=B0MJ](http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0MJ)

Bird of conservation concern

<b>Olive-sided Flycatcher</b> <i>Contopus cooperi</i> Season: Breeding <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0AN">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0AN</a>	Bird of conservation concern
<b>Peregrine Falcon</b> <i>Falco peregrinus</i> Year-round <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0FU">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0FU</a>	Bird of conservation concern
<b>Rufous-crowned Sparrow</b> <i>Aimophila ruficeps</i> Year-round <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0MX">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0MX</a>	Bird of conservation concern
<b>Short-billed Dowitcher</b> <i>Limnodromus griseus</i> Season: Wintering <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0JK">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0JK</a>	Bird of conservation concern
<b>Short-eared Owl</b> <i>Asio flammeus</i> Season: Wintering <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HD">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HD</a>	Bird of conservation concern
<b>Western Grebe</b> <i>aechmophorus occidentalis</i> Year-round <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0EA">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0EA</a>	Bird of conservation concern
<b>Yellow-billed Magpie</b> <i>Pica nuttalli</i> Year-round <a href="http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0N8">http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0N8</a>	Bird of conservation concern

## Wildlife refuges and fish hatcheries

**There are no refuges or fish hatcheries in this location**

# Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

## DATALIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

## DATAEXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

## DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.

# Appendix C

## Plant List

36 matches found. [Click on scientific name for details](#)

### Search Criteria

Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in 9 Quads around 37121C8

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
<a href="#">Arctostaphylos silvicola</a>	Bonny Doon manzanita	Ericaceae	perennial evergreen shrub	1B.2	S1	G1
<a href="#">Astragalus tener var. tener</a>	alkali milk-vetch	Fabaceae	annual herb	1B.2	S2	G2T2
<a href="#">Atriplex depressa</a>	brittlescale	Chenopodiaceae	annual herb	1B.2	S2	G2
<a href="#">Atriplex minuscula</a>	lesser saltscale	Chenopodiaceae	annual herb	1B.1	S2	G2
<a href="#">Balsamorhiza macrolepis</a>	big-scale balsamroot	Asteraceae	perennial herb	1B.2	S2	G2
<a href="#">California macrophylla</a>	round-leaved filaree	Geraniaceae	annual herb	1B.2	S3?	G3?
<a href="#">Campanula exigua</a>	chaparral harebell	Campanulaceae	annual herb	1B.2	<b>S2</b>	<b>G2</b>
<a href="#">Centromadia paq:yi ssp. congdonii</a>	Congdon's tarplant	Asteraceae	annual herb	1B.1	S2	G3T2
<a href="#">Chloropyron maritimum ssp. palustre</a>	Point Reyes bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.2	S2	G4?T2
<a href="#">Chorizanthe pungens var. hartwegiana</a>	Ben Lomond spineflower	Polygonaceae	annual herb	1B.1	S1	G2T1
<a href="#">Chorizanthe robusta var. robusta</a>	robust spineflower	Polygonaceae	annual herb	1B.1	S1	G2T1
<a href="#">Cirsium fontinale var. campylon</a>	Mt. Hamilton fountain thistle	Asteraceae	perennial herb	1B.2	S2	G2T2
<a href="#">Collinsia multicolor</a>	San Francisco collinsia	Plantaginaceae	annual herb	1B.2	S2	G2
<a href="#">Dirca occidentalis</a>	western leatherwood	Thymelaeaceae	perennial deciduous shrub	1B.2	S2	G2
<a href="#">Dudleya abramsii ssp. setchellii</a>	Santa Clara Valley dudleya	Crassulaceae	perennial herb	1B.1	S2	G4T2
<a href="#">Elyngium aristulatum var. hooveri</a>	Hoover's button-celery	Apiaceae	annual / perennial herb	1B.1	S1	G5T1
<a href="#">Extriplex joaquinana</a>	San Joaquin spearscale	Chenopodiaceae	annual herb	1B.2	S2	G2
<a href="#">Fritillaria liliacea</a>	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
<a href="#">Hoita strobilina</a>	Loma Prieta hoita	Fabaceae	perennial herb	1B.1	<b>S2</b>	<b>G2</b>
<a href="#">Lasthenia conjugens</a>	Contra Costa goldfields	Asteraceae	annual herb	1B.1	S1	G1
<a href="#">Lessingia micradenia var. glabrata</a>	smooth lessingia	Asteraceae	annual herb	1B.2	S2	G2T2

<a href="#">Malacothamnus arcuatus</a>	arcuate bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2	G2Q
<a href="#">Malacothamnus hallii</a>	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	1B.2	S2	G2
<a href="#">Monolopia gracilens</a>	woodland woolythreads	Asteraceae	annual herb	1B.2	S3	G3
<a href="#">Navarretia prostrata</a>	prostrate vernal pool navarretia	Polemoniaceae	annual herb	1B.1	S2	G2
<a href="#">Pentachaeta bellidiflora</a>	white-rayed pentachaeta	Asteraceae	annual herb	1B.1	S1	G1
<a href="#">Piperia candida</a>	white-flowered rein orchid	Orchidaceae	perennial herb	1B.2	S3	G3
<a href="#">Plagiobothrys glaber</a>	hairless popcornflower	Boraginaceae	annual herb	1A	SH	GH
<a href="#">Puccinellia simplex</a>	California alkali grass	Poaceae	annual herb	1B.2	S2	G3
<a href="#">Senecio aphanactis</a>	chaparral ragwort	Asteraceae	annual herb	<b>2B.2</b>	S2	G3
<a href="#">Streptanthus albidus ssp. albidus</a>	Metcalf Canyon jewelflower	Brassicaceae	annual herb	1B.1	S1	G2T1
<a href="#">Streptanthus albidus ssp. peramoenus</a>	most beautiful jewelflower	Brassicaceae	annual herb	1B.2	S2	G2T2
<a href="#">Stuckenia filiformis ssp. alpina</a>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb	<b>2B.2</b>	S3	G5T5
<a href="#">Suaeda californica</a>	California seablite	Chenopodiaceae	perennial evergreen shrub	1B.1	S1	G1
<a href="#">Trifolium hydrophilum</a>	saline clover	Fabaceae	annual herb	1B.2	S2	G2
<a href="#">Tropidocarpum capparideum</a>	caper-fruited tropidocarpum	Brassicaceae	annual herb	1B.1	S1	G1

### Suggested Citation

CNPS, Rare Plant Program. 2016. Inventory of Rare and Endangered Plants (online edition, vB-02). California Native Plant Society, Sacramento, CA. Website <http://www.rareplants.cnps.org> [accessed 23 May 2016].

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**ATTACHMENT 4**  
**RESPONSE TO COMMENTS**



## Response to Comments

The Draft MND was circulated to local and state agencies, interested organizations, and the general public. The 30-day public review period, which conforms to CEQA Guidelines §15105(b), began on January 15, 2017 and ended on February 16, 2017. The following table includes the comment letters and emails the District received, as well as the District's responses. All changes to the Draft MND are described in the responses below and referenced by the page number in which the revised text appears in the Final MND.

#	Comment	District Response	MND Change (page in Final MND)
<b>Comments received from California Department of Fish and Wildlife (CDFW) – Letter Received on February 10, 2017</b>			
1	<b>In-Stream Work Window.</b> There are several references to different work windows mentioned throughout the MND, including pages 6 and 46 (May 1-October 15), Table 2-2 on page 13 (June-October), page 45 (April 15-October 15). The typical work window approved for in-stream work in channels supporting salmonid species, including steelhead, is June 15-October 15. This work window is considered to be the least impacting to steelhead and other anadromous species because it is outside of the typical migration and spawning season. Please revise the document to include a work window of June 15-October 15 consistently throughout the document.	The District agrees with CDFW that the construction window having the lowest potential impact to steelhead for gravel augmentation in the upper Guadalupe River should be from June 15 to October 15. The MND has been revised where necessary to be consistent with this work window. Since the project's environmental permits may authorize extending the allowed work window, the Final MND also notes that the resource agencies may pre-approve work beyond October 15. Prior approval from the resource agencies to work after October 15 would be based on weather conditions to be sure the channel has minimal flow.	7, 16, 48, 50, 51, 66
2	<b>Vegetation Removal.</b> Page 7 describes the removal of approximately 0.33 acres of vegetation outside of the low flow channel for construction staging during Phase 1. Page 48 describes 0.01 acres of temporary impacts to seasonal wetland (for channel access to place gravel), 0.01 acres of permanent impacts to perennial marsh (at channel access points), 0.05 acres of willow riparian forest/scrub habitat (at channel access points), and 0.57 acres of impacts to upland vegetation (due to staging, movement of equipment from the staging area to the channel, and placement of dewatering pipes). Please clarify which vegetation types comprise the 0.33 acres of vegetation removal and whether the vegetation to be removed was present prior to the construction of Reach 6 in 2010-2011, or whether it consists of mitigation plantings required under the Reach 6 construction project. Please revise the MND to include compensatory mitigation for the removal of 0.33 acres of vegetation.	The MND text has been revised to provide clarification and update information on the nature and extent of Project impacts on vegetation and habitat. Discussion of vegetation impacts has been removed from page 8 and Table 4-3 has been added on page 50 to summarize Project impacts on aquatic, riparian, and upland habitat. After the draft MND was released, the project description has been revised to eliminate the need for establishment of permanent access routes, so no vegetation would have to be permanently removed. As part of the Upper Guadalupe River Flood Control (Protection) Project (UGRFPP), the Reach 6 floodplain was excavated to clay subsoil; an urban drainage swale was constructed from Edwards Avenue to the river; soil was compacted and seeded for herbaceous cover; and vegetation has been managed in a manner such that woody plants with parts of the floodplain are mowed annually. Wetlands would not be filled for channel access during construction of this Project; ¾-inch plywood (with a geotextile fabric base layer) would be placed over the wetlands and the soil and root systems would be undisturbed. Approximately 0.05 acres of young riparian vegetation	49, 50, 52 - 55

		<p>(planted as mitigation for the UGRFPP and 7 years old in 2019) would be cut for access and would be replaced with native willow and/or cottonwood cuttings as soon as gravel augmentation is completed. The vegetation temporarily impacted by staging is upland vegetation (grassland and ruderal). This area would be hydroseeded to re-establish the grassland habitat within one year.</p>	
<p><b>3</b></p>	<p><b>Vegetation Removal.</b> Page 49 describes temporary impacts in Phase 2 to an unquantified area of seasonal wetlands and perennial marsh, although it is then mentioned that it will measure “roughly” 0.01 acres. Please verify the acreage affected and describe the activities that will impact these habitat types during Phase 2.</p>	<p>The MND text has been revised, and Table 4-3 is added, to show the project impacts on various habitat types. As described on page 54 of the MND, during Phase 2 an estimated maximum of 0.01 acre of seasonal wetland and 0.01 acre of perennial marsh would be temporarily impacted to access the gravel augmentation sites crossing the grassy floodplain. A maximum of two channel access points, each about 30 feet wide, would be used during Phase 2 within the gravel augmentation area (sub-reach between Reach 3C and the Virginia Street crossing). The precise location of the access points cannot be determined until the exact Phase 2 gravel placement sites are known. The gravel placement sites are based on riverbed topography and the riverbed would be resurveyed closer to the start of Phase 2 construction, consistent with recommendations from the Gravel Augmentation Study plan (GAP) approved by the Guadalupe Watershed Integrated Working Group (GWIWG). Although the precise location of the pools and gravel fill may shift somewhat, the nature/extent of the Project impacts on seasonal wetlands and perennial marsh would be consistent with the information provided in the MND.</p>	<p>54</p>
<p><b>4</b></p>	<p><b>Wetland Vegetation Compensation.</b> The MND states that 0.01 acres of disturbed seasonal wetlands during Phase 1 will be allowed to revegetate naturally. The MND also states that 0.01 acres of seasonal wetland and perennial marsh will be temporarily impacted during Phase 2, but that most of the temporarily impacted habitat will return after construction ends. CDFW defines temporary impacts as those impacts where habitat at the impact site can be fully restored to pre-project conditions, values, and functions within one year of impact; semi-permanent impacts as those impacts where habitat at the impact site can be fully restored to pre-project conditions, values, and functions within two years of impact; and permanent impacts as those impacts where habitat at the impact site either cannot be restored, due to permanent removal of habitat, or where habitat at the impact site will require greater than two years to be restored to pre-project conditions, values, and functions relative to time of impact. Please clarify whether the impacts to seasonal wetland and perennial marsh habitat will be temporary, semi-permanent, or permanent. The MND references the District’s “Instream Wetland Vegetation Regrowth Study,” which documented 65% and 98% average regrowth within one and two years, respectively, after sediment removal at six non-tidal freshwater wetland</p>	<p>As noted in the response to comment 2, wetland impacts would be temporary. No fill is proposed for access and the floodplain is mowed in its design condition with compacted soil. To maintain the UGRFPP design condition, the area has been mowed regularly and does not currently support high quality wetlands. Thus, the impact sites can be fully restored to pre-project conditions, values, and functions within one year of impact. The impact sites are small relative to the surrounding and undisturbed wetlands and would exhibit a significant edge effect, helping the site revegetate quickly. Furthermore, the <i>Instream Wetland Vegetation Regrowth Study</i> that documented regrowth times after vegetation disturbance was focused on vegetation regrowth following sediment removal activities. The temporary impacts to wetlands from access routes would involve placing ¾-inch plywood (with a geotextile fabric base layer) over the wetland and would not disturb the soil or root systems, allowing the site to revegetate within one year. The project would temporarily disturb an estimated total of up to 0.04 acre of wetlands (seasonal wetlands and perennial marsh) during Phase 1 and 2 of the project. Given the temporary impact to wetlands, a mitigation ration of 1:1 is proposed (see Mitigation Measure BIO-F).</p>	<p>54, 55</p>

	<p>study sites. Please be advised that wetland habitat, if temporarily impacted by the Project, should be compensated with on-site restoration via installation of replacement plantings at a minimum ratio of 1:1. Semi-permanent impacts to wetland vegetation should be compensated at a minimum ratio of 2:1, and permanently impacted wetland habitat should be compensated with off-site mitigation via installation of replacement plantings, or other appropriate option, at a minimum ratio of 3:1.</p>		
<p>5</p>	<p><b>Tree Removals.</b> The MND describes the removal of 0.05 acres of willow riparian forest/scrub habitat, consisting of one sandbar willow (<i>Salix exigua</i>), ten Fremont cottonwoods (<i>Populus fremontii</i>) and seven arroyo willow (<i>S. lasiolepis</i>). Please provide the stem diameter size at diameter-breast-height of each of the trees proposed for removal. Please clarify whether these trees were present prior to the construction of Reach 6 in 2010-2011, or whether they were riparian plantings required for mitigation under the Reach 6 construction project. The MND states that riparian vegetation will be replaced at a mitigation ratio of 2:1. CDFW recommends that removal of native tree species be compensated at a minimum ratio of 3:1 to compensate for the permanent and temporal loss of woody riparian canopy.</p>	<p>The removed riparian trees range in diameter at breast height (DBH) from two to six inches; Table 5 in Attachment 3 (Revised Biological Assessment) details the tree impacts by size and species. These trees were installed several years, ago as mitigation after the construction of Reach 6 of the UGRFPP in 2010-2011. The trees are 7 years old in 2019. To compensate for the removal of 0.05 acres of riparian trees/shrubs during Phase 1, the District would replant, maintain, and continue monitoring the existing riparian mitigation as required by the UGRFPP. The Draft MND stated that the impact to these riparian trees would be permanent to maintain access routes to the channel; however, this project element has been removed and the District now proposes to plant willows and cottonwoods where the young and small riparian trees would be removed for temporary access. The District will be applying for a Streambed Alteration Agreement from CDFW which will cover riparian impacts and establish appropriate mitigation requirements if required.</p>	<p>53</p>
<p><b>Comments received from National Marine Fisheries Service (NMFS) – Email Received on February 10, 2017</b></p>			
<p>1</p>	<p><b>Biological Opinion.</b> Page 4 of the MND indicates this action may be covered under the existing Upper Guadalupe Flood Project biological opinion issued by NMFS to the Corps on February 11, 2005. This action is likely consistent with the NMFS biological opinion, but I do want to emphasize that Reasonable and Prudent Measure 6 in the 2/11/05 biological opinion is "Ensure the design improvement modifications for Project reaches in the Guadalupe River enhance natural stream functions and benefit anadromous salmonid habitat". The terms and conditions associated with Reasonable and Prudent Measure #6 require project specific design plans be submitted to NMFS for review and approval.</p> <p>Thus, I recommend the Corps transmit the design plans for this project to NMFS with a written request to review. To fully comply with the biological opinion, NMFS written approval should be obtained prior to the Corps' permitting of this action.</p>	<p>In conformance with Reasonable and Prudent Measure 6 of the NMFS Biological Opinion for the UGRFPP, the District submitted the 65% design plans to NMFS (via the GWIWG) on August 7, 2018. NMFS subsequently confirmed during a site visit on August 9, 2018 that the project would be covered by the existing Biological Opinion (NMFS requested a letter requesting coverage under the existing BO). However, due to the recent channel survey, design plans are being updated, including taking into consideration comments from the GWIWG. Updated design plans will be provided to NMFS (via the GWIWG) once complete (anticipated for March 2019). Gravel augmentation will remain consistent with the GAP previously reviewed by NMFS and the GWIWG. The District will not move forward with construction until NMFS agrees that the project is consistent with the existing Biological Opinion and the U.S. Army Corps of Engineers issues the Clean Water Action Section 404 permit amendment.</p>	<p>5</p>
<p><b>Comments received from U.S. Fish and Wildlife Service (USFWS) – Email Received on February 14, 2017</b></p>			

1	<p><b>Resubmittal of Prior Comments.</b> I had already commented on the 60% design of this project a few years ago (see comments below), in which I recommended (1) pre- and post-construction monitoring (including photo points, vegetation, as-built surveys, see comments below); (2) potential for debris/accumulations and possible effects on increasing flow between islands (see comments below), and, if possible (3) - recontouring/covering the surface ~STA 716 (transition area, downstream), to maximize fish passage. I quickly reviewed the current mitigated negative declaration, and didn't notice any responsiveness to these comments, so by copy of this email - I resubmit the same comments below.</p>	<p>Comment noted. Prior comments received from the USFWS via the GWIWG on June 6, 2014 have been incorporated into the MND and are addressed below. Some USFWS comments will be further addressed in the environmental permits mitigation monitoring plan (MMP).</p>	N/A
2	<p><b>Prior Comment 1 – Monitoring Plan.</b> I would like to see some kind of specific pre- and post- construction monitoring plan be developed to confirm stability; at least photo points, and perhaps shade (or other vegetation measure) to determine the effects of construction; determine if temporary/permanent, and changes in the first flood season; as-built surveying; perhaps some monitoring of gravel movement after particular size events - and to do so - set up survey benchmarks if needed; marked gravel if appropriate.</p>	<p>As part of the proposed project, the District would document the physical condition of the project area prior to start of construction and after each phase of gravel augmentation is completed. The project monitoring plan includes pre-project, as-built, and post-project longitudinal profiles and cross-section surveys; success criteria; biological monitoring; project photographs; tracking of marked rocks included in the gravel augmentation to determine their movement within the channel; and including a monitoring schedule. Monitoring for these elements will indicate the affects gravel augmentation is having on the in-stream environment. Additionally, the District will continue to undertake monitoring for UGRFPP (a requirement of the UGRFPP permits) which would provide some of the requested information (e.g., undercut bank, shaded stream surface). Following this comment made in June 2014, a draft monitoring plan was submitted to the USFWS (via the GWIWG) for review and comment on August 7, 2018. Following review of comments (including from the USFWS), an updated monitoring plan was submitted to the USFWS (via the GWIWG) on April 19, 2019.</p>	N/A
3	<p><b>Prior Comment 2 – Debris Jams.</b> During the annual AMT meeting this past May, we visited this site, and I noticed that - there were considerably debris jams (mostly small-medium wood + trash), Based on this observation, there may be accumulations of moved gravel behind such jams, and a possibility of increased flows between the islands.</p>	<p>Comment noted. In 2018, the debris jam in question was remediated by the District's Stream Maintenance Program (SMP). Observations of the gravel augmentation sites and related monitoring, including ongoing UGRFPP monitoring, would supplement regular inspections and maintenance under the SMP.</p>	N/A
4	<p><b>Prior Comment 3 – Reshaping.</b> If not already done, you may wish to consider re-shaping the transition (to C3) area to preferred dimensions for fish passage before filling voids (i.e., vicinity STA +716).</p>	<p>The proposed project would bring the Reach 3C transition area to its original design by placing finer sediment between the existing rock channel protection. A qualified fisheries biologist would observe the Reach 6 to 3C transition and make recommendations during construction to maximize fish passage, and habitat quality.</p>	N/A

<p><b>5 New Comment 1 – Changing Channel Geomorphology.</b> Which brings up one more comment (4) - you should probably consider how the effects of this large water year having reworked the channel; it is possible that this design may require some significant adjustment to take into account any effects that this past year's (WY 2016) have had on the area slated for gravel augmentation. The last 10-15 years of cross-sections from the monitoring of the project would seem to indicate that the typical result of large flows is incision (and accumulation during lower water years). If you have done any reconnaissance of this yet (during whatever low flows there have been this year), any major changes seen out of the range of variation, should be included in the final negative declaration.</p>	<p>Due to the time elapsed between the channel surveys and completion of the draft design, the District resurveyed the project area in December 2018, and is presently updating the design. High flows occurred in 2019 as well. A field visit with McBain and Associates and District staff occurred on March 14, 2019. The updated design will be submitted to the USFWS via the GWIWG.</p>	<p>N/A</p>
<p><b>Comments received from San Francisco Bay Regional Water Quality Control Board (RWQCB) – Electronic Letter Received on February 16, 2017</b></p>		
<p><b>1 Monitoring.</b> The MND states that the purpose of the monitoring program is "...to determine the project's effectiveness in improving aquatic habitat and channel stability." The Water Board requires the District submit a monitoring plan, acceptable to the Executive Officer, with the 65 percent design plan for the gravel riffles. The Executive Officer will consider the recommendations by the GWIWG for acceptance of the riffle design plans and the associated monitoring plan.</p> <p>The monitoring plan should be consistent with the Gravel Study (specifically, submittal A4 of the Study) and tailored to address the objectives stated in the</p> <p>Gravel Study:</p> <ul style="list-style-type: none"> <li>• Improve aquatic habitats;</li> <li>• Improvement channel stability in project reaches;</li> <li>• Restore the gravel bed habitat that once existed; and</li> <li>• Restoration of salmonid habitat and their associated riparian habitat.</li> </ul> <p>In addition, the monitoring plan should address monitoring after both Phase 1 and Phase 2 to determine the short- and long-term effects of the riffles in the Guadalupe River system. The monitoring program presented in Table 2-2 is very limited, since it only addresses the suitability of the gravel riffle designs but does very little to address the long-term effects of the Project in the river. The Water Board agrees that monitoring should be done to evaluate the performance of the Phase 1 riffles to inform the designs of the Phase 2 riffles. However, monitoring should also be conducted after Phase 2 is constructed to</p>	<p>Following this comment by the RWQCB made in February 2017, the Draft Monitoring Plan was submitted to the RWQCB (via the GWIWG) for review and comment on August 7, 2018. The revised Monitoring Plan, which addresses RWQCB comments received on September 4, 2018, was submitted to the RWQCB (via the GWIWG) on April 19, 2019. The project monitoring plan includes pre-project, as-built, and post-project longitudinal profiles and cross-section surveys; success criteria; biological monitoring; project photographs; tracking of marked rocks included in the gravel augmentation to determine their movement within the channel; and a monitoring schedule. Monitoring for these elements will indicate the gravel augmentation's effects on the in-stream environment if any.</p> <p>Additionally, the following field conditions will be monitored through the ongoing UGRFPP monitoring program and the District's Fish and Aquatic Habitat Collaborative Effort (FAHCE):</p> <ul style="list-style-type: none"> <li>• Native vegetative cover</li> <li>• Nonnative vegetative cover</li> <li>• Shaded stream surface</li> <li>• Undercut banks</li> <li>• Juvenile steelhead/rainbow trout (<i>Oncorhynchus mykiss</i>) rearing</li> </ul> <p>Goals of the gravel augmentation to this upstream section of Reach 6 from GAP, Submittal A7 are: a) redistributing elevation drop more evenly through the reach, b) increasing spawning habitat availability for salmonids and lamprey, c) preserving existing SRA habitat and minimizing disturbance to recent riparian mitigation plantings, d) increasing low flow velocities adjacent to undercut banks and large wood</p>	<p>9 - 10</p>

	<p>further calibrate the modeling and designs for riffles, which could be useful for future assessments of the flood control project and design of riffles in other reaches. In addition, the monitoring plan should address monitoring, and/or maintenance that may be required to prevent any grade control (structural or alluvial) from becoming a barrier or causing unintended adverse impacts (Gravel Study, p. 24).</p> <p>Further, monitoring should also include, but not be limited to, methods to evaluate at least two life stages of steelhead and Chinook salmon (see 5 below) such as spawning surveys and smolt migration, to evaluate the effects of gravel augmentation in Reach 6 on salmonid life cycles in the watershed. This would inform trends from the Project, as well establish baseline data for the other flood control and gravel augmentation project forthcoming (e.g., Reaches 7 and 8) in the Flood Control Project.</p>	<p>to improve fish habitat, and e) minimizing future maintenance in the downtown project reach by using an appropriately sized gravel distribution. The District is focusing on these goals in development of the Monitoring Plan.</p>	
<p><b>2</b></p>	<p><b>Construction of Phase 2.</b> The MND is vague about when Phase 2 will be constructed. Please revise the MND to specifically stipulate the decision criteria to determine the construction of Phase 2. Such triggers include (1) methods and procedures to evaluate flow events to determine whether flows of at least the ten year flow even have occurred to inform the design of Phase 2, and to trigger tracer rock; (2) if such flows did not occur within 1-2 years, identify the methods and procedures to decide how and when to build Phase 2 riffles.</p>	<p>Phase 2 would be implemented if Phase 1 of the project meets the performance criteria that will be part of environmental permits and the associated Monitoring Plan. The District would perform the following monitoring tasks:</p> <ul style="list-style-type: none"> <li>• Survey the longitudinal profile and cross-sections of the river in the project area to quantify morphological changes in the channel,</li> <li>• Measure the downstream movement of tracer rocks included in the augmentation gravel,</li> <li>• Determine suitable salmonid habitat area</li> <li>• Evaluate and classify habitat as riffle, run, step-run, or pool; and</li> <li>• Take ground -based photographs</li> </ul> <p>Phase 1 monitoring would occur periodically for five years. After that period passes, District would compare the monitoring results to the quantitative performance criteria defined in the Monitoring Plan. The District will also consider other monitoring conducted under the downtown and UGRFPP in order to make an informed decision. If the performance criteria are met and other monitoring in the watershed indicates the project is successful, then the District would implement Phase 2. An updated Monitoring Plan was submitted to GWIWG in April 2019.</p>	<p>N/A</p>
<p><b>3</b></p>	<p><b>Indirect Effects.</b> The Biological Assessment states that the reach downstream of the Project reach is critical habitat for Central California Coast steelhead. The Water Board disagrees with the MND finding that the Project impacts on biological resources, section 4(d) (MND p.43) would be less than significant with mitigation. This finding is only based on migratory birds, although the criterion is also for migratory fish. This finding is not consistent with the need for monitoring to track gravel</p>	<p>The Biological Resources section of the MND has been updated to include evaluation of potential impacts on fish migration. The District acknowledges that gravel could wash downstream, and though unlikely, could result in formation of a fish passage barrier. The District already has monitoring mechanisms in place that would ensure fish passage is not impeded. Specifically, the District's Stream Maintenance Program (SMP) is already monitoring for sediment deposition and fish passage concerns</p>	<p>56</p>

	<p>transport after Phase 1 and Phase 2 are built. Part of the purpose of monitoring is to ensure no unintended consequences result in fish blockages. The MND should identify this criterion as potentially significant.</p>	<p>during annual inspections through the entire reach. Under the downtown Guadalupe River Project, the District also monitors for fish passage in downstream areas (Grant Avenue to Woz Way downtown Guadalupe River Project Segment 3C) twice per month at 2-week intervals from October to June and within 3 days following a major storm event (defined as instantaneous flows that exceed 500 cfs). Monitoring of suitable salmonid habitat, undercut banks, and longitudinal profiles proposed as part of the overall project monitoring would further indicate if fish passage is occurring at the gravel augmentation sites themselves. Should any fish passage issues be identified, the District would remediate them as soon as safe to do so under the downtown Guadalupe River Project or the District's SMP program and notify the regulatory agencies of such action. With these existing monitoring efforts in place, the project impact on fish passage and migration would be less than significant.</p>	
<p>4</p>	<p><b>Native Fish.</b> The MND states that the District did not consider Chinook salmon in the analysis because that species is not endemic to the Guadalupe River. The MND should be revised to address the potential impacts on Chinook salmon to fully evaluate whether potential impacts of the Project would affect the beneficial uses of the study area.</p>	<p>The MND has been revised to include analysis of Project impacts on Chinook salmon. Installation of the proposed gravel would not negatively affect Chinook salmon because they are unlikely to be present at the project area during the June 15 to October 15 construction window. The construction window would start after juvenile chinook have migrated out of the river and end before the peak of the adult Chinook run. During the construction period, the affected segment of the river would be dewatered and aquatic species excluded to prevent harm to aquatic wildlife. Qualified biologists would perform pre-construction surveys and relocate macrofaunal, including steelhead and in the unlikely event they are encountered during work, chinook salmon prior to start of construction. During construction dewatering, river flows would be maintained at reaches upstream and downstream of the project area to preserve aquatic habitat. The Mitigation Measures listed below would prevent significant impacts to aquatic habitat and fish, including the chinook salmon in the unlikely event they occur at the project site:</p> <ul style="list-style-type: none"> <li>• BIO-A: Perform Construction activities during the Dry Season</li> <li>• BIO-B: Relocate aquatic macrofaunal</li> <li>• BIO-C: Monitor construction and implement protective measures if needed</li> <li>• BIO-F: Replace removed riparian vegetation</li> </ul> <p>In addition, the GAP explains how the Reach 6 gravel augmentation would benefit salmonids and beneficial uses in the Project area.</p>	<p>46, 48, 49, 51, 56</p>
<p>5</p>	<p><b>Comments by Others.</b> The Water Board incorporates by reference the comments from the California Department of Fish (CDFW) (letter dated February 12, 2017), and U.S. Fish and Wildlife Service (USFWS) (email from Steve Shoenburg, February 14, 2016). In addition, National Marine</p>	<p>This attachment includes the District's responses to comments made by CDFW, USFWS, RWQCB, and NMFS on the Draft MND.</p>	<p>N/A</p>

<p>Fisheries Service concurred with CDFW's comment that the correct work window in-stream work is June 15 through October 15 (email from Gary Stern, February 14, 2017), since the time needed to construct each phase can be done within that time frame, and a longer work window is not warranted. Regarding CDFW's question about whether the vegetation that will be impacted includes any of the vegetation that was planted to mitigate for the flood control project, if that is the case, then the Water Board will also require a minimum mitigation ratio of 3:1 for those impacts.</p>		
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State of California – The Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Bay Delta Region  
7329 Silverado Trail  
Napa, CA 94558  
(707) 944-5500  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

*EDMUND G. BROWN JR., Governor*  
*CHARLTON H. BONHAM, Director*



February 10, 2017

Mr. James Manidakos  
Environmental Planner II  
Santa Clara Valley Water District  
5750 Almaden Expressway  
San Jose, CA 95118

Dear Mr. Manidakos:

Subject: Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project, Mitigated Negative Declaration, SCH #2017012044, Santa Clara County

The California Department of Fish and Wildlife (CDFW) received a draft Mitigated Negative Declaration (MND) from the Santa Clara Valley Water District (District) for the Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup>

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

## **CDFW ROLE**

CDFW is California's Trustee Agency for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State [Fish and Game Code, §§ 711.7, subd. (a) and 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish and Game Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California

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<sup>1</sup> CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

Endangered Species Act (CESA) (Fish and Game Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

## PROJECT DESCRIPTION SUMMARY

The objective of the Project is to implement gravel augmentation at Reach 6 of the Guadalupe River, as part of the larger Upper Guadalupe River Flood Protection Project (UGRFPP). As background, the majority of the 6.4-mile long UGRFPP is led by the U.S. Army Corps of Engineers, although Reach 6 (approximately 2,500 feet in length) was constructed in 2010-2011 by the District as the local sponsor (Lake and Streambed Alteration Agreement 1600-2009-0144-3). The purpose of the UGRFPP is to provide 100-year flood protection to the surrounding area and to provide long-term benefits to stream ecology, hydrology, wildlife, and fisheries. Reach 6 of the Guadalupe River is the most downstream reach of the UGRFPP, bound to the north by Interstate 280 and to the west and south by State Highway 87, in San Jose, California.

Gravel augmentation is one of several elements that were to be studied in depth as part of habitat enhancement elements of the UGRFPP, and implemented at a later point if deemed appropriate. As a result of the Gravel Augmentation Study completed in September 2013 by the District in collaboration with the Guadalupe Water Interagency Working Group, it was determined that gravel augmentation would provide ecological and geomorphological benefits to Reach 6 of the Guadalupe River. Primary activities of the Project include implementation of gravel augmentation in two phases within Reach 6, and filling of voids between existing boulders that were installed at the Reach6/Reach 3C transition during the Reach 6 construction.

Species considered under this draft MND include the federally threatened Central California Coast steelhead (*Oncorhynchus mykiss*); the species of special concern western pond turtle (*Emys marmorata*), Pacific lamprey (*Entosphenus tridentatus*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*); the state fully protected white-tailed kite (*Elanus leucurus*) and American peregrine falcon (*Falco peregrinus anatum*).

## COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the District in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

1. **Pages 6, 13, and 45 - In-Stream Work Window.** There are several references to different work windows mentioned throughout the MND, including pages 6 and 46 (May 1-October 15), Table 2-2 on page 13 (June-October), page 45 (April 15-October 15). The typical work window approved for in-stream work in channels supporting salmonid species, including steelhead, is June 15-October 15. This work window is considered to be the least impacting to steelhead and other anadromous species because it is outside of the typical migration and spawning season. Please revise the document to include a work window of June 15-October 15 consistently throughout the document.

2. **Pages 7 and 48 - Vegetation Removal.** Page 7 describes the removal of approximately 0.33 acres of vegetation outside of the low flow channel for construction staging during Phase 1. Page 48 describes 0.01 acres of temporary impacts to seasonal wetland (for channel access to place gravel), 0.01 acres of permanent impacts to perennial marsh (at channel access points), 0.05 acres of willow riparian forest/scrub habitat (at channel access points), and 0.57 acres of impacts to upland vegetation (due to staging, movement of equipment from the staging area to the channel, and placement of dewatering pipes). Please clarify which vegetation types comprise the 0.33 acres of vegetation removal and whether the vegetation to be removed was present prior to the construction of Reach 6 in 2010-2011, or whether it consists of mitigation plantings required under the Reach 6 construction project. Please revise the MND to include compensatory mitigation for the removal of 0.33 acres of vegetation.
3. **Page 49 – Vegetation Removal.** Page 49 describes temporary impacts in Phase 2 to an unquantified area of seasonal wetlands and perennial marsh, although it is then mentioned that it will measure “roughly” 0.01 acres. Please verify the acreage affected and describe the activities that will impact these habitat types during Phase 2.
4. **Pages 48-50 – Wetland Vegetation Compensation.** The MND states that 0.01 acres of disturbed seasonal wetlands during Phase 1 will be allowed to revegetate naturally. The MND also states that 0.01 acres of seasonal wetland and perennial marsh will be temporarily impacted during Phase 2, but that most of the temporarily impacted habitat will return after construction ends. CDFW defines temporary impacts as those impacts where habitat at the impact site can be fully restored to pre-project conditions, values, and functions within one year of impact; semi-permanent impacts as those impacts where habitat at the impact site can be fully restored to pre-project conditions, values, and functions within two years of impact; and permanent impacts as those impacts where habitat at the impact site either cannot be restored, due to permanent removal of habitat, or where habitat at the impact site will require greater than two years to be restored to pre-project conditions, values, and functions relative to time of impact. Please clarify whether the impacts to seasonal wetland and perennial marsh habitat will be temporary, semi-permanent, or permanent. The MND references the District’s “Instream Wetland Vegetation Regrowth Study,” which documented 65% and 98% average regrowth within one and two years, respectively, after sediment removal at six non-tidal freshwater wetland study sites. Please be advised that wetland habitat, if temporarily impacted by the Project, should be compensated with on-site restoration via installation of replacement plantings at a minimum ratio of 1:1. Semi-permanent impacts to wetland vegetation should be compensated at a minimum ratio of 2:1, and permanently impacted wetland habitat should be compensated with off-site mitigation via installation of replacement plantings, or other appropriate option, at a minimum ratio of 3:1.
5. **Pages 48-49 - Tree Removals.** The MND describes the removal of 0.05 acres of willow riparian forest/scrub habitat, consisting of one sandbar willow (*Salix exigua*), ten Fremont cottonwoods (*Populus fremontii*) and seven arroyo willow (*S. lasiolepis*). Please provide the stem diameter size at diameter-breast-height of each of the trees proposed for removal. Please clarify whether these trees were present prior to the construction of Reach 6 in 2010-2011, or whether they were riparian plantings required

Mr. James Manidakos  
February 10, 2017  
Page 4

for mitigation under the Reach 6 construction project. The MND states that riparian vegetation will be replaced at a mitigation ratio of 2:1. CDFW recommends that removal of native tree species be compensated at a minimum ratio of 3:1 to compensate for the permanent and temporal loss of woody riparian canopy.

## ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address: [CNDDDB@wildlife.ca.gov](mailto:CNDDDB@wildlife.ca.gov). The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

## FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish and Game Code, § 711.4; Pub. Resources Code, § 21089).

## CONCLUSION

CDFW appreciates the opportunity to comment on the draft MND to assist the District in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Ms. Tami Schane, Senior Environmental Scientist (Specialist), at (415) 831-4640 or [Tami.Schane@wildlife.ca.gov](mailto:Tami.Schane@wildlife.ca.gov); or Ms. Brenda Blinn, Senior Environmental Scientist (Supervisory), at (707) 944-5541.

Sincerely,



Scott Wilson  
Regional Manager  
Bay Delta Region

cc: State Clearinghouse #2017012044

Susan Glendening, Regional Water Quality Control Board  
[susan.glendening@waterboards.ca.gov](mailto:susan.glendening@waterboards.ca.gov)

**From:** Gary Stern  
**To:** [James Manidakos](#); [Grillo, Roxanne L CIV USARMY CESP \(US\)](#)  
**Cc:** [Andy Trent](#); [Neil Hedgecock](#); [Malasavage, Nicholas SPN](#); [Doug Titus](#); [Lera-Chan, Janice@USACE](#); [John Mckeon](#); [William.R.DeJager@usace.army.mil](#); [Susan.Glendenning@waterboards.ca.gov](#); [Tami Schane](#); [katerina.galacatos@usace.army.mil](#)  
**Subject:** Re: Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project  
**Date:** Friday, February 10, 2017 4:14:02 PM  
**Attachments:** [ATT00001.png](#)

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James and Roxanne,

Thank you for the link to the MND for the Reach 6 Aquatic Habitat Improvement MND. Page 4 of the MND indicates this action may be covered under the existing Upper Guadalupe Flood Project biological opinion issued by NMFS to the Corps on February 11, 2005. This action is likely consistent with the NMFS biological opinion, but I do want to emphasize that Reasonable and Prudent Measure 6 in the 2/11/05 biological opinion is "Ensure the design improvement modifications for Project reaches in the Guadalupe River enhance natural stream functions and benefit anadromous salmonid habitat". The terms and conditions associated with Reasonable and Prudent Measure #6 require project specific design plans be submitted to NMFS for review and approval.

Thus, I recommend the Corps transmit the design plans for this project to NMFS with a written request to review. To fully comply with the biological opinion, NMFS written approval should be obtained prior to the Corps' permitting of this action.

thank you  
Gary

On 1/9/2017 1:48 PM, James Manidakos wrote:

Hello GWIWG Members:

As discussed at our most recent telecon, the Santa Clara Valley Water District is pleased to announce the availability of the Draft Mitigated Negative Declaration (MND) for the Reach 6 Aquatic Habitat Project for public review and comment. The project Notice of Intent (NOI) is attached. The NOI provides direction for submitting comments on the Draft MND. The Draft MND can be found at:

<http://www.valleywater.org/PublicReviewDocuments.aspx>

The comment period closes 5 PM on Tuesday, Feb. 14. We have a limited number of hard copies and CDs of the Draft MND available. Please contact me if you would like to receive a hard copy or a CD. The Santa Clara Valley Water District appreciate your interest in this important environmental enhancement project.

Thanks.

James Manidakos  
Environmental Planner II  
Environmental Planning Unit -247

Santa Clara Valley  
Water District



Santa Clara Valley Water District  
5750 Almaden Expy, San Jose, CA 95118  
(408) 630-2833  
[jmanitakos@valleywater.org](mailto:jmanitakos@valleywater.org)

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Gary Stern  
San Francisco Bay Branch Supervisor  
NOAA Fisheries - West Coast Region  
777 Sonoma Avenue, Room 325  
Santa Rosa, CA 95404  
tel: 707-575-6060  
fax: 707-578-3435  
web: <http://www.westcoast.fisheries.noaa.gov>

**From:** Schoenberg, Steven  
**To:** [James Manidakos](#); [Glendening, Susan@Waterboards](mailto:Glendening.Susan@Waterboards); [Doug Titus](#); [Scott McBain](#)  
**Subject:** FWS staff comments on Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project  
**Date:** Tuesday, February 14, 2017 1:48:05 PM

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I had already commented on the 60% design of this project a few years ago (see comments below), in which I recommended (1) pre- and post-construction monitoring (including photopoints, vegetation, as-built surveys, see comments below); (2) potential for debris/accumulations and possible effects on increasing flow between islands (see comments below), and, if possible (3) - recontouring/covering the surface ~STA 716 (transition area, downstream), to maximize fish passage. I quickly reviewed the current mitigated negative declaration, and didn't notice any responsiveness to these comments, so by copy of this email - I resubmit the same comments below.

That latter point (3) is possibly in the purview of maintenance of that section, but, one of the things I noticed in the last AMT meeting/site visit was large angular rock quite a ways downstream in the low flow channel (I believe segment/contract 3c or 3b). Titus suspected this may have come from the transition area. I thought it was sized not to move much, but may have moved quite alot more than predicted by the engineering. I seem to recall from the design of that transition (developed by McBain and Ferrante), that there is larger rock (2-4 ton) below these angular pieces that moved from the surface. That movement was in WY 2015, which had much lower flows than this year, so it is probable that there has been much more movement this year.

Which brings up one more comment (4) - you should probably consider how the effects of this large water year having reworked the channel ; it is possible that this design may require some significant adjustment to take into account any effects that this past year's (WY 2016) have had on the area slated for gravel augmentation. The last 10-15 years of cross-sections from the monitoring of the project would seem to indicate that the typical result of large flows is incision (and accumulation during lower water years). If you have done any reconnaissance of this yet (during whatever low flows there have been this year), any major changes seen out of the range of variation, should be included in the final negative declaration.

That's all I'll be able to provide for now; I've limited the cc's to those associated with the comments (either above or below).

Steve Schoenberg  
916-930-5672

----- Forwarded message -----

**From:** **Schoenberg, Steven** <[steven\\_schoenberg@fws.gov](mailto:steven_schoenberg@fws.gov)>  
**Date:** Fri, Jun 6, 2014 at 1:13 PM  
**Subject:** Re: Upper Guadalupe River Reach 6 Gravel Placement  
**To:** Scott McBain <[scott@mcbainassociates.com](mailto:scott@mcbainassociates.com)>  
**Cc:** "Beth, Margarete@Waterboards" <[Margarete.Beth@waterboards.ca.gov](mailto:Margarete.Beth@waterboards.ca.gov)>, "Andrew Smith ([Andrew.C.Smith@USACE.army.mil](mailto:Andrew.C.Smith@USACE.army.mil))" <[Andrew.C.Smith@usace.army.mil](mailto:Andrew.C.Smith@usace.army.mil)>, "Carson Cox ([ccox@rivright.com](mailto:ccox@rivright.com))" <[ccox@rivright.com](mailto:ccox@rivright.com)>, "Chris Elias ([CElias@valleywater.org](mailto:CElias@valleywater.org))"

<[CElias@valleywater.org](mailto:CElias@valleywater.org)>, Darren Howe <[darren.howe@noaa.gov](mailto:darren.howe@noaa.gov)>, "David Dunlap (<[ddunlap@valleywater.org](mailto:ddunlap@valleywater.org)>)" <[ddunlap@valleywater.org](mailto:ddunlap@valleywater.org)>, "David Salsbery (<[DSalsbery@valleywater.org](mailto:DSalsbery@valleywater.org)>)" <[DSalsbery@valleywater.org](mailto:DSalsbery@valleywater.org)>, "[dtitus@valleywater.org](mailto:dtitus@valleywater.org)" <[dtitus@valleywater.org](mailto:dtitus@valleywater.org)>, "[gary.stern@noaa.gov](mailto:gary.stern@noaa.gov)" <[gary.stern@noaa.gov](mailto:gary.stern@noaa.gov)>, "Ian SPN(First Responders) Liffmann (<[Ian.Liffmann@usace.army.mil](mailto:Ian.Liffmann@usace.army.mil)>)" <[Ian.Liffmann@usace.army.mil](mailto:Ian.Liffmann@usace.army.mil)>, "Janice M SPN Lera-Chan (<[Janice.M.Lera-Chan@usace.army.mil](mailto:Janice.M.Lera-Chan@usace.army.mil)>)" <[Janice.M.Lera-Chan@usace.army.mil](mailto:Janice.M.Lera-Chan@usace.army.mil)>, "[jnishijima@valleywater.org](mailto:jnishijima@valleywater.org)" <[jnishijima@valleywater.org](mailto:jnishijima@valleywater.org)>, "Larry Johmann (<[ljohnn@yaho.com](mailto:ljohnn@yaho.com)>)" <[ljohnn@yaho.com](mailto:ljohnn@yaho.com)>, "Linda Spahr (<[lspahr@valleywater.org](mailto:lspahr@valleywater.org)>)" <[lspahr@valleywater.org](mailto:lspahr@valleywater.org)>, "[lisa.mangione@usace.army.mil](mailto:lisa.mangione@usace.army.mil)" <[lisa.mangione@usace.army.mil](mailto:lisa.mangione@usace.army.mil)>, "Luisa Valiela (<[valiela.luisa@epamail.epa.gov](mailto:valiela.luisa@epamail.epa.gov)>)" <[valiela.luisa@epamail.epa.gov](mailto:valiela.luisa@epamail.epa.gov)>, "Neil Hedgecock (<[Neil.C.Hedgecock@usace.army.mil](mailto:Neil.C.Hedgecock@usace.army.mil)>)" <[Neil.C.Hedgecock@usace.army.mil](mailto:Neil.C.Hedgecock@usace.army.mil)>, "Ngoc Nguyen (<[nnguyen@valleywater.org](mailto:nnguyen@valleywater.org)>)" <[nnguyen@valleywater.org](mailto:nnguyen@valleywater.org)>, "[rheacock@valleywater.org](mailto:rheacock@valleywater.org)" <[rheacock@valleywater.org](mailto:rheacock@valleywater.org)>, "Roger Narsim (<[rnarsim@valleywater.org](mailto:rnarsim@valleywater.org)>)" <[rnarsim@valleywater.org](mailto:rnarsim@valleywater.org)>, "Schane, Tami@Wildlife" <[Tami.Schane@wildlife.ca.gov](mailto:Tami.Schane@wildlife.ca.gov)>, William DeJager <[William.R.DeJager@usace.army.mil](mailto:William.R.DeJager@usace.army.mil)>

I have a few comments as well:

1. I would like to see some kind of specific pre- and post- construction monitoring plan be developed to confirm stability; at least photopoints, and perhaps shade (or other vegetation measure) to determine the effects of construction; determine if temporary/permanent, and changes in the first flood season; as-built surveying; perhaps some monitoring of gravel movement after particular size events - and to do so - set up survey benchmarks if needed; marked gravel if appropriate.
2. During the annual AMT meeting this past May, we visited this site, and I noticed that - there were considerably debris jams (mostly small-medium wood + trash), Based on this observation, there may be accumulations of moved gravel behind such jams, and a possibility of increased flows between the islands.
3. If not already done, you may wish to consider re-shaping the transition (to C3) area to preferred dimensions for fish passage before filling voids (i.e., vicinity STA +716).

On Fri, Jun 6, 2014 at 9:59 AM, Scott McBain <[scott@mcbainassociates.com](mailto:scott@mcbainassociates.com)> wrote:

Maggie, Ngoc, and Lotina,

Thank you for the opportunity to review and provide comments. Overall, the plans look great, and I only had a few comments:

1. The upstream two riffles look great, I like how you have adjusted the elevations based on the decision to retain the grade control under the Virginia Street Bridge. It looks like a reasonable redistribution of grade based on retaining the downstream control. I have no

additional comments on the upstream two riffles.

2. From the May 7 memo, it wasn't clear how the decision to retain grade control under Virginia Street Bridge translated to removing one of the downstream riffles. It would help if the memo could elaborate a bit on that. The location of the 3 riffles immediately downstream of Virginia Street Bridge in Submittal A7 was based on (a) tiering off of existing riffles, (b) natural pool-riffle spacing, and (c) equipment access (avoiding disturbance to existing SRA). The equipment access criteria was based on our group field trips. The location of Augmentation #3 is in between two of the recommended riffles in Submittal A7. In addition to some more rationale for the change in gravel augmentation patches, it would be helpful if the memo confirms that this location is suitable from the equipment access criteria as well.

3. It appears that the elevations of the remaining four riffles have been adjusted based on retaining the grade control under Virginia Street Bridge, and they look fine for the most part. One small recommended adjustment would be to raise the downstream end of Augmentation #3 by 0.5 ft, to an elevation of 81.5 ft so that it is equal to the elevation of the downstream riffle crest rather than below it. This will reduce the slope of the riffle in Augmentation #3 to be more commensurate with the other riffles. However, this recommendation underlies a false precision, in that once constructed, there will almost certainly need to be some field adjustment in local elevations based on actual site conditions and habitat improvements, and these could range from 0.5 to 1.0 feet locally. So one additional recommendation is that the bid package includes a line item for a few days of additional contractor time to do grade adjustments as directed by field engineer/geomorphologist/biologist to "dial in" the grades and local fill after rough construction is done to make it more natural and improve habitat quality (i.e., we don't want a plane bed riffle as as-built conditions). This type of adjustment flexibility should also be considered in the specifications so the contractor knows that they don't need to get the elevations to within plus/minus 0.01 ft. I'd suggest 0.25 ft for rough construction, then sign off, then allow a few days with the field engineer/geomorphologist/biologist to smooth things out.

4. If you have re-run the hydraulic model for these designs, could you send me the output files for flows at or near those in Table 17 (1,500 cfs to 9,000 cfs) so we can check the gravel sizes based on the revised design downstream of Virginia Street Bridge? I expect there to be higher energy down there since the Virginia Street Bridge grade control won't be lowered. Could you also send the gravel specifications when they are done?

5. Per the "Additional Work" section in the memo, will that be included in Sheet C-01 in the next round of designs? I assume it will just be a veneer placed upstream of Stn 714+00?

6. A couple of minor comments on the sheets:

a. May want to round up the fill volume numbers, as they are probably too precise as shown

b. The line type for the existing ground and thalweg profiles are hard to discern from each other, suggest reducing the LTScale on the Existing Ground. Also, there may be some extra lines on Sheet C-02 between Stn 726+00 and 728+00

Thanks again, and I'm looking forward to seeing the completed project!

Scott

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**From:** Beth, Margarete@Waterboards [mailto:[Margarete.Beth@waterboards.ca.gov](mailto:Margarete.Beth@waterboards.ca.gov)]  
**Sent:** Thursday, May 08, 2014 5:06 PM  
**To:** Andrew Smith ([Andrew.C.Smith@USACE.army.mil](mailto:Andrew.C.Smith@USACE.army.mil)); Carson Cox ([ccox@rivright.com](mailto:ccox@rivright.com)); Chris Elias ([CElias@valleywater.org](mailto:CElias@valleywater.org)); Darren Howe; David Dunlap ([ddunlap@valleywater.org](mailto:ddunlap@valleywater.org)); David Salsbery ([DSalsbery@valleywater.org](mailto:DSalsbery@valleywater.org)); [dtitus@valleywater.org](mailto:dtitus@valleywater.org); [gary.stern@noaa.gov](mailto:gary.stern@noaa.gov); Ian SPN(First Responders) Liffmann ([Ian.Liffmann@usace.army.mil](mailto:Ian.Liffmann@usace.army.mil)); Janice M SPN Lera-Chan ([Janice.M.Lera-Chan@usace.army.mil](mailto:Janice.M.Lera-Chan@usace.army.mil)); [jnishijima@valleywater.org](mailto:jnishijima@valleywater.org); Larry Johmann ([ljohmann@yahoo.com](mailto:ljohmann@yahoo.com)); Linda Spahr ([lspahr@valleywater.org](mailto:lspahr@valleywater.org)); [lisa.mangione@usace.army.mil](mailto:lisa.mangione@usace.army.mil); Luisa Valiela ([valiela.luisa@epamail.epa.gov](mailto:valiela.luisa@epamail.epa.gov)); Neil Hedgecock ([Neil.C.Hedgecock@usace.army.mil](mailto:Neil.C.Hedgecock@usace.army.mil)); Ngoc Nguyen ([nnguyen@valleywater.org](mailto:nnguyen@valleywater.org)); [rheacock@valleywater.org](mailto:rheacock@valleywater.org); Roger Narsim ([rnarsim@valleywater.org](mailto:rnarsim@valleywater.org)); Scott McBain; Steve Schoenberg ([steven\\_schoenberg@fws.gov](mailto:steven_schoenberg@fws.gov)); Schane, Tami@Wildlife; William DeJager  
**Subject:** Upper Guadalupe River Reach 6 Gravel Placement

Hello GWIWG Folks,

The District has submitted design plans (attached) for gravel augmentation in Reach 6 of the Upper Guadalupe Project.

Please review and provide comments directly to Ngoc Nguyen by June 6, 2014.

Thank you.

Margarete "Maggie" Beth

Environmental Specialist

S.F. Regional Water Quality Control Board

S.F. Estuary Partnership

1515 Clay Street, 14<sup>th</sup> Floor

Oakland, CA 94612

Ph: 510:622-2338

Fx: 510-622-2501

[mabeth@waterboards.ca.gov](mailto:mabeth@waterboards.ca.gov)

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**From:** Ngoc Nguyen [<mailto:NNguyen@valleywater.org>]

**Sent:** Thursday, May 08, 2014 4:54 PM

**To:** Beth, Margarete@Waterboards

**Cc:** Lotina Nishijima; Kristy Minkler

**Subject:** Upper Guadalupe River Reach 6 Gravel Placement

Maggie,

As discussed, I am submitting the technical memo and 60% design drawings for the gravel placement of Upper Guadalupe River Reach for review and comments. Please request GWIWG members to review and provide comments by June 6.

I appreciate your help and support for this project.

Ngoc Nguyen, P.E.

Engineering Unit Manager

Design & Construction Unit 2

Watersheds Design & Construction Division

Santa Clara Valley Water District

E-mail: [nnguyen@valleywater.org](mailto:nnguyen@valleywater.org)

Phone: (408) 630-2632

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**San Francisco Bay Regional Water Quality Control Board**

*Sent via electronic mail: No hard copy to follow*

February 16, 2017

Santa Clara Valley Water District  
5750 Almaden Expressway  
San Jose, CA  
Email: JManitakos@valleywater.org

**Subject: Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project,  
Santa Clara County (State Clearinghouse No. 2017012044)**

Dear Mr. Manidakos:

The San Francisco Bay Regional Water Quality Control Board (Water Board) appreciates the opportunity to submit comments on the Santa Clara Valley Water District's (District) Upper Guadalupe River Reach 6 Aquatic Habitat Improvement Project (Project), Draft Mitigated Negative Declaration (MND), Santa Clara County (State Clearinghouse No. 2017012044). Water Board staff has reviewed the MND, and provide the following comments for the District to address in the final MND. As presented below in more detail, the Water Board generally supports the Project because it is intended to improve aquatic habitat quality, and provide geomorphic stability and complexity. However, the Water Board is concerned that the Project description lacks details for monitoring, and for the construction of Phase 2.

### **Background**

The proposed Project is part of the Upper Guadalupe River Flood Protection Project (Flood Control Project), which the Water Board authorized under Water Board Order No. R2-2003-0115 (Order). The objective of the Flood Control Project is to provide 100-year flood protection consistent with Federal Emergency Management Agency requirements in a 6.4 mile-long reach of the Guadalupe River. Reach 6 is one of 11 reaches and sub-reaches in the Flood Control Project to be constructed over time as funding will allow. The Order was issued to the District and U.S. Army Corps of Engineers (Corps) as the Flood Control Project's two co-sponsors. To construct Reach 6, the Corps could not provide funding, so the District is responsible for the construction of Reach 6 without the Corps' sponsorship.

Under Provision 32 of the Order, gravel augmentation is one of several elements that were to be studied in depth as part of habitat enhancement elements of the Flood Control Project, and implemented at a later point if deemed appropriate. As a result of the Gravel Augmentation Study (Corps et al, 2013<sup>1</sup>) (Gravel Study) completed in September 2013 for the Corps, and in collaboration with the District and the Guadalupe Water Interagency Working Group, it was determined that gravel augmentation would provide ecological and geomorphologic benefits to Reach 6. The District completed flood control construction in 2012 in Reach 6, and now proposes to implement the gravel augmentation element consistent with the results and recommendations in the Gravel Study.

## Comments

- 1. Monitoring.** The MND states that the purpose of the monitoring program is "...to determine the project's effectiveness in improving aquatic habitat and channel stability." The Water Board requires the District submit a monitoring plan, acceptable to the Executive Officer, with the 65 percent design plan for the gravel riffles. The Executive Officer will consider the recommendations by the GWIWG for acceptance of the riffle design plans and the associated monitoring plan.

The monitoring plan should be consistent with the Gravel Study (specifically, submittal A4 of the Study) and tailored to address the objectives stated in the Gravel Study:

- Improve aquatic habitats;
- Improvement channel stability in project reaches;
- Restore the gravel bed habitat that once existed; and
- Restoration of salmonid habitat and their associated riparian habitat.

In addition, the monitoring plan should address monitoring after both Phase 1 and Phase 2 to determine the short and long term effects of the riffles in the Guadalupe River system. The monitoring program presented in Table 2-2 is very limited, since it only addresses the suitability of the gravel riffle designs but does very little to address the long term effects of the Project in the river. The Water Board agrees that monitoring should be done to evaluate the performance of the Phase 1 riffles to inform the designs of the Phase 2 riffles. However, monitoring should also be conducted after Phase 2 is constructed to further calibrate the modeling and designs for riffles, which could be useful for future assessments of the flood control project and design of riffles in other reaches. In addition, the monitoring plan should address monitoring, and/or maintenance that may be required to prevent

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<sup>1</sup> United States Army Corps of Engineers (Corps), McBain & Trush, Inc., and Moffatt & Nichol, 2013. Upper Guadalupe River Gravel Augmentation Study. United States Army Corps of Engineers, San Francisco District, September 6, 2013.

any grade control (structural or alluvial) from becoming a barrier or causing unintended adverse impacts (Gravel Study, p. 24).

Further, monitoring should also include, but not be limited to, methods to evaluate at least two life stages of steelhead and Chinook salmon (see 5 below) such as spawning surveys and smolt migration, to evaluate the effects of gravel augmentation in Reach 6 on salmonid life cycles in the watershed. This would inform trends from the Project, as well establish baseline data for the other flood control and gravel augmentation project forthcoming (e.g., Reaches 7 and 8) in the Flood Control Project.

3. **Construction of Phase 2.** The MND is vague about when Phase 2 will be constructed. Please revise the MND to specifically stipulate the decision criteria to determine the construction of Phase 2. Such triggers include (1) methods and procedures to evaluate flow events to determine whether flows of at least the ten-year flow even have occurred to inform the design of Phase 2, and to trigger tracer roc; (2) if such flows did not occur within 1-2 years, identify the methods and procedures to decide how and when to build Phase 2 riffles.
4. **Indirect Effects.** The Biological Assessment states that the reach downstream of the Project reach is critical habitat for Central California Coast steelhead. The Water Board disagrees with the MND finding that the Project impacts on biological resources, section 4(d) (MND p.43) would be less than significant with mitigation. This finding is only based on migratory birds, although the criterion is also for migratory fish. This finding is not consistent with the need for monitoring to track gravel transport after Phase 1 and Phase 2 are built. Part of the purpose of monitoring is to ensure no unintended consequences result in fish blockages. The MND should identify this criterion as potentially significant.
5. **Native Fish.** The MND states that the District did not consider Chinook salmon in the analysis because that species is not endemic to the Guadalupe River. The MND should be revised to address the potential impacts on Chinook salmon to fully evaluate whether potential impacts of the Project would affect the beneficial uses of the study area.
6. **Comments by Others.** The Water Board incorporates by reference the comments from the California Department of Fish (CDFW) (letter dated February 12, 2017), and U.S. Fish and Wildlife Service (USFWS) (email from Steve Shoenburg, February 14, 2016). In addition, National Marine Fisheries Service concurred with CDFW's comment that the correct work window in-stream work is June 15 through October 2017(email from Gary Stern, February 14, 2017), since the time needed to construct each phase can be done within that time frame, and a longer work window is not warranted. Regarding CDFW's question about whether the vegetation that will be impacted includes any of the vegetation that was planted to mitigate for the flood control project, if that is the case, then the Water Board will also require a minimum mitigation ratio of 3:1 for those impacts.

Water Board staff looks forward to continuing to work with the District on this Project. Please contact me at (510) 622-2462 or [Susan.Glending@waterboards.ca.gov](mailto:Susan.Glending@waterboards.ca.gov) if you have any questions.

Sincerely,

Susan Glending  
Environmental Specialist  
Watershed Management Division

cc: State Clearinghouse ([state.clearinghouse@opr.ca.gov](mailto:state.clearinghouse@opr.ca.gov))



**ATTACHMENT 5**

**MITIGATION MONITORING AND REPORTING PROGRAM**  
**SUMMARY TABLE**



# MITIGATION MONITORING AND REPORTING PROGRAM

## SUMMARY TABLE

The following mitigation monitoring and reporting program (MMRP) summary table includes the mitigation measures identified in the Santa Clara Valley Water District (District) Final Mitigated Negative Declaration (MND) for the Upper Guadalupe River Reach 6 Aquatic Habitat Improvement. For each mitigation measure, this table identifies monitoring and reporting actions that will be carried out and the monitoring schedule. This table also includes a column summarizing the responsible parties for implementing actions prescribed in the mitigation measures.

## ACRONYMS AND ABBREVIATIONS

CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
District	Santa Clara Valley Water District
MBTA	Migratory Bird Treaty Act
MMRP	mitigation monitoring and reporting program
MUTCD	Manual on Uniform Traffic Control Devices
NMFS	National Marine Fisheries Service
TCR	tribal cultural resource

Mitigation Measure		Monitoring and Reporting Action	Monitoring Schedule	Implementation Responsibility
<b>Aesthetics</b>				
None				
<b>Agricultural Resources</b>				
None				
<b>Air Quality</b>				
None				
<b>Biological Resources</b>				
<b>BIO-A</b>	<b>PERFORM CONSTRUCTION ACTIVITIES DURING THE DRY SEASON:</b> Construction activities would occur during the summer low-precipitation period (June 15 through October 15). Construction requiring stream dewatering, stream crossing, or work in the channel invert would not occur until after June 15 and before October 15, unless resource agencies approve work beyond October 15. Prior approval to work after October 15 would also be based on weather conditions to be sure the channel has minimal flow. Residual water within the project area shall be temporarily directed off-site or into a settling basin or tank and not directly into the downstream channel. After a suitable residency period to allow sediment to settle out of the water, the water would be discharged in a non-erosive manner to the river channel downstream of the construction area to prevent increased turbidity in downstream waters.	Include construction window in construction contract documents or work orders to District staff.	Prior to start of construction.	District Project Manager
<b>BIO-B</b>	<b>RELOCATE AQUATIC MACROFAUNA PRIOR TO RIVER DEWATERING:</b> A qualified biologist would survey for and remove aquatic macrofauna from the	Retain a qualified biologist to conduct surveys and relocate	Prior to start of construction.	Qualified Biologist

Mitigation Measure		Monitoring and Reporting Action	Monitoring Schedule	Implementation Responsibility
	<p>project area prior to dewatering, and potentially relocate the macrofauna to suitable reaches of the river outside the construction zone. Survey and relocation requirements will be determined in coordination with the resource agencies. The aquatic biologist would use one or more of the following NMFS-approved methods to capture special status fish: electrofishing, dip net, seine, throw net, minnow trap, and hand. Electrofishing may only be used if NMFS reviews and approves the biologist's qualifications. The biologist would note the number of individuals observed in the affected area, and the date and time of the collection and relocation. The biologist would contact NMFS immediately if one or more steelhead are found dead or injured as a result of project activities.</p>	<p>macrofaunal prior to start of river dewatering.</p>		
<b>BIO-C</b>	<p><b>MONITOR CONSTRUCTION AND IMPLEMENT PROTECTIVE MEASURES IF NEEDED:</b> The biologist would monitor all in-channel construction activities, in-stream habitat, and performance of sediment control/detention devices for the purpose of identifying/reconciling any condition that could affect steelhead or their habitat. Upon notification from the biologist, the District would halt the work activity causing the condition affecting steelhead and consult with NMFS if required. Upon obtaining NMFS concurrence with measures to rectify the situation, work would resume with the measures in place.</p>	<p>Retain a qualified biologist to monitor construction. Consult with NMFS if condition develops that could affect steelhead.</p>	<p>During construction</p>	<p>Qualified biologist</p>
<b>BIO-D</b>	<p><b>PERFORM PRE-CONSTRUCTION SURVEYS FOR WESTERN POND TURTLE, BATS, AND SAN FRANCISCO DUSKY-FOOTED WOODRAT NESTS, ESTABLISH PROTECTIVE BUFFERS AROUND WOODRAT NESTS, AND RELOCATE TURTLES</b></p>	<p>Retain a qualified biologist to conduct surveys and implement buffer zones, if needed.</p>	<p>Prior to start of construction.</p>	<p>Qualified biologist</p>

Mitigation Measure		Monitoring and Reporting Action	Monitoring Schedule	Implementation Responsibility
	<p><b>FROM THE CONSTRUCTION ZONE:</b> Prior to construction, a qualified biologist would conduct surveys for the western pond turtle and San Francisco Dusky-footed woodrats. If western pond turtles are found on site, the District would first allow the species to leave the site on their own volition, and if that is not successful, relocate turtles from the construction zone in conformance with CDFW protocols. If bats or bat habitat are identified, preventative measures will be taken that conform with CDFW protocols. If San Francisco Dusky-footed woodrat nests are found in the project area, the District would establish an appropriate protective buffer around the nests, or relocate the nests in conformance with CDFW protocols.</p>			
BIO-E	<p><b>ESTABLISH APPROPRIATE BUFFERS AROUND ACTIVE NESTS IDENTIFIED DURING PRE-CONSTRUCTION NESTING BIRD SURVEYS:</b> If the pre-construction survey identifies migratory bird nests at or near staging areas and construction sites, a 50-foot no-construction buffer would be delineated around the nest until young have fledged (300-foot buffer for raptors).</p>	Retain a qualified biologist to conduct surveys and implement buffer zones, if needed.	Prior to start of construction.	Qualified biologist
BIO-F	<p><b>REPLACE REMOVED RIPARIAN VEGETATION</b> The District would plant native riparian plants and shrubs on the east bank floodplain of Reach 6 to replace the riparian vegetation removed during implementation of Phases 1 and 2 of the project. The replacement plantings would be local ecotypes as required by District BMP BI-8.</p>	Retain qualified biologist to prepare planting plans. Install the plants and maintain them during the establishment period.	After each phase of gravel placement is completed.	District Project Manager
<b>Cultural Resources</b>				

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Implementation Responsibility
None			
<b>Geology and Soils</b>			
None			
<b>Greenhouse Gas Emissions</b>			
None			
<b>Hazards and Hazardous Materials</b>			
None			
<b>Hydrology and Water Quality</b>			
None			
<b>Land Use and Planning</b>			
None			
<b>Mineral Resources</b>			
None			
<b>Noise and Vibration</b>			
None			
<b>Population and Housing</b>			
None			
<b>Public Services</b>			
None			
<b>Recreation</b>			

Mitigation Measure	Monitoring and Reporting Action	Monitoring Schedule	Implementation Responsibility
None			
<b>Transportation and Traffic</b>			
None			
<b>Tribal Cultural Resources</b>			
None			
<b>Utilities and Service Systems</b>			
None			
<b>Energy</b>			
None			
<b>Wildfire</b>			
None			