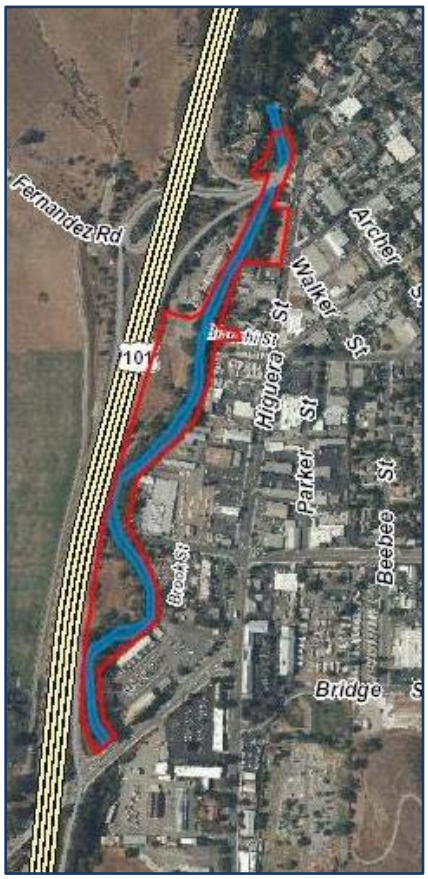
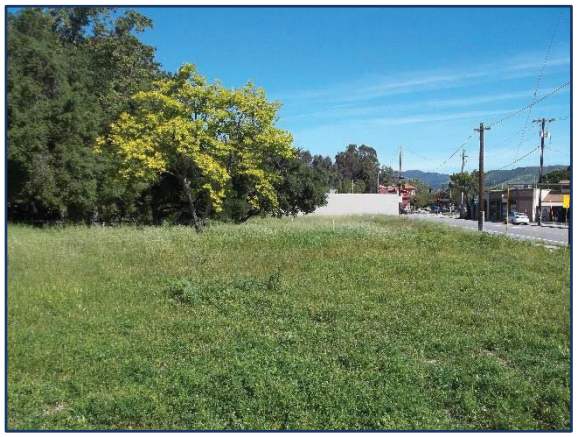
FINAL

SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE MID-HIGUERA BYPASS PROJECT

SCH# 2016021077





Prepared By:

San Luis Obispo County Flood Control and Water Conservation District
County Government Center, Room 200
San Luis Obispo, CA 93408

August 2017

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Executive Summary

Purpose of the EIR

The purpose of an Environmental Impact Report (EIR) is to provide State and local agencies as well as the general public with detailed information on the potentially significant environmental effects which a proposed project is likely to have, to list ways which the significant environmental effects may be minimized, and indicate alternatives to the project. This Supplemental Environmental Impact Report (SEIR) addresses the environmental effects of the construction and operation of the Mid-Higuera Bypass Project (project). The information presented here supplements the October, 2003 San Luis Obispo Creek Watershed Waterway Management Plan Final Programmatic Environmental Impact Report/Environmental Impact Statement (EIR/EIS).

This SEIR has been prepared in accordance with the California Environmental Quality Act (CEQA) as amended, and the latest State Guidelines for the Implementation of CEQA. The need for a SEIR is justified based upon the review of project-specific design, the completion of project-specific technical reports, and the completion of an Initial Study for the project (refer to Appendix A).

Project Location

The project is located within and adjacent to San Luis Obispo Creek between the Marsh Street Bridge (upstream) and Madonna Road Bridge (downstream). It is bordered on the west by Highway 101 and on the east by Higuera Street. It is located completely within the City of San Luis Obispo (refer to the Vicinity Map, Site Map, and Appendix B).

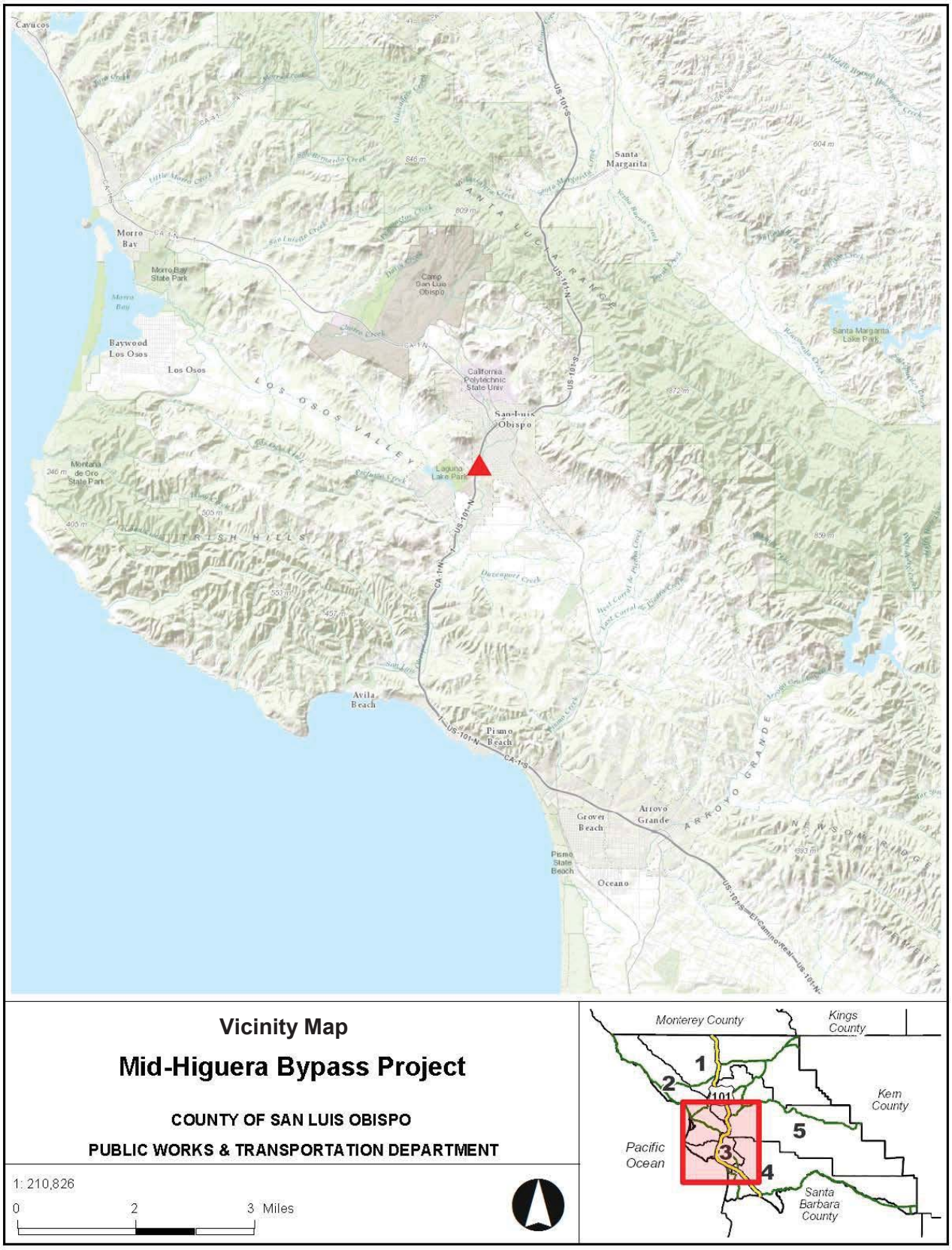
Project Background

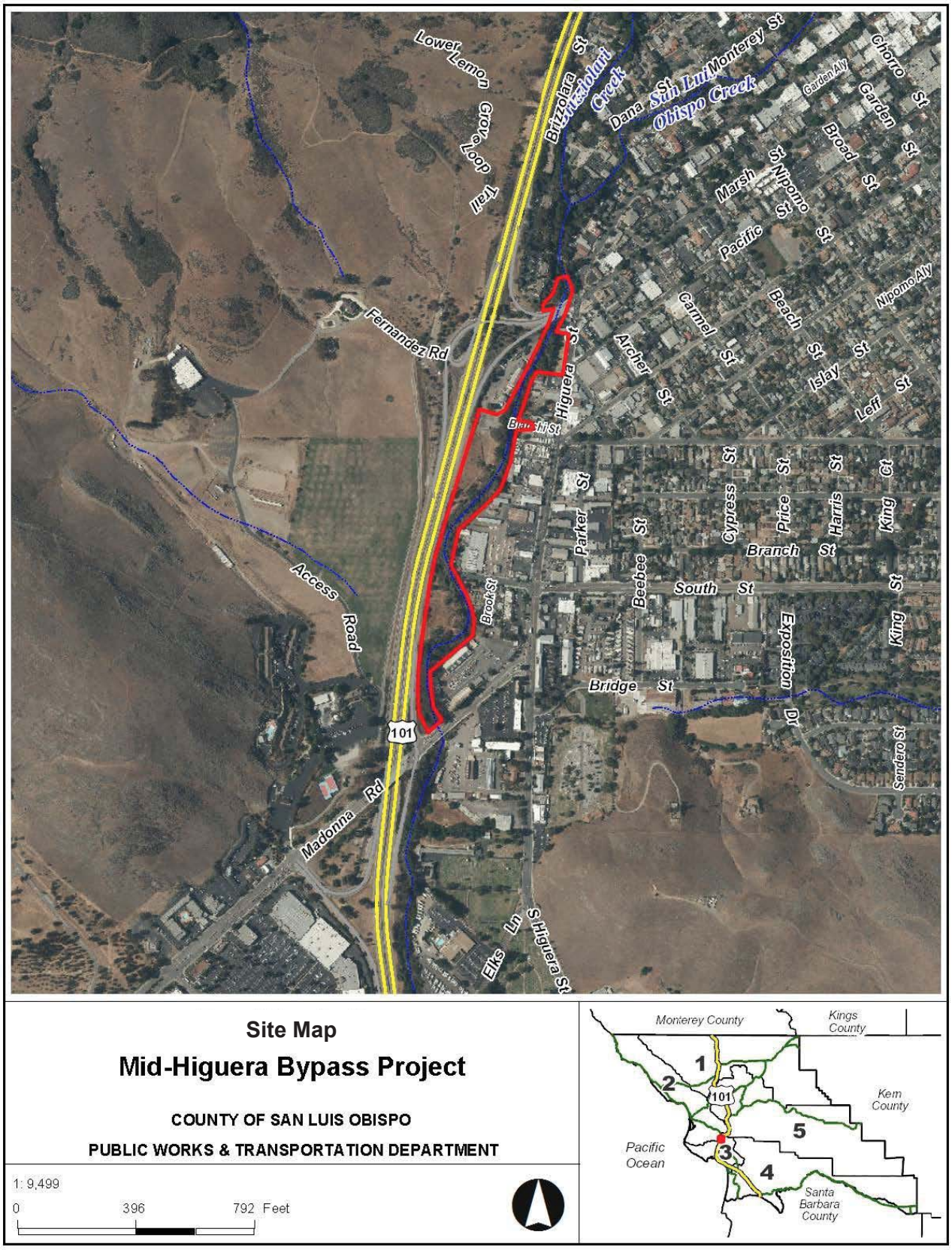
The Mid-Higuera Bypass Project was specifically discussed in the EIR/EIS as one of five Capital Improvement Projects; however, it was determined that subsequent environmental review would be required at such time as project-specific data was available for review.

Proposed Project

The Mid-Higuera Bypass Project (project) is proposed to increase the flood control capacity of San Luis Obispo Creek (creek) between Marsh Street and Madonna Road due to the following concerns:

- there is currently less than 25-year storm capacity in this stretch of the creek;
- significant bank erosion exists in some locations;
- there is localized sediment accumulation, particularly at the Marsh Street Bridge;
- a poor pool-to-riffle ratio exists;
- substantial invasive species and exotic plants are present; and
- there is a lack of continuity and/or diversity in native riparian vegetation.


Cayucos
Morro Bay
Morro Bay State Park
Baywood Los Osos
Los Osos
Camp San Luis Obispo
California Polytechnic State Univ
San Luis Obispo
Santa Margarita
Santa Margarita Lake Park
Laguna Lake Park
Montaña de Oro State Park
Avila Beach
Pismo Beach
Grover Beach
Arroyo Grande
Pismo State Beach
Oceano
LOS OSOS VALLEY
SANTA LUCIA RANGE
NEWSOM RIDGE
TRISH HILLS
ARROYO GRANDE
US-101-S
US-101-N
CA-1-N
CA-1-S
El Camino Real
Vicinity Map
Mid-Higuera Bypass Project
COUNTY OF SAN LUIS OBISPO
PUBLIC WORKS & TRANSPORTATION DEPARTMENT
1: 210,826
0
2
3 Miles
Monterey County
Kings County
Kern County
Pacific Ocean
Santa Barbara County
1
2
3
4
5
101


Lower Lemon Cove Loop Trail
Brizzolara St
Dana St
San Luis Obispo Creek
Monterey St
Garden Aly
Chorro St
Garden St
Broad St
Marsh St
Nipomo St
Pacific St
Nipomo Aly
Carmel St
Beach St
Archer St
Islay St
Leff St
Fernandez Rd
Higuera St
Branch St
Parker St
Cypress St
Price St
Harris St
King Ct
Branch St
Beebee St
South St
King St
Brook St
Access Road
Exposition Dr
Bridge St
Sendero St
101
Madonna Rd
Elks Ln
S Higuera St
Site Map
Mid-Higuera Bypass Project
COUNTY OF SAN LUIS OBISPO
PUBLIC WORKS & TRANSPORTATION DEPARTMENT
1: 9,499
0
396
792 Feet
Monterey County
Kings County
Kern County
Pacific Ocean
Santa Barbara County
1
2
3
4
5
101

The proposed project includes five components developed to directly address these issues, including:

Bypass Channels. The project would include the construction of two bypass channels, the Bianchi Bypass and the South Street Bypass. The bypass channels are proposed between the creek and Highway 101. They have been designed to be active during larger storm events (i.e., they are designed to be "above" the Ordinary High Water Mark [OHWM] of the creek), and to flow full during 25-year storm events. Vegetated rock slope protection as well as root wads/flow deflectors would be installed at both the upstream and downstream transition areas between the bypass channels and the creek.

Benches and Related Grading. In addition to the bypass channels, the capacity and functionality of the creek channel would be expanded through the construction of four benches, by laying back slopes at the "pinch point", and through construction of a "flow return". Similar to the bypass channels, the four benches proposed would be excavated above the creek OHWM and would reach approximately 20-30 feet wide. The maximum slopes above the benches would be excavated no steeper than 2.5:1.

Marsh Street Sediment Removal. Significant sediment has accumulated on the upstream side of the Marsh Street Bridge and within the three bridge barrels. Further, the upstream sediment has formed an island that is blocking the largest center barrel. To address this issue, sediment will be removed upstream of the bridge, within the bridge barrels, and downstream of the bridge. The sediment would be removed to 1-foot above the creek water surface elevation at time of construction. This strategy will preserve the existing low flow channel through the bridge. In addition, the western bank will be sloped back to a 2.5:1 slope.

Bianchi Lane Bridge Replacement. The existing Bianchi Lane Bridge is an old bridge that was relocated to its current position many years ago. It is relatively low and narrow, and as a result can only accommodate flows from a 6-year storm event. The proposed new bridge will be a two-span bridge with a higher deck elevation and will incorporate the start of the first bypass channel. The new bridge will provide capacity for an approximately 23-year storm event. The new bridge installation will include grading to accommodate the new road approaches.

Riparian Enhancement. Riparian enhancements have been incorporated for each of the components described above. Vegetated rock slope protection would be installed at the confluence of the creek channel and the bypass channels. At these locations, root wads would also be installed to provide pools and habitat complexity to the creek. At the Bianchi Bypass downstream transition area, rock flow deflectors will be installed to create pools and hydrologic complexity.

Notice of Preparation

In accordance with the provisions of the State CEQA Guidelines, a Notice of Preparation (NOP) for the project was distributed on February 19, 2016. The advertised comment period ended on March 21, 2016. A total of five responses, including one from the State Clearinghouse, were received. These responses are included in Appendix A.

Draft Supplemental Environmental Impact Report

The Draft Environmental Impact Report (DSEIR) was released for public comment on September 23, 2016 for a 45-day public review period. The review period closed on November 7, 2016. The District received four comment letters, three from public agencies, and one from a member of the public. Appendix E of the Final EIR describes persons, organizations, and public agencies commenting on the DSEIR; verbatim comments received through the EIR process; and responses by the lead agency to comments received. The comments did not result in any significant new information or substantial revisions to the DSEIR.

Significant Environmental Impacts Identified

Table ES-1 shows each impact identified and all mitigation measures recommended to reduce or avoid impacts. The most significant potential impacts identified in this EIR include:

Aesthetic Resources. The project proposes to revegetate the site after construction, although it may take 5-10 years or more before the vegetation provides the screening of urban uses from Highway 101 as it currently does.

Biological Resources. These impacts would include Impacts to the San Luis Obispo Creek riparian corridor from construction, including temporary dewatering, tree and vegetation removal, impacts to special-status wildlife species, and the potential to result in erosion and sedimentation of the creek.

Hazards and Hazardous Materials. Hazardous materials have been identified within the project corridor and they are likely to be encountered during construction of the project.

All impacts identified in the EIR can be reduced to a level of insignificance with mitigation.

Project Alternatives

Despite the fact that the 2003 EIR/EIS considered a reasonable range of alternatives to the Mid-Higuera Bypass project specifically, Chapter 6 of the SEIR includes discussion of additional alternatives in an attempt to reduce the severity of the short-term construction-related impacts identified. These alternatives include:

1. Land Purchase/Business Relocation - Purchasing the properties along Higuera Street most vulnerable to flooding, thereby reducing the flood risk;
2. Marsh Street Bridge Replacement - Reconstructing the Marsh Street Bridge and Highway 101 interchange;
3. No Project Alternative – This alternative is required by CEQA, and in this case would include periodic maintenance of the creek reach, including the vegetation and sediment management that is already periodically performed by the County; and
4. Phased Project – Phasing construction over multiple years to reduce short-term construction-related impacts to noise, air quality and traffic, as well as to minimize disturbance to biological resources within the creek channel in any single year.

The alternatives analysis concludes that the proposed project with all mitigation applied may be the environmentally superior alternative, or at least be the environmentally equivalent of the phased project alternative.

Impact Summary Table

The table on the following pages provides a summary of the potential impacts of the proposed project. Also summarized in these tables are the mitigation measures associated with each impact that are to be implemented by the project applicant in order to reduce the environmental impacts to a level of insignificance. In accordance with CEQA, the Summary Table identifies the types of potential impacts described in EIRs and those specifically associated with the proposed development.

Class I Impacts—Significant environmental impacts that cannot be fully mitigated or avoided. The decision maker must adopt a "Statement of Overriding Considerations" as required under CEQA Guidelines Section 15093 if the project is approved. No Class I impacts have been identified.

Class II Impacts—Significant environmental impacts that can be feasibly mitigated or avoided. The decision maker must issue "Findings" under CEQA *Guidelines* §15091(a) if the project is approved. All Class II impacts identified are described in the table below.

Class III Impacts—Environmental impacts that are adverse but not significant for which the decision maker does not have to adopt "Findings" under CEQA. All Class II impacts identified in this EIR would become Class III impacts with the adoption of the recommended mitigation.

Class IV Effect—An effect that would be beneficial, and would reduce existing environmental impacts or hazards. The proposed project would potentially have beneficial impacts to water resources because it would result in the removal of potentially hazardous soils and decrease the risk of flooding; however, these potentially beneficial impacts are not specifically described in the tables below.

Table ES-1

Potentially Significant Impacts that can be Feasibly Mitigated (Class II Impacts)

Impact	Duration	Recommended Mitigation Measures	Impact Class after Mitigation Applied
Aesthetic Resources			
AR Impact 1 The project would cause a noticeable change to the visual environment of the site and its surroundings due to a loss of vegetative character, visibility of engineered channels and slope protection, and increased visibility to the development along Higuera Street, South Street and the Caltrans building north of Madonna Road as seen from Highway 101.	Short and medium-term	*AR-mm-1* ***Prior to initiation of the project****, the District shall ensure that revised grading and site plans show the following:* 1. *All channel benches and bypass channels shall employ contour grading design and construction techniques to reduce their engineered appearance. All grade breaks shall be rounded and avoid angular slope-interface.* 2. *All top-of-slope hinge-points shall employ slope-rounding where doing so would not adversely affect existing vegetation.* *AR-mm-2* ***Prior to initiation of the project****, the District shall ensure preparation and implementation of a planting plan, which shall supplement the Vegetation Enhancement Plan, be developed and signed by a licensed landscape architect or restoration specialist, and include the following:* 1. *Visual screen planting between the easternmost extent of channel and bench grading and the adjacent parcels east of the project, between Stations 13+50 and 17+00, and between Stations 22+50 and 27+00.* 2. *Screen planting shall be a mix of evergreen trees and shrubs placed in natural-looking patterns.* 3. *Trees planted for screening along the fence shall be planted from primarily 24-inch box containers. Shrubs shall be planted from minimum 5-gallon containers.* 4. *Screen planting shall include the appropriate number and density of plants to achieve a minimum of 90 percent visual screening of the adjacent development as seen from Highway 101 within five years.* 5. *Additional planting between the bypass channels and the Highway 101 right-of-way, to the maximum extent possible.* 6. *Planting along Highway 101 shall be a mix of evergreen trees and shrubs placed in natural-looking patterns.* 7. *Trees planted along Highway 101 shall be planted from primarily 24-inch box containers. Shrubs shall be planted from minimum 5-gallon containers.*	Class III
AQ Impact 1 Project construction activities would result in emissions levels that exceed SLOAPCD thresholds.	Short-term	*AQ-mm 1 A Construction Activity Management Plan (CAMP) shall be prepared for the proposed project. The CAMP shall be submitted to the SLOAPCD for review and approval* ***prior to the start of construction****. The CAMP shall include, at a minimum, the following elements:* 1. *Identification of the project construction schedules. To the extent possible, construction activities should be phased to minimize cumulative increases of daily emissions from multiple activities.* 2. *Identification of schedules for truck hauling activities and associated haul routes. Haul routes and schedules that would have the least impact to nearby sensitive receptors shall be selected. Construction activities and haul truck trips should be scheduled during non-peak hours (as determined by the Public Works Director) to reduce peak hour emissions.* 3. *Identification of construction-equipment permitting requirements. Portable equipment, 50 horsepower (hp) or greater, used during construction activities may require California statewide portable equipment registration (issued by the California Air Resources Board) or a SLOAPCD permit. Examples of such equipment may include, but are not limited to, standby generators, material processing equipment (e.g., crushers, conveyors, portable batch plants, tub grinders, trammel screens).* 4. *Identification of a designated person or persons responsible for implementation of the CAMP and emissions monitoring and compliance. The designated individual(s) shall be responsible for monitoring of fugitive dust emissions and the implementation/enhancement of measures, as necessary, to minimize dust complaints, reduce visible emissions below the*	Class III

		SLOAPCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition. *5. Tabulation of on-road and off-road construction equipment. Emissions shall be quantified in accordance with SLOAPCD-recommended methodologies based on project-specific construction requirements (e.g., construction schedules, construction vehicle trips, and off-road equipment fleet to be used during project construction.* 6. *Identification of fugitive dust and mobile-source emission control measures to be implemented sufficient to demonstrate compliance with SLOAPCD's CEQA thresholds of significance and to minimize nuisance impacts at nearby sensitive receptors.*	
AQ Impact 2 The project could expose sensitive receptors to pollutants such as lead and fugitive dust.	Short-term	*AQ-mm 2 The following measures shall be implemented during construction to reduce potential expose of sensitive receptors to substantial pollutant concentrations. These measures shall also be included in the CAMP to be prepared for this project* *1. Demolition of onsite structures shall comply with the National Emission Standards for Hazardous Air Emissions (NESHAP) requirements (NESHAP, 40 CFR, Part 61, Subpart M) for the demolition of existing structures. The SLOAPCD is delegated authority by the Environmental Protection Agency (EPA) to implement the Federal Asbestos NESHAP. Prior to demolition of onsite structures, the SLOAPCD shall be notified, per NESHAP requirements.* *2. If during demolition of Bianchi Lane Bridge, paint is separated from the construction materials (e.g. chemically or physically), the paint waste will be evaluated independently from the building material by a qualified hazardous materials inspector to determine its proper management. All hazardous materials shall be handled and disposed in accordance with local, state and federal regulations.* *3. According to the Department of Toxic Substances Control (DTSC), if paint is not removed from the building material during demolition (and is not chipping or peeling), the material can be disposed of as construction debris (a non-hazardous waste). The landfill operator will be contacted prior to disposal of building material debris to determine any specific requirements the landfill may have regarding the disposal of lead-based paint materials. The disposal of demolition debris shall comply with any such requirements.* *4. On-road diesel vehicles shall comply with Section 2485 of Title 13 of the California Code of Regulations. In general, the regulation specifies that drivers of said vehicles:* • *Shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location, except as noted in Subsection (d) of the regulation; and,* • *Shall not operate a diesel-fueled auxiliary power system to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 1,000 feet of a restricted area, except as noted in Subsection (d) of the regulation.* • *Off-road diesel equipment shall comply with the 5-minute idling restriction identified in Section 2449(d)(2) of the California Air Resources Board's In-Use off-Road Diesel regulation.* • *Signs must be posted in the designated queuing areas and job sites to remind drivers and operators of the state's 5 minute idling limit.* • *Construction truck trips shall be scheduled, to the extent feasible, to occur during non-peak hours.* • *The burning of vegetative material shall be prohibited.* *5. Should hydrocarbon contaminated soil be encountered during construction activities, the SLOAPCD shall be notified as soon as possible and no later than 48 hours after affected material is discovered to determine if a SLOAPCD Permit will be required. In addition, the following measures shall be implemented immediately after contaminated soil is discovered:* • *Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;* • *Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH –non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate;* • *Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;* • *The air quality impacts from the excavation and haul trips associated with removing the contaminated soil must be*	Class III

			evaluated and mitigated if total emissions exceed the SLOAPCD's construction phase thresholds; • *During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and,* • *Clean soil must be segregated from contaminated soil.*	
BR-Impact 1 California red-legged frog may be directly impacted during construction activities.	Short-term	*BR-mm 1*	*Through the USACE permit process, conduct consultation with the USFWS to develop avoidance and minimization measures for the CRLF. These measures may include, for example, the measures described in the 1999 CRLF Programmatic Biological Opinion between the USFWS and the USACE.*	Class III
BR-Impact 2 South-central California coast steelhead may be directly impacted during construction activities.	Short-term	*BR-mm 2*	*Construction requiring stream dewatering, stream crossings, or work in the channel bed will not start before June 1. Upstream and downstream passage for fish, including juvenile steelhead, will be provided through or around construction sites at all times. Cofferdams will be installed to divert streamflow around each in-stream construction area.*	Class III
		BR-mm 3	*Through the USACE permit process, conduct consultation with the NMFS to develop avoidance and minimization measures for steelhead. These measures may include, for example, having a qualified biologist onsite during the installation of cofferdams and during the cofferdam dewatering process to capture and move trapped salmonids and other fish as well as identifying the appropriate procedures for relocating fish. Protocols for the capture, handling, and release of fish will be developed in cooperation with NMFS and CDFW and implemented during project construction.*	Class III
BR-Impact 3 Implementation of the project would potentially result in long-term adverse impacts to the habitat value of the creek for steelhead within the project area.	Long-term	*BR-mm 4*	*Prior to construction the project plans shall be revised to show the bypass channels sloped towards the "inside" bank to minimize the potential for ponding water.*	
		BR-mm 5	*Prior to construction the project plans shall incorporate additional boulder clusters or similar features into the design of the transition areas.*	
		BR-mm 6	*At the appropriate time following applicable storm events, the bypass channels shall be inspected to determine the potential for ponded water and to confirm no fish have been stranded. In the event that special-status fish are observed stranded in the bypass channels, they shall be relocated by a qualified biologist consistent with necessary permits and authorizations.*	
		BR-mm 7	*Prior to construction and following construction at appropriate intervals, the habitat assessments consistent with those performed for the WMP shall be conducted by qualified biologists. These efforts shall be described in and coordinated with habitat restoration monitoring to be described in the HMMP for the project.*	
BR-Impact 4 Removal of larger stands of eucalyptus within the project corridor would potentially impact overwintering monarch butterflies.	Short-term	*BR-mm 8*	*To avoid impacts to monarch butterflies, construction shall be avoided as feasible during the monarch butterfly wintering period (November to February). However, if work is scheduled to occur during this time, the project corridor shall first be surveyed for overwintering monarch butterfly. If substantial monarch butterfly population is observed, tree removal shall cease within 200 feet of the population, and sufficient dust control measures shall be implemented to minimize dust emissions and associated impacts to any eucalyptus groves within or directly adjacent to project-related ground disturbance.*	Class III
BR Impact 5 Demolition of the Bianchi Lane Bridge and tree removal would potentially impact roosting bats.	Short-term	*BR-mm 9*	*Prior to construction, one daytime and one night-time pre-construction surveys shall be conducted by qualified biologists no more than 30 days prior to construction to determine if bats are day or night roosting in the project area. The biologist(s) conducting the preconstruction surveys will also identify the nature of the bat utilization of the area (i.e., no roosting, night roost, day roost, maternity roost). If bats are found to be roosting in the surveyed areas, the following measures will be implemented during construction:* *1. If there is only night roosting by bats and the roost substrate will not be impacted, work may proceed as normal provided that no night-time work is scheduled.* *2. If there is day roosting by bats (or night roosting and work during nighttime), qualified biologists shall monitor any construction activities within 100 ft for disturbance to bat roosting. If bat roosting behavior is determined to be adversely impacted by construction activities, construction must be avoided in the vicinity of bat roosts until either*	Class III

			bats are no longer roosting or they have been excluded from roosting. *3. If maternity roosts are detected, construction activities must be avoided within 100 ft (30 m) of an active maternity roost until the end of the maternity roosting season (end of September). No roost exclusion shall be conducted if maternity roosts are detected.* *4. Readily visible exclusion zones shall be established in areas where roosts must be avoided.*	
		BR-mm 10	*The design of the new Bianchi Lane Bridge shall incorporate bat friendly features and/or provide areas where manmade roosts can be easily attached during construction. If manmade roosts are to be attached to the bridge, this shall be accomplished prior to the conclusion of construction activities.*	
BR Impact 6 Project construction will impact approximately 3.94 acres of riparian forest and riverine communities and result in the removal of approximately 128 native trees impacting the riparian habitat for wildlife.	Short and medium term	*BR-mm 11*	*Prior to construction, the project proponent will retain a qualified biological monitor(s) to monitor construction and ensure compliance with Avoidance and Minimization Measures within the project environmental documents.*	Class III
		BR-mm 12	*Before any activities begin on a project, a qualified biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the important vegetation and special-status resources that occur in the project area, the specific measures that are being implemented to conserve them and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.*	
		BR-mm 13	*During construction, work within the creek shall be conducted when the creek does not contain flowing or standing water, if feasible. If work activities must occur when water is present in the creek channel, the contractor shall dewater the creek prior to conducting the activities.*	
		BR-mm 14	*Prior to any construction work beginning, including any vegetation clearing, sturdy high visibility fencing shall be installed to protect jurisdictional areas and sensitive resource areas adjacent to the work area. This fencing shall be placed so that unnecessary impacts to adjacent habitat are avoided. No construction work (including storage of materials) shall occur outside of the "Project Limits". The required fencing shall remain in place during the entire construction period and maintained as needed by the contractor.*	
		BR-mm 15	*During construction, the cleaning and refueling of equipment and vehicles will occur only within a designated staging area and as far from aquatic areas as feasible. At a minimum, all equipment and vehicles will be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills.*	
		BR-mm 16	*During construction, the biological monitor(s) will ensure that the spread or introduction of invasive exotic plant species is avoided to the maximum extent possible. When practicable, invasive exotic plants in the project site will be removed and properly disposed.*	
		BR-mm 17	*During construction, trash will be contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas. All vegetation removed from the construction site shall be taken to a certified landfill to prevent the spread of invasive species.*	
		BR-mm 18	*During construction, no pets will be allowed on the construction site.*	

		BR-mm 19	*Prior to construction, a comprehensive Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that reflects the guidance of the WMP and includes the following guidelines:* *1. Results in an improved pool to riffle ratio, reduction in invasive species, and increase of canopy cover provided by native species for Reach 10 compared to the 2002 assessment.* *2. A 1:1 replacement ratio for temporary impacts to riverine and riparian vegetation communities.* *3. A 2:1 replacement ratio for permanent impacts to riverine and riparian communities.* *4. A replacement ratio for native trees and shrubs impacted by the project that will result in equal to or better habitat conditions within the project corridor as quickly as feasible.* *5. Considers invasive species and debris removal in-lieu of a strict tree replacement ratio where appropriate* *6. Allows for flexibility in species to be planted so that predominately single-trunk species such as black walnut, black cottonwood, and bay laurel can be substituted for willows, for example.* *7. Takes advantage of the bypass channels and terraces between the bypass channels and the creek to replace the ruderal and nonnative annual grassland vegetation communities with riparian and upland ones, even in areas not directly impacted by the project construction.*	
		BR-mm 20	*During construction, the project will make all reasonable efforts to limit the use of imported rock. Imported material should be obtained from a source that is known to be free of invasive plant species; or the material must consist of purchased clean material such as crushed aggregate, sorted rock, or similar.*	
BR-Impact 7 Construction activities would result in impacts to nesting avian species	Short and medium term	*BR-mm 21*	*To protect special-status avian species and those species protected by the MBTA, the District shall avoid vegetation clearing and earth disturbance during the typical nesting season (February 15 to September 1). If avoiding construction during this season is not feasible, a qualified biologist shall survey the area within one week prior to activity beginning on site. If nesting birds are located on or near the proposed project site, they shall be avoided until they have successfully fledged. A buffer zone of 50 feet will be placed around all non-sensitive, passerine bird species, and a 250-foot buffer will be implemented for raptor species, and all activity will remain outside of that buffer until the qualified biologist has determined that the young have fledged. Buffer reductions and/or work within non-disturbance buffer areas can be completed only with approval from relevant resource agencies.*	Class III
CR Impact 1 Excavation of the project components, including, but not limited to the Flow Return, the Pinch Point, and the Bypass channels, have the potential to impact buried historical resources.	Short-term	*CR-mm-1*	*Prior to construction, a detailed excavation and monitoring plan shall be prepared and implemented by a qualified historical archaeologist. The monitoring plan shall specify the following:* *1. A description of preconstruction exploratory excavations at the Flow Return;* *2. A description of how and where the monitoring will occur;* *3. Description of monitoring intensity at different project locations;* *4. A description of the resources anticipated to be discovered;* *5. A description of the circumstances under which construction will be halted;* *6. Description of the procedures to be followed in the event significant resources are found;* *7. Personnel involved in monitoring activities; and* *8. Arrangements for curation and a description of those materials that would qualify for curation.* *9. Procedures to be implemented in the event there is an unanticipated historical or prehistoric discovered within the project area during construction to ensure compliance with State and local code.*	Class III
HAZ Impact 1 During excavation of the project components construction personnel and the local environment may be exposed to hazardous materials that exist in the soils.	Short-term	*Haz-mm-1*	*Prior to initiation of construction, the District shall submit to the City of San Luis Obispo Fire Department, a Construction Materials Management Plan (CMMP). The CMMP plan shall be implemented throughout construction. The CMMP shall at minimum present an overview of the procedures and protocols that will be utilized during the project to safely and appropriately recover, handle, characterize, store, transport, and dispose of any contaminated materials encountered during construction of the project. In the event that hazardous materials are encountered during excavation activities, the*	Class III

			contaminated soil shall be excavated to the extent necessary to safely construct the project.	
HWQ-Impact 1 The Flow Return would potentially concentrate polluted flood water and discharge it to the creek system with no treatment.	Short-term	*HWQ-mm-1*	*Prior to construction, to minimize the potential for concentrating pollutants at the Flow Return where flood waters would re-enter San Luis Obispo Creek, this component shall be designed to maximize the potential for passive storm water treatment.*	Class III
NS-Impact 1 Night-time or weekend construction would potentially significantly impact sensitive receptors in the project area.	Short-term	*NS-mm 1*	*To reduce potential noise impacts, the following measures shall be implemented during construction:* • *Noise-generating construction activities shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday.* • *Noise-generating construction activities shall be prohibited on Sundays and holidays.* • *Construction equipment shall be properly maintained and equipped with noise-reduction intakes and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations.* • *Equipment engine shrouds shall be closed during equipment operation.* • *Lay-down yards and semi-stationary equipment such as pumps or generators shall be located at the furthest practical distance from noise-sensitive land uses.*	Class III

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C. Air Quality Background Information
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E. Response to Comments on the Draft Supplemental Impact Report
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1.0 Introduction

1.1 Project Background

This Final Supplemental Environmental Impact Report (FSEIR) addresses the environmental effects of the construction and operation of the Mid-Higuera Bypass Project (project). The information presented here supplements the October 2003 San Luis Obispo Creek Watershed Waterway Management Plan Final Programmatic Environmental Impact Report/Environmental Impact Statement (EIR/EIS). The EIR/EIS is available for review at the County Public Works Department. As described in the EIR/EIS:

"This Program level EIS/R addresses the potential environmental impacts of the proposed SLO Creek Waterway Management Program that includes the Waterway Management Plan, the Stream Maintenance and Management Plan and the Drainage Design Manual. The Program is a combination of policies, programs and plans to address, in a regional or watershed-wide manner, flooding and flood control along San Luis Obispo Creek and its tributaries."

The project was specifically discussed in the EIR/EIS as one of five Capital Improvement Projects; however, it was determined that subsequent environmental review would be required at such time as project-specific data was available for review.

1.2 Purpose of the EIR

The goal of the California Environmental Quality Act (CEQA) is to:

1. Inform government decision makers and the public about the potential significant environmental impacts of proposed activities; and
2. Identify ways that environmental impact(s) can be avoided or significantly reduced.

The purpose of an EIR is to provide State and local agencies and the general public with detailed information on the potentially significant environmental effects which a proposed project is likely to have, to list ways which the significant environmental effects may be minimized, and indicate alternatives to the project.

This SEIR has been prepared in accordance with CEQA as amended, and the latest State Guidelines for the Implementation of CEQA. The need for a SEIR is justified based upon the review of project-specific design, the completion of project-specific technical reports, and the completion of an Initial Study for the project (Refer to Appendix A).

1.3 Use of a Supplemental EIR

Once an EIR has been prepared for a project, a Lead Agency can generally rely on that EIR as the CEQA "clearance" for that project. However, in some cases projects, or the circumstances under which they occur, may change after the EIR is completed. More commonly, a period of time passes between completion of the EIR and the implementation of the project. At this point, a Lead Agency must determine whether the original EIR is still adequate for the project or whether additional environmental review is required. The additional environmental review could include an addendum or subsequent EIR.

The key findings for preparation of this SEIR are in section 15162(2) of the CEQA Guidelines in that the level of detail now available in regards to the project description and the severity of potential impacts constitutes a "substantial change" that requires revisions of the previous EIR/EIS.

1.4 Scoping Process

In accordance with the provisions of the State CEQA Guidelines, a Notice of Preparation (NOP) for the project was distributed on February 19, 2016. The advertised comment period ended on March 21, 2016. A total of 5 responses were received. These are included in Appendix A.

1.5 Draft Supplemental Environmental Impact Report

The Draft Environmental Impact Report (DSEIR) was released for public comment on September 23, 2016 for a 45-day public review period. The review period closed on November 7, 2016. The District received four comment letters, three from public agencies, and one from a member of the public. Appendix E of the Final EIR describes persons, organizations, and public agencies commenting on the DSEIR; verbatim comments received through the EIR process; and responses by the lead agency to comments received. The comments did not result in any significant new information or substantial revisions to the DSEIR.

1.5 EIR Contents

The EIR is divided into the following major sections:

Executive Summary. Provides a brief summary of the project background, description, impacts and mitigation measures, and alternatives.

Introduction. Provides the purpose of an EIR, as well as scope, content, and the use of the document.

Project Description. Provides the general background of the project, objectives, a detailed description of the project characteristics, and a listing of necessary permits and government approvals.

Environmental Setting. Describes the surrounding land uses as well as plans and polices that are relevant to the project. The section also includes a discussion of the projects consistency with those plans and policies.

Environmental Impacts and Mitigation Measures. Discusses the environmental setting as it relates to the various issue areas, regulatory settings, thresholds of significance, impact assessment, project-specific impacts and mitigation measures, cumulative impacts, and secondary impacts. Based on review of the EIR/EIS, the current project description, technical reports, preparation of an Initial Study, and comments received on the NOP, the following issues are covered in detail within the SEIR:

- Aesthetic Resources
- Air Quality / Greenhouse Gases
- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Hydrology / Water Quality
- Noise

Other study areas typically fully analyzed in a EIR were not identified as having the likelihood of significant effects, or are already addressed in the EIR/EIS. The reader should refer to the Initial Study in Appendix A for additional information on that determination.

Other CEQA Mandated Topics. Identifies potential growth inducing impacts, irreversible environmental changes and energy conservation.

Alternatives. Summarizes the environmental advantages and disadvantages associated with the project and alternatives. As required, the "No Project" alternative is included among the alternatives considered. An "Environmentally Superior Alternative," is identified.

1.6 Use of this Document

The following agencies may use this FSEIR in reviewing and issuing their respective permits and authorizations (as applicable):

- United States Army Corps of Engineers (USACE)
- California Department of Fish and Wildlife (CDFW)
- Regional Water Quality Control Board (RWQCB)
- California Department of Transportation (Caltrans)
- San Luis Obispo County Air Pollution Control District (SLOAPCD)
- United States Fish and Wildlife Service (USFWS)
- National marine Fisheries Service (NMFS)
- City of San Luis Obispo

1.7 Project Sponsors and Contact Information

Key contact persons are as follows:

Lead Agency
San Luis Obispo County Flood Control and Water Conservation District
County Government Center, Room 200
San Luis Obispo, CA 93408
Mr. Keith Miller, Environmental Resource Specialist

Project Proponent
San Luis Obispo County Flood Control and Water Conservation District
County Government Center Room 200
San Luis Obispo, CA 93408
Ms. Jill Ogren, Project Manager

1.8 Relationship to Other Documents

This FSEIR supplements the 2003 EIR/EIS. The analysis contained here is intended to make the changes and additions necessary to make the EIR/EIS adequate for the evaluation of the currently proposed project. The EIR/EIS addressed a wide range of impacts to resources throughout the San Luis Obispo Creek Watershed. The EIR/EIS was prepared to satisfy National Environmental Policy Act (NEPA) requirements as well. This FSEIR focuses only on those effects not considered in the EIR/EIS that would occur as a result of the specific project. Further it does not include issues that were covered in the EIR/EIS that are primarily required by NEPA – socioeconomics, for example. Copies of the EIR/EIS are available for review from the San Luis Obispo County Department of Public Works.

2.0 Project Description

2.1 Project Summary

The Mid-Higuera Bypass Project (project) is proposed to increase the flood control capacity of San Luis Obispo Creek (creek) between Marsh Street and Madonna Road due to the following concerns:

- there is currently less than 25-year storm capacity in this stretch of the creek;
- significant bank erosion exists in some locations;
- there is localized sediment accumulation, particularly at the Marsh Street Bridge;
- a poor pool-to-riffle ratio exists;
- substantial invasive species and exotic plants are present; and
- there is a lack of continuity and/or diversity in native riparian vegetation

The proposed project includes five components developed to directly address these issues, including:

1. excavation of two new channels (South Street Bypass and the Bianchi Bypass) that bypass the existing creek channel and be active during large storm events;
2. construction of channel terraces/benches and a flow return located adjacent to but above the OHWM to increase capacity;
3. sediment removal at the Marsh Street Bridge;
4. replacement of the Bianchi Lane Bridge with a taller, wider bridge; and
5. riparian habitat enhancement, including the removal of invasive species, promotion of a canopy of native species and willows overhanging pools, as well as the installation of strategically located habitat features such as pool forming root wads, rock deflectors, and vegetated rock slope protection.

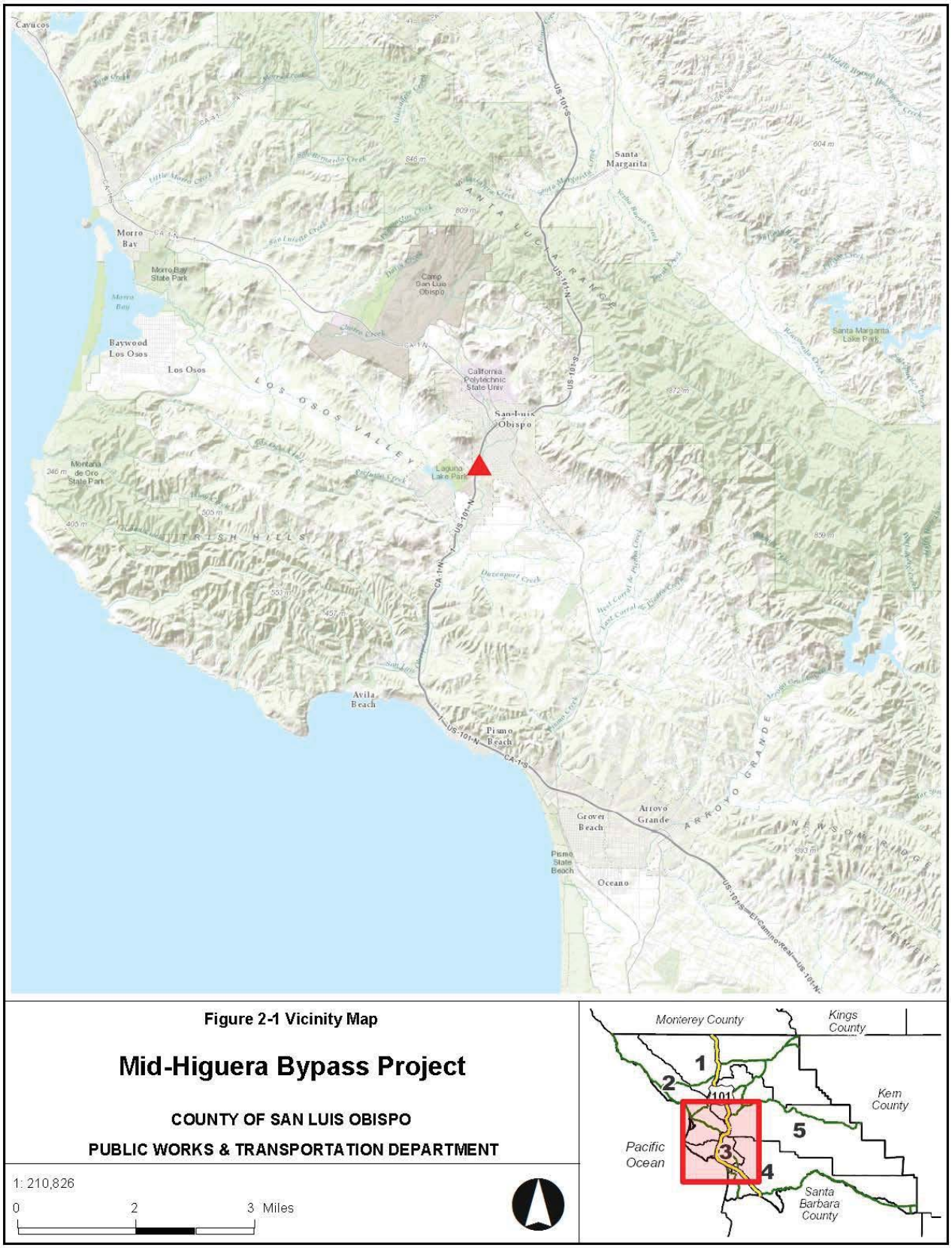
The project was identified in both the City of San Luis Obispo's (City) Waterway Management Plan (WMP) and the associated EIR/EIS; however, in 2003 when the EIR/EIS was prepared the project had only been developed to a conceptual level and could not be evaluated in the detail required to satisfy CEQA requirements.

2.2 Project Location

The project is located within and adjacent to the creek between the Marsh Street Bridge (upstream) and Madonna Road Bridge (downstream). It is bordered on the west by Highway 101 and on the east by Higuera Street. It is located completely within the City of San Luis Obispo (refer to Figures 2-1 and 2-2).

2.3 Project Background

The creek has flooded on multiple occasions in the last 40 years between Marsh Street and Madonna Road. The water level in the creek, immediately north of the Marsh Street Bridge, rises above the top of the creek bank during periods of heavy rain. The creek water subsequently flows into the adjacent City Streets, damaging public and private property.


Cayucos
Morro Bay
Morro Bay State Park
Baywood Los Osos
Los Osos
Camp San Luis Obispo
California Polytechnic State Univ
San Luis Obispo
Santa Margarita
Santa Margarita Lake Park
Laguna Lake Park
Montaña de Oro State Park
Avila Beach
Pismo Beach
Grover Beach
Arroyo Grande
Pismo State Beach
Oceano
US-101-S
US-101-N
CA-1-N
CA-1-S
LOS OSOS VALLEY
SANTA LUCIA RANGE
NIPOMO MESA
Figure 2-1 Vicinity Map
Mid-Higuera Bypass Project
COUNTY OF SAN LUIS OBISPO
PUBLIC WORKS & TRANSPORTATION DEPARTMENT
1: 210,826
0
2
3 Miles
Monterey County
Kings County
Kern County
Pacific Ocean
Santa Barbara County
1
2
101
3
4
5

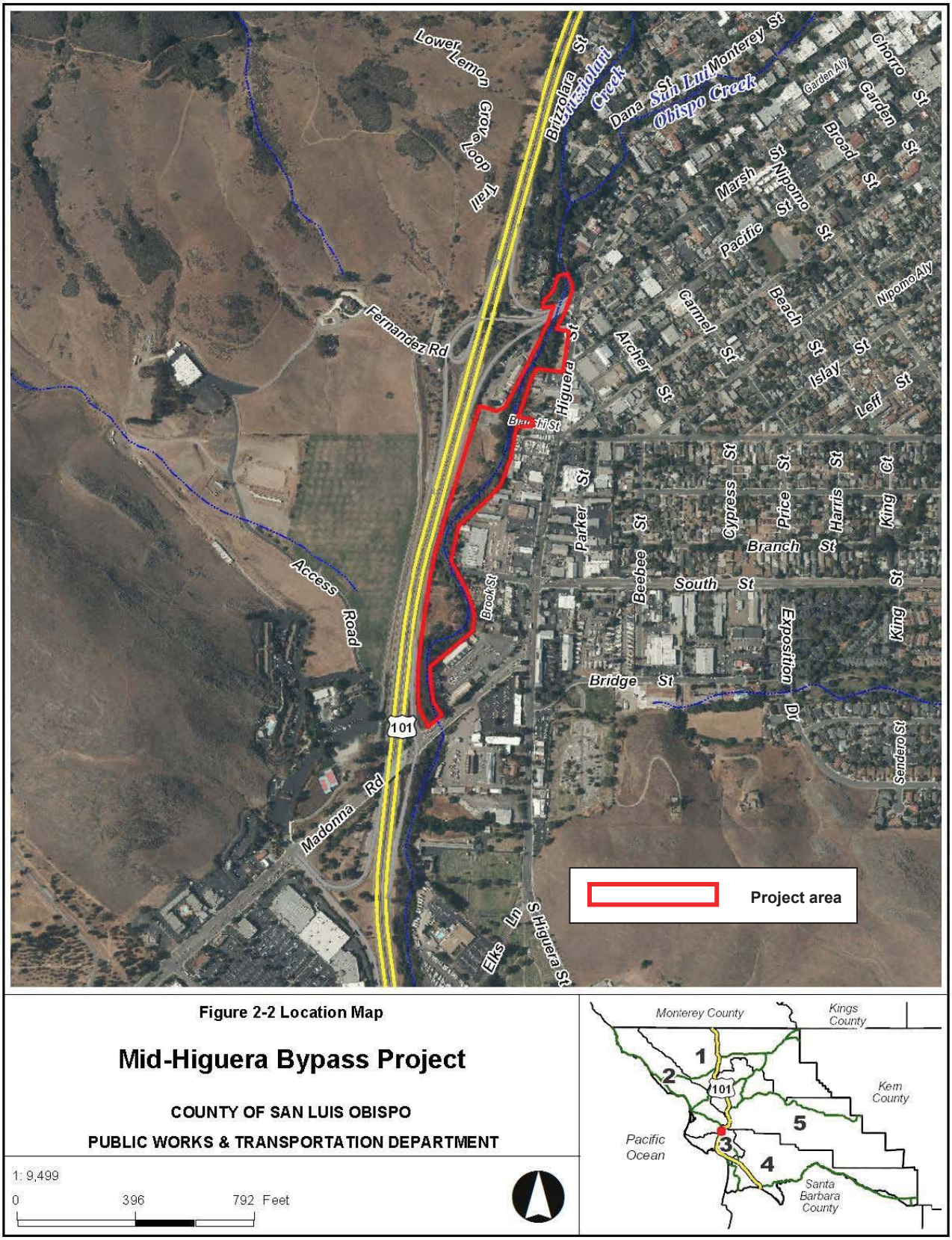


Figure 2-2 Location Map

Mid-Higuera Bypass Project

COUNTY OF SAN LUIS OBISPO

PUBLIC WORKS & TRANSPORTATION DEPARTMENT

1: 9,499

0 396 792 Feet

The City, in conjunction with the County of San Luis Obispo Flood Control and Water Conservation District Zone 9 (Zone 9), undertook and adopted the WMP after the 1995 flooding of Higuera and surrounding streets. Several flood control projects were incorporated in the WMP, including the original Mid-Higuera Bypass project.

In 2008, the Zone 9 Advisory Committee reduced the original project scope to include work that would only occur on City of San Luis Obispo property because of significant property acquisition costs. Subsequent engineering assessments confirmed that the reduced scope would still reduce local flooding. Following the release of the study results, additional funding for preliminary environmental studies was approved by the San Luis Obispo County Board of Supervisors. The preliminary environmental studies showed no unusual site conditions that would be a barrier to project completion.

At the same time Zone 9 began pursuing a small property swap with a property owner adjacent to the City's property near the Bianchi Lane Bridge. The property swap is required in order to provide additional approach space for the project's first bypass element to be constructed. This element consists of the removal and replacement of the Bianchi Lane Bridge. Additional studies were conducted between 2011 and 2015 including preliminary design and an alternatives analysis. Following completion of the alternatives analysis, the Zone 9 Advisory Committee selected and identified the preferred project.

2.4 Project Objectives

The primary objective of the project is to increase the flood-carrying capacity (up to a 25-year storm in some locations) of San Luis Obispo Creek from Marsh Street to Madonna Road, while enhancing and protecting water quality as well as special-status species habitat within the project area. Secondarily, the project will provide preliminary grading for a conceptual bike path alignment which could be constructed in the future along a portion of the project area.

2.5 Project Components

Each of the five project components are described in more detail below. Site plans are included in Attachment B.

2.5.1 Bypass Channels

The project would include the construction of two bypass channels, the Bianchi Bypass and the South Street Bypass. The bypass channels are proposed between the creek and Highway 101. They have been designed to be active during larger storm events (i.e. they are designed to be "above" the Ordinary High Water Mark [OHWM] of the creek), and to flow full during 25-year storm events. Vegetated rock slope protection as well as root wads/flow deflectors would be installed at both the upstream and downstream transition areas between the bypass channels and the creek.

The South Street Bypass would be approximately 600 feet long, and 10 to 12 feet deep. The channel bottom would be approximately 20 feet wide and the maximum channel slopes would be 2.5 horizontal to 1 vertical (2.5:1). The Bianchi Bypass is approximately 800 feet long and 6 to 8 feet deep. The channel bottom would be approximately 20 feet wide and the maximum channel slopes would be 2:1. In addition, an approximately 14-foot-wide bench would be constructed at the western edge of the Bianchi Bypass to accommodate a future bike route. No other bicycle related improvements are proposed.

2.5.2 Benches and Related Grading

In addition to the bypass channels, the capacity and functionality of the creek channel would be expanded through the construction of four benches, by laying back slopes at a “pinch point”, and through construction of a “flow return”. Similar to the bypass channels, the four benches proposed would be excavated above the creek OHWM and would reach approximately 20-30 feet wide. The maximum slopes above the benches would be excavated no steeper than 2.5:1.

Pinch Point

The pinch point is a narrow approximately 120-foot-long section of the channel at approximately 306 South Higuera Street, where the banks are nearly vertical and bordered on both sides by structures. The channel would be graded in this area so that the slopes were no steeper than 2.5:1 and then stabilized with willow cuttings, or potentially a structural retaining wall. Grading may require removal or modification of one or both structures at this location. Final design of this component is still under development and subject to the approval of the private landowners.

Flow Return

Historically, the creek has backed up on the upstream side of the Marsh Street Bridge causing flow to spill out of the creek and down Higuera Street. Grading of a flow return at the Mathews Open Space parcel just downstream of the Marsh Street Bridge at 320 Higuera Street, is proposed to allow escaped creek flows to be redirected from Higuera Street back to the creek channel. The proposed grading will create two broad swales designed to convey flood flow across the property to the creek. The final design is recommended to include a sidewalk underdrain, shorter curb height, or a modified driveway design to capture flow from the gutter in Higuera Street.

2.5.3 Marsh Street Sediment Removal

Significant sediment has accumulated on the upstream side of the Marsh Street Bridge and within the three bridge barrels. Further, the upstream sediment has formed an island that is blocking the largest center barrel. To address this issue, sediment will be removed upstream of the bridge, within the bridge barrels, and downstream of the bridge. The sediment would be removed to 1-foot above the creek water surface elevation at time of construction. This strategy will preserve the existing low flow channel through the bridge. In addition, the western bank will be sloped back to a 2.5:1 slope.

2.5.4 Bianchi Lane Bridge Replacement

The existing Bianchi Lane Bridge is an old bridge that was relocated to its current position many years ago. It is relatively low and narrow, and as a result can only accommodate flows from a 6-year storm event. The proposed new bridge will be a two-span bridge with a higher deck elevation and will incorporate the start of the first bypass channel. The new bridge will provide capacity for an approximately 23-year storm event. The new bridge installation will include grading to accommodate the new road approaches on either side.

2.5.5 Riparian Enhancement

Riparian enhancements have been incorporated for each of the components described above. Vegetated rock slope protection would be installed at the confluence of the creek channel and the bypass channels. At these locations, root wads would also be installed to provide pools and habitat complexity to the creek. At the Bianchi Bypass downstream transition area, rock flow deflectors will be installed to create pools and hydrologic complexity.

The project components have been designed to avoid and/or minimize impacts to the existing creek channel to the extent feasible. Nevertheless, the project does include substantial grading and tree removal. It is estimated that approximately 150 trees will be removed during construction. These include native and nonnative species. Native trees removed will be replaced with native species and planted in accordance with the City's Drainage Design Manual, which includes planting smaller crown trees (i.e. willow, buckeye, elderberry) closer to the channel and large crown trees (oak, cottonwood, bay) on the upper banks, which will provide a shaded, open channel while allowing for storm water capacity in the channel over the long-term.

In addition, invasive species encountered during construction will be removed. These species include castor bean, cape ivy, giant reed (arundo), and Himalayan blackberry, for example. A Habitat Mitigation and Monitoring Plan (HMMP) will be prepared as part of the subsequent permitting process. The HMMP will include specific performance criteria and guide implementation of mitigation during and after project construction.

2.6 Areas of Disturbance

Preliminary estimates of the areas of disturbance associated with each project component are included in Table 2.1.

Table 2.1. Approximate Areas of Disturbance

Component		Disturbance (acres)	Cut/Fill (yds^3)
Bypass Channels	South Bypass	2.20	11,500 / 500
	Bianchi Bypass	2.67	17,000 / 500
Benches/Grading	4 Benches	1.74	3,900 / 150
	Pinch Point	0.44	2,300 / 1,200
	Flow Return	0.50	940 / 50
Marsh Street Sediment Removal		0.45	2,100 / 0
Bianchi Lane Bridge		0.37	3,700 / 0
Total		**8.37**	**43,840**

2.7 Construction Techniques

Access - Construction access will be from Bianchi Lane, 306 and 320 Higuera Street, and South Street. In order to move equipment to the west side of the creek it may be necessary to construct one or more temporary crossings within the dewatered channel. Temporary crossings are anticipated to be at grade across the creek, with a gravel driving surface. A construction staging area would be located on the western side of the Bianchi Lane Bridge adjacent to the Madonna Construction site in a paved area. Construction haul routes would include Higuera Street, with trucks using either the Marsh Street or Madonna Road Highway 101 ramps. Construction traffic would temporarily use Higuera Street, Marsh Street, Bianchi Lane, South Street, and Brook Street during the busiest construction periods.

Equipment - Heavy equipment including excavators, dozers, backhoes, dump trucks, and cranes would be required to construct the project. In addition, various flatbed trucks, pick-up trucks, generators, pumps, and smaller scale equipment would be used during construction.

Soil Export - Approximately 41,500 cubic yards of material may need to be exported. It may be possible to re-use a portion of that material onsite to provide a vegetated or earthen screen between Highway 101 and development along Higuera Street. Any exported soil will be hauled to a location that can legally accept the material.

Dewatering - San Luis Obispo Creek is a perennial creek and therefore it is anticipated that substantial dewatering will be necessary to construct each component. A preliminary dewatering plan is included in Appendix B. As shown in the plans, dewatering would be conducted in three areas. The final dewatering plan will be prepared subsequently during the permitting process.

2.8 Project Schedule

As currently proposed, all components will be constructed as a single project in an approximately 12-month period (grading and major construction activities would be completed in 6 months). Standard resource agency permit requirements will restrict work during the rainy season, and therefore construction will generally occur between June 1 and October 15 within the creek banks. Work outside the permit areas (outside the creek banks) may start earlier, or finish later than the permit restricted periods. Restoration monitoring would continue for approximately 3-5 years after construction, depending upon revegetation success and permit requirements.

2.9 Plans to Be Prepared

Prior to the issuance of the permits, the regulatory agencies will require a number of project-specific plans to address potential biological resources impacts and water quality/hydrology impacts. This EIR assumes all of these plans, or their equivalents, will be required and are therefore considered part of the project description rather than mitigation. These plans include, for example:

Diversion and Dewatering Plan –This plan would describe the various structures and measures that intercept the creek flows upstream of the project site, transport it around or through the work area, and discharge it downstream, while avoiding water quality and special-status species impacts. These plans are prepared by engineers in consultation with biologists. These plans include such components as predicted diversion flow rates, pump capacities, material to be used, appropriate permits and approvals, contingency plans, removal and restoration plan, as well as design accommodations for special-status species.

Stormwater Pollution Prevention Plan (SWPPP)/Sedimentation and Erosion Control Plan (SECP) – A SWPPP, which is also called an “erosion, sedimentation, and pollution prevention plan,” or similar is generally required to comply with EPA's or the State's storm water construction general permit. SWPPPs include pollution, prevention team; site description; summary of potential pollutant sources; description of control measures; schedules and procedures.

Spill Prevention Control and Contingency Plan (SPCC) – This plan presents a coordinated and integrated set of procedures, methods and equipment requirements to prevent oil and hazardous substance discharges into or upon waters and environment of the State and United States, and to contain such discharges if they should occur. It provides guidelines for

responsible facility personnel for communication and required coordination with and notification of the Federal, State and local response systems when a spill occurs.

Habitat Mitigation and Monitoring Plan (HMMP) – HMMPs are prepared for projects that require habitat restoration to mitigate for impacts to biological resources and wetlands and are generally prepared to comply with authorizations from the USACE, RWQCB, and the CDFW. The HMMP will typically involve a detailed description of the environmental setting, the existing values of the areas of disturbance, mitigation goals and strategies, an implementation plan, performance criteria, maintenance and monitoring specifications and contingency plans. The HMMP also describes site preparation activities, such as amending and redistributing topsoil, seeding and planting, and provides recommendations for temporary irrigation systems and fencing, including detailed construction drawings and specifications.

2.10 Permits and Authorizations

The project will require permits from, local, state and federal resource agencies. A list of permits and/or authorizations that may be required is included in Table 2.2.

Table 2.2 Anticipated Permits and Authorizations

Agency	Permit Required
City of San Luis Obispo	Grading Permit
Central Coast Regional Water Quality Control Board (RWQCB)	Section 401 Water Quality Certification
California Department of Fish and Wildlife (CDFW)	Section 1602 Streambed Alteration Agreement
California Department of Transportation (Caltrans)	Encroachment Permit
Air Pollution Control District	Authority to Construct
	NESHAP Permit
US Army Corps of Engineers (ACOE)	Section 404 Clean Water Act Permit
National Marine Fisheries Service	Biological Opinion
US Fish and Wildlife Service	Biological Opinion

3.0 Environmental Setting

The following section describes the plans and policies that are relevant to the proposed project and evaluates qualitatively whether or not the project is consistent with those plans and policies. In addition, this section describes the cumulative development scenario, which in turn provides the basis for the cumulative impact discussions in Chapter 4.

3.1 CEQA Requirement

CEQA Guidelines section 15125 requires that an EIR discuss

"any inconsistencies between the proposed project and applicable general plans and regional plans. Such regional plans include, but are not limited to, the applicable air quality attainment or maintenance plan or State Implementation Plan, area-wide waste treatment and water quality control plans, regional transportation plans, regional housing allocation plans, habitat conservation plans, natural community conservation plans and regional land use plans…"

The following section describes the planning documents applicable to the project and describes any potential inconsistencies, when applicable.

3.2 Plans and Policies

3.2.1 Waterway Management Program Documents

The Waterway Management Plan (WMP) program is a set of three documents, referred to as Volumes I, II, and III. Volume I contains inventory information, a detailed hydrologic and hydraulic analysis of the watershed and its main tributaries, as well as an identification of the management problems and needs of the waterways. Alternatives for addressing flooding, bank instability, and habitat protection and enhancement, are include and a preferred project is presented. The Mid-Higuera Bypass project is specifically described as one component of the "preferred project" in the WMP (project SLO I-3).

Volume II is referred to as the Stream Management and Maintenance Program (SMMP) for the waterways of the San Luis Obispo Creek watershed. This document outlines the planning, design, and permitting approach the City and County will utilize for routine stream maintenance, such as vegetation management, bank repair, and sediment removal. Policies and Best Management Practices for these activities are also described. Capital projects, such as the proposed project are not discussed within Volume II, although the proposed maintenance activities discussed in Volume II may be necessary within the project area over the long-term in order to maintain both the flood capacity and environmental benefits of the project.

Volume III is a Drainage Design Manual (DDM), which contains revised policies for floodplain and stream corridor management and provides new design flows for stream channels within the City of San Luis Obispo. The DDM presents procedures for hydrologic and hydraulic analysis, and guidelines and design criteria for the design of channel, storm drain systems, stormwater detention facilities, bank repair and stream restoration, and erosion control. Important policy revisions of the DDM are also summarized in this Volume (Waterway Management Plan). The DDM objectives include:

1. Ensure that stormwater runoff in the San Luis Obispo (SLO) Creek watershed is adequately controlled to reduce flood and environmental damage from new development and redevelopment projects.

2. Ensure that stormwater is carried through a system of waterways and conduits in such a way that flood water surface elevations and corresponding flood damage does not increase, damage is minimized at existing and future building sites, and existing flood water surface elevations are reduced wherever feasible;
3. Ensure that the creeks, channels, and waterways remain relatively stable, or are stabilized following development or redevelopment projects, and other projects such as bank repair and hydraulic structures constructed near or along the waterways;
4. Preserve and protect natural biological resources along creeks and waterways, including their functions and values, and ensure that they are restored and enhanced wherever possible, and;
5. Protect and improve water quality.

The DDM was used by the project engineers to design the project. Proposed drainage and stormwater control structures, habitat improvements, and revegetation strategies proposed are taken directly from the DDM.

3.2.2 City of San Luis Obispo General Plan Land Use Element (LUE)

The primary zoning designations within the project area are Open Space, and General Retail, although Services and Manufacturing (Madonna Construction parcel), and Park (Caltrans facility) also exist. Much of the disturbance and construction activities would occur within the City-owned parcels, which are zoned Open Space. The Land Use Elements "Creeks Wetlands, and Flooding Policies" are described as follows in the LUE.

"San Luis Obispo's aquatic ecosystems consist of creeks, Laguna Lake, floodplains, marshes, wetlands, serpentine seeps, and springs. These aquatic ecosystems provide habitat, recreation, water purification, groundwater recharge, and soil production as well as natural flood protection by reducing the force of floodwaters as they spread and decelerate over floodplains. Creeks, which are the most obvious of these systems because they flow under and through the City, provide wildlife habitat, backyard retreats, and viewing and hiking pleasures, in addition to carrying storm water runoff. When some creeks overflow during major storms, they flood wide areas beyond their channels. San Luis Obispo wants to avoid injury or substantial property losses from flooding, while keeping or improving the creeks' natural character, scenic appearance, recreational value, and fish and wildlife habitat."

The proposed project is consistent with these general objectives as it is intended to reduce the potential for flooding while improving fish and wildlife habitat. In addition, the project is cognizant of the potential for a future bike trail in the area and has incorporated a potential future bike lane into the grading design.

3.2.3 City of San Luis Obispo General Plan Conservation and Open Space Element

The goal of the Conservation and Open Space Element of the General Plan is to protect resources such as air and water, wildlife habitat, scenic and agricultural lands, watershed and historic features. A secondary goal is to accommodate passive recreation if it will "…not harm the environment or interfere with agricultural operations." Section 7 of the Conservation Element discusses "Natural Communities" within the City limits. Policies in the element relevant to the proposed project include:

7.3.1(A) Protect listed species. The City will identify the location, habitat and buffer needs of species listed for protection. This information will be developed by qualified people early in the planning and development review process.

7.5.1 Protection of significant trees. Significant trees, as determined by the City Council upon the recommendation of the Tree Committee, Planning or Architectural Review Committee, are those making substantial contributions to natural habitat or to the urban landscape due to their species, size, or rarity. Significant trees, particularly native species, shall be protected. Removal of significant trees shall be subject to the criteria and mitigation requirements in Chapter 8.6.3. Oak Woodland communities in the Greenbelt and in open space areas shall be protected.

7.5.5. Soil conservation and landform modification. Public and private development projects shall be designed to prevent soil erosion, minimize landform modifications to avoid habitat disturbance and conserve and reuse on-site soils.

7.7.6. Replace invasive, non-native vegetation with native vegetation. The City and private development will protect and enhance habitat by removing invasive, non-native vegetation that detracts from habitat values and by replanting it with native California plant species. The Natural Resources Manger will prioritize projects and enlist the help of properly trained volunteers to assist in non-native vegetation removal and replanting when appropriate.

The proposed project is generally consistent with these policies. The project does include substantial landform modification, but this is proposed in part as a way to avoid directly disturbing large portions of the creek channel.

3.2.4 City of San Luis Obispo Mid-Higuera Enhancement Plan

The Mid-Higuera Enhancement Plan (Plan) was prepared in 2001 and includes policies and public investment strategies with a goal of making the Mid-Higuera area more attractive and functional. The Plan boundaries extend from the corner of Marsh and Higuera Street south to approximately the cemetery area near the intersection of Elks Lane and Higuera Street. The plan area extends from Highway 101 on the west to approximately Walker and Beebee Street.

The Plan describes the existing flooding problems in the area and specifically describes the possible causes. The flooding potential was noted as a significant constraint to future enhancement/redevelopment in the area. The plan describes several mitigation strategies for addressing the flooding potential, including the construction of terraces, bypass channels, and replacement of the Marsh Street Bridge. The plan also recommends making better use of the City-owned open spaces in the area, by constructing a bike trail, for example. No inconsistencies between the Plan and the proposed project were identified.

3.3 Cumulative Development Scenario

CEQA Guidelines Section 15355 states that a cumulative impact:

“refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.”

An analysis of potential cumulative effects requires developing a list of probable future projects that with impacts relevant to the proposed project, known as the “cumulative development scenario.” A review of probable future projects in the region surrounding the Creek have been identified below. They are either in proximity to the proposed project, and/or have similar characteristics, and are therefore likely to contribute cumulatively to environmental impacts. However, each environmental issue will evaluate potentially cumulative considerable impacts based on scenarios appropriate for the section. For example, cumulative air quality effects may be considered as they impact the entire air basin, while it is more appropriate to identify cumulative noise impacts as they relate to sensitive receptors in the vicinity of the project

corridor. Cumulative effects have been included within each resource issue area discussed in this EIR (refer to Chapter 4). The proposed project extends through a relatively rural area.

SLO Creek Sediment Management Projects

The City routinely removes sediment that has accumulated in 5 to 10 different areas of SLO Creek and its tributaries. Work is conducted in the dry season in areas with no standing or flowing water at different locations every 1-5 years. Timing is dependent on funding, deposition rates, and permitting timeframes. Work is conducted under the City's Programmatic Streambed Alteration Agreement and also requires permits from the Regional Water Quality Control Board and the US Army Corps of Engineers. One of these projects is located just above the Marsh Street Bridge, where grading as part of the proposed project is located. Work is conducted consistent with the Waterway Management Plan.

Bob Jones Bike Path - Octagon Barn to the Ontario Road Staging Area

This project is an approximately 4.4-mile-long section of this Class I (separated from traffic) bikeway roughly paralleling the San Luis Obispo Creek corridor between San Luis Obispo and Avila Beach. An EIR for the project was certified in February 2015 (SCH#2010031121). Impacts identified in that document included temporary and permanent impacts to biological resources, including species and vegetation communities similar to those which would be impacted by the proposed project, as well as impacts to visual resources; however, all impacts are considered less-than-significant with mitigation.

Mid-Higuera Area Redevelopment Projects

Based on information from the City of San Luis Obispo Community Development Department, there are a number of projects that are planned, permitted, or for which applications have been submitted to the City. The list includes such projects as:

- 205 Higuera Street – Discussions of conversion of commercial space into office space
- 245 Higuera Street – Adaptive re-use commercial building into mixed use with two new residential units
- 283 Higuera Street – Reconstruction of "The Sub" (existing building burned down)
- 311 Higuera Street – Use permit approved for Bar/Tavern within existing building footprint

These projects are relatively small, urban redevelopment projects located on the eastside of Higuera Street; therefore, they would not contribute cumulatively to any impacts to the San Luis Obispo Creek corridor.

Redevelopment of the Caltrans facilities on either side of Madonna Road near the intersection of Higuera Street to create a convention center and parking area has been proposed in concept; however, any project at the Caltrans site would need to conform to more recent creek setback policy, and therefore may ultimately have a beneficial impact to creek resources. The project is not expected to contribute cumulatively to impacts to the creek corridor.

SLO Creek Arundo Removal Projects

The San Luis Obispo Land Conservancy has actively monitored/managed more than 400 arundo populations since 2005. Work is ongoing annually. Populations are treated with herbicide, and removed mechanically or by hand. This project would have beneficial impacts to the watershed as arundo is highly invasive.

4.0 Impact Assessment

4.1 Aesthetic Resources

This section describes the existing visual setting along the project corridor and describes the potential changes to that setting that could result from the project – primarily the vegetation removal, but also any changes in landform related to the proposed grading. A visual assessment was prepared for the project (SWCA 2016). This section summarizes that document and includes the photo-simulations prepared. The visual assessment is available for review from the County Public Works Department.

4.1.1 Existing Conditions

Mature vegetation is the dominant visual characteristic along the project corridor. The vegetation corridor is approximately 150 feet wide, with the larger trees in the corridor more than 100 feet tall. In addition to the taller trees, which include eucalyptus and walnut, for example, numerous lower growing trees and shrubs exist throughout the corridor.

The creek channel is the dominant landform within the corridor. Where development has not encroached on the creek, primarily on the western side, there is a relatively flat bench. Other natural landforms include a small, approximately 20-foot-tall knoll west of the proposed Bianchi Bypass.

The built environment within the project area include the three bridges – Marsh Street, Bianchi Lane, and Madonna Road – culverts, chainlink fencing, a number of sacrete walls within the channel, as well as the commercial and industrial developments along the Mid-Higuera corridor.

The visual setting varies considerably depending upon which side of the corridor the viewer is on. The vegetation and landforms are generally visible from the west (i.e. Highway 101), while the commercial and residential developments are generally only visible from public roads to the east of the project site, such as South Higuera Street. The visual assessment prepared for the project determined that:

"The existing visual quality of the project site and its surroundings is moderately high because of the intrinsic value of the creek and its mature vegetation, the generally low-intensity of the surrounding development, and the availability of views to the surrounding hillsides and mountains."

Figure 11 of the Scenic Roadways and Vistas Map of the City of San Luis Obispo General Plan Conservation and Open Space Element describes the project frontage along Highway 101 in the area of Bianchi Lane as providing "Moderate Scenic Value".

4.1.2 Regulatory Setting

The City's General Plan documents including the Circulation Element, Conservation and Open Space Element, Parks and Recreation Element, and Land Use Element include multiple policies and programs that address the scenic value of the City's open spaces, including the creek. A sample of the policies is included below. A complete list of relevant policies is included in the visual assessment.

Circulation Element

15.1.2 Development Along Scenic Routes. The City will preserve and improve views of important scenic resources form streets and roads. Development along scenic roadways should not block views or detract from the quality of views.

15.1.3. Public Equipment and Facilities. The City and other agencies should be encouraged to avoid cluttering scenic roadways with utility and circulation-related equipment and facilities.

Conservation and Open Space Element

9.1.1. Preserve natural and agricultural landscapes. C. The City's non-emergency repair, maintenance, and small construction projects in highly visible locations, such as hillsides and downtown creeks, where scenic resources could be affected, shall be subject to at least "minor or incidental" architectural review.

9.2.1. Views to and from public places, including scenic roadways. The City will preserve and improve views of important scenic resources from public places, and encourage other agencies with jurisdiction to do so. Public places include parks, plazas, the grounds of civic buildings, streets and roads, and publicly accessible open space. In particular, the route segments shown in Figure 11 are designated as scenic roadways.

Land Use Element

6.3. Open Space Policies. The City shall require that buildings, lighting, paving, use of vehicles, and alterations to the landforms and native or cultural landscapes on open space lands are minimized, so rural character and resources are maintained.

4.1.3 Significance Criteria

The significance of potential aesthetic resources impacts is based on thresholds identified within Appendix G of the CEQA *Guidelines.* Appendix G provides the following thresholds for determining significance with respect to aesthetic resources. Aesthetic resources impacts would be considered significant if the proposed project would:

1. Have a substantial adverse effect on a scenic vista;
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
3. Substantially degrade the existing visual character or quality of the site and its surroundings; or
4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Because the project is not visible from any scenic highways, that threshold is not applicable. Further, no new source of lighting or glare is proposed and therefore that threshold is not applicable.

4.1.4 Impacts and Mitigation Measures

This section describes potential impacts and is organized based on the significance criteria outlined above.

4.1.4.1 Have a substantial adverse effect on a scenic vista

Scenic vistas identified in the area include primarily Cerro San Luis, and secondarily the South Street Hills, and the Cuesta Ridge, including their intermediate slopes that contain pastures, vegetated drainage features, open space, and rocky buttes.

When viewed from the east, the vegetation in the project corridor provides some context for views of Cerro San Luis; however, the vegetation also limits the views of Cerro San Luis in some locations. For example, the mature vegetation generally blocks views of Cerro San Luis for those travelling northbound on Higuera Street near the Flow Return/Mathews Open Space area.

When viewed from the east (i.e. from Highway 101 and the Madonna Inn Bicycle Path), the creek does provide a vegetated foreground for views of the South Street Hills as well as Cuesta Ridge. These vistas, while not as scenic as views toward Cerro San Luis, do contribute to the visual quality of the area. Areas of extensive vegetation removal and earthwork along the creek that would open-up views to adjacent development would somewhat degrade the foreground context of hillside vistas to the east. However, the project's effect on views to Cerro San Luis to the west, and the Cuesta Ridge and South Street Hills to the east would be minimal as seen from surrounding public areas. Impacts to scenic vistas would be *less than significant*. No mitigation is required.

4.1.4.2 Degrade the existing visual character or quality of the site and its surroundings

The visual assessment concludes that the creek corridor provides scenic quality on its own, but also acts as a buffer between Highway 101 and the Mid-Higuera developments between Marsh Street and Madonna Road. The substantial tree removal proposed for this area, which includes approximately 150 mature trees, along with their associated understory would be noticeable to motorists on Highway 101, those on the Madonna Inn Bicycle Trail, and at the Bianchi open space area. In some areas the vegetation removal would have a limited effect, but in others where it provides screening of the built environment, it would result in a noticeable change. This is especially true in the areas near the South Street Bypass, where "new" views of the back of the commercial uses along South Higuera would be more noticeable along an approximately 1,400-foot-long section of Highway 101. The bypass channels would generally be "below grade" and not noticeable, although they would represent a new built environment element and could be visible from the open space areas, including the future extension of the Bob Jones Trail.

The project proposes to revegetate disturbed areas with a mix of native species. Taller, single trunk species such as cottonwood, bay laurel, and walnut would be planted in lieu of willows, to allow for additional flood control capacity within the channel. Similarly, the density of the revegetation will be limited to allow for flood capacity along the bypass channel and benches to be excavated. This scenario is described in the Vegetation Enhancement Plan in Appendix B. The visual assessment concludes that:

"Upon reaching maturity (approximately 15-20 years following initial planting), proposed overstory and canopy tree species mentioned in the Vegetation Enhancement Plan would help re-create much of the overall vegetated character of the site. Planting within the rock-slope protection would eventually visually screen the engineered appearance of those features."

The degradation of the visual character over the short and medium term is considered a potentially significant impact.

AR Impact 1 The project would cause a noticeable change to the visual environment of the site and its surroundings due to a loss of vegetative character, visibility of engineered channels and slope protection, and increased visibility to the development along Higuera Street, South Street and the Caltrans building north of Madonna Road as seen from Highway 101.

AR-mm-1 *Prior to initiation of the project, the District shall ensure that revised grading and site plans shall show the following:*

1. *All channel benches and bypass channels shall employ contour grading design and construction techniques to reduce their engineered appearance. All grade breaks shall be rounded and avoid angular slope-interface.*
2. *All top-of-slope hinge-points shall employ slope-rounding where doing so would not adversely affect existing vegetation.*

AR-mm-2 *Prior to initiation of the project, the District shall ensure preparation and implementation of a planting plan, which shall supplement the Vegetation Enhancement Plan, be developed and signed by a licensed landscape architect or restoration specialist, and include the following:*

1. *Visual screen planting between the easternmost extent of channel and bench grading and the adjacent parcels east of the project, between Stations 13+50 and 17+00, and between Stations 22+50 and 27+00.*
2. *Screen planting shall be a mix of evergreen trees and shrubs placed in natural-looking patterns.*
3. *Trees planted for screening along the fence shall be planted from primarily 24-inch box containers. Shrubs shall be planted from minimum 5-gallon containers.*
4. *Screen planting shall include the appropriate number and density of plants to achieve a minimum of 90 percent visual screening of the adjacent development as seen from Highway 101 within five years.*
5. *Additional planting between the bypass channels and the Highway 101 right-of-way, to the maximum extent possible.*
6. *Planting along Highway 101 shall be a mix of evergreen trees and shrubs placed in natural-looking patterns.*
7. *Trees planted along Highway 101 shall be planted from primarily 24-inch box containers. Shrubs shall be planted from minimum 5-gallon containers.*

Residual Impacts. For the first approximately five years after construction the project would cause a noticeable change in the visual character of the project corridor. Over time, the planting proposed, along with the measures described above, would re-establish the visual character and screening. They would reduce the impacts to a *less than significant* level. No additional measures are required.

4.1.4.3 Cumulative Impacts

The project area plays a role in the City's overall aesthetic quality and character of the area. Any changes to the character if combined with other changes along the Mid-Higuera corridor, for example, could potentially contribute to an emerging perception that San Luis Obispo is undergoing a visual change toward increasing development. However, none of the other projects described in the cumulative development scenario propose tree removal along the creek corridor. Because the project's impacts are mitigated to a less than significant level, and

no other projects currently propose substantial changes in the vegetation along the corridor, potential cumulative impacts are *less than significant*. No additional mitigation is required.

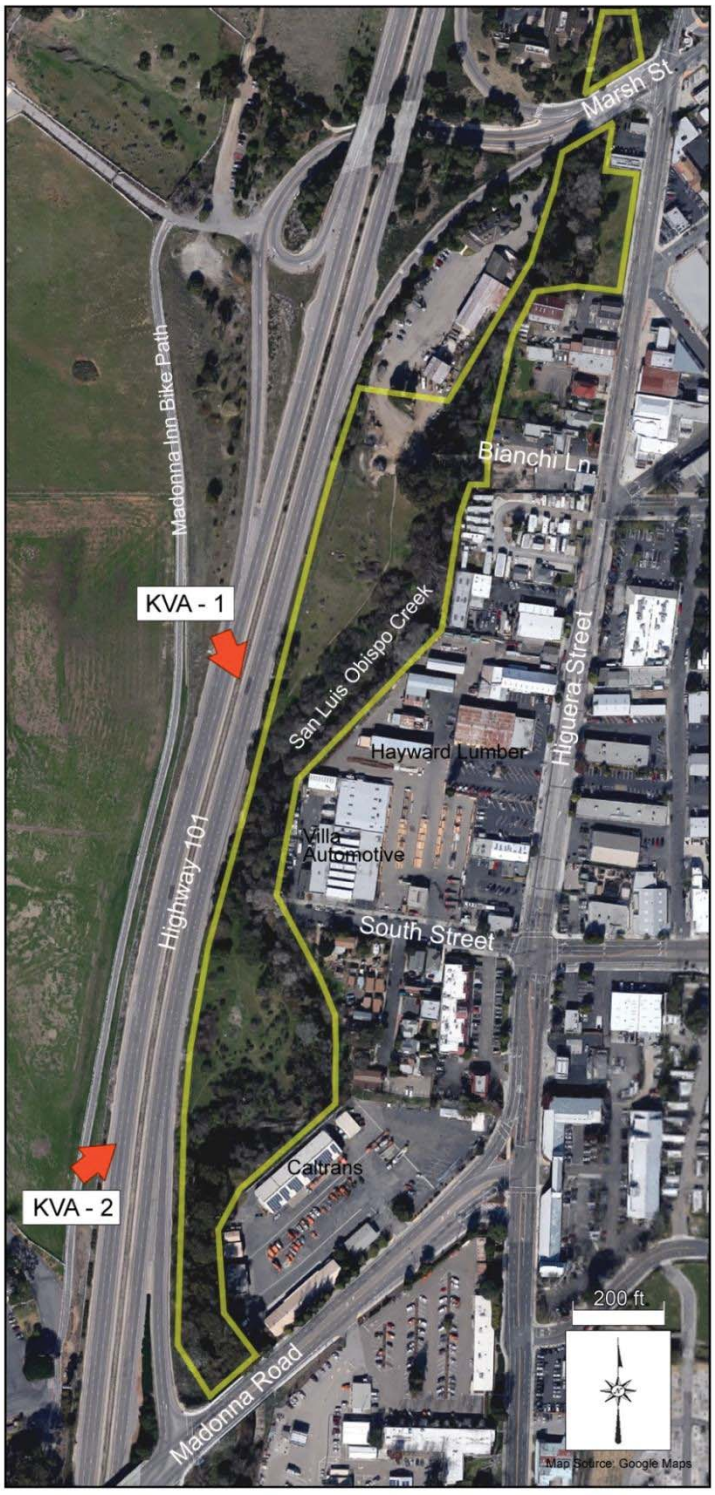


Figure AR-1. Location and direction of Key Viewing Areas (KVA) and orientation of view.

Figure AR-2. KVA 1 - Existing view

Figure AR-3. KVA 1 – Photo-Simulation of the Proposed Project Approximately 6-Months after Construction

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Figure AR-4. KVA-2 - Existing view

Figure AR-5. KVA-2 - Photo-Simulation of the Proposed Project Approximately 6-Months after Construction

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4.2 Air Quality/Greenhouse Gases

This section describes the existing air quality setting in San Luis Obispo County and the potential short-term and long-term air quality impacts associated with development of the proposed project. Information in this section summarizes the report *Air Quality and Greenhouse Gas Impact Assessment for the Proposed Mid-Higuera Bypass Project* (Ambient, 2016). This section also includes a discussion of greenhouse gas (GHG) emissions associated with project implementation. Emissions calculations summaries from the air quality modelling performed for this project are included in Appendix C. The entire report is available for review from the County FCWCD.

4.2.1 Existing Conditions

The proposed project is located in San Luis Obispo County, which is part of the South Central Coast Air Basin (SCCAB) and within the jurisdiction of the SLOAPCD. Air quality in the SCCAB is influenced by a variety of factors, including climate, topography, local and regional meteorology. Regional meteorology is largely dominated by a persistent high pressure area which commonly resides over the eastern Pacific Ocean. Seasonal variations in the strength and position of this pressure cell cause seasonal changes in the weather patterns of the area. The Pacific High remains generally fixed several hundred miles offshore from May through September, enhancing onshore winds and opposing offshore winds. During spring and early summer, as the onshore breezes pass over the cool water of the ocean, fog and low clouds often form in the marine air layer along the coast. Surface heating in the interior valleys dissipates the marine layer as it moves inland.

4.2.1.1 Criteria Air Pollutants

For the protection of public health and welfare, the Clean Air Act (CAA) required that the United States Environmental Protection Agency (U.S. EPA) establish National Ambient Air Quality Standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the U.S. EPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air without harm to the public's health. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. The CAA allows states to adopt additional or more health-protective standards. Standards and the County's attainment designations are shown in Table AQ-1.

4.2.1.2 Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even at very low concentrations. Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs, therefore, are not considered "criteria pollutants" under either the Federal Clean Air Act (FCAA) or the California Clean Air Act (CCAA).

Table AQ-1
Summary of Ambient Air Quality Standards & Attainment Designations

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary[a]	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	Non-Attainment	–	Non-Attainment Eastern SLO County - Attainment Western SLO County
	8-hour	0.070 ppm		0.075 ppm	
Particulate Matter (PM_{10})	AAM	20 µg/m3	Non-Attainment	–	Unclassified/ Attainment
	24-hour	50 µg/m3		150 µg/m3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m3	Attainment	12 µg/m3	Unclassified/ Attainment
	24-hour	No Standard		35 µg/m3	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment	35 ppm	Attainment/ Maintenance
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified
	1-hour	0.18 ppm		100 ppm	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	0.03 ppm	Unclassified
	24-hour	0.04 ppm		0.14 ppm	
	3-hour	–		0.5 ppm (1300 µg/m3)**	
	1-hour	0.25 ppm		75 ppb	
Lead	30-day Average	1.5 µg/m3	Attainment	–	No Attainment Information
	Calendar Quarter	–		1.5 µg/m3	
	Rolling 3-Month Average	–		0.15 µg/m3	
Sulfates	24-hour	25 µg/m3	Attainment	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m3)	Attainment		
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m3)	No Information Available		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer- visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	Attainment		

Source: Ambient 2016

4.2.1.3 Asbestos

Asbestos is the common name for a group of naturally-occurring fibrous silicate minerals that can separate into thin but strong and durable fibers. Naturally-occurring asbestos, which was identified as a TAC in 1986 by the ARB, is located in many parts of California and is commonly associated with ultramafic rock. The project site is located near areas that are likely to contain ultramafic rock; however, geologic surveys in the project area have not identified any asbestos-containing materials (Padre 2015).

4.2.1.4 Greenhouse Gases

Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. World-wide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions.

In 2013, GHG emissions within California totaled 459 million metric tons (MMT) of CO2*e*. Within California, the transportation sector is the largest contributor, accounting for approximately 37 percent of the total statewide GHG emissions. Emissions associated with industrial uses are the second largest contributor, totaling roughly 23 percent. Electricity generation totaled roughly 20 percent.

4.2.2 Methodology

Short-term construction emissions associated with the proposed project were calculated using the CalEEMod, version 2013.2.2, computer program. Construction of the proposed improvements would occur during the non-rainy season (April 15 through October 15). Construction activities are anticipated to occur over a single six-month period, though it's possible that some activities may occur during the following year. However, to ensure a conservative analysis, all activities were assumed to occur during the initial six-month period of construction. Up to approximately 41,400 cy of material was assumed to be exported and approximately 2,400 cy of material may need to be imported. Off-road equipment anticipated to be required during construction was derived from similar projects and default assumptions contained in CalEEMod. Actual equipment required may vary. Modeling assumptions and output files are included in Appendix C.

4.2.3 Regulatory Setting

Air quality within the SCCAB is regulated by several jurisdictions including the U.S. EPA, Air Resources Board (ARB), and the SLOAPCD. Each of these jurisdictions develops rules,

regulations, and policies to attain the goals or directives imposed upon them through legislation. Because the state and local regulations generally equal or exceed Federal regulations, they are described in this section.

4.2.3.1 California Air Resources Board

The ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA. Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts, establishing California Ambient Air Quality Standards (CAAQS), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles.

4.2.3.2 California Clean Air Act

The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for Ozone, CO, SO2, and NO2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

4.2.3.3 Assembly Bill 32 - California Global Warming Solutions Act of 2006

“AB 32” requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. The gases that are regulated by AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride, and sulfur hexafluoride. The reduction to 1990 levels will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap, institute a schedule to meet the emissions cap, and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

4.2.3.4 County of San Luis Obispo Air Pollution Control District

The SLOAPCD is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions, including GHGs within the region are maintained. Responsibilities of the SLOAPCD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the FCAA and the CCAA.

4.2.4 Significance Criteria

The significance of potential air quality impacts is based on thresholds identified within Appendix G of the CEQA *Guidelines* and standards established within the SLOAPCD CEQA Air Quality Handbook. Appendix G of the CEQA *Guidelines* provides the following thresholds for determining significance with respect to air quality and GHGs. Air quality and GHG impacts would be considered significant if the proposed project would:

1. Conflict with or obstruct implementation of the applicable clean air plan;
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in 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);
4. Expose sensitive receptors to substantial pollutant concentrations;
5. Create objectionable odors affecting a substantial number of people;
6. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
7. The project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

To assist in the evaluation of air quality impacts, the SLOAPCD has developed recommended significance thresholds, which are contained in the SLOAPCD's *CEQA Air Quality Handbook* (2012). The threshold criteria established by the SLOAPCD to determine the significance and appropriate mitigation level for a project's short-term construction emissions are presented in Table AQ-2.

4.2.5 Impacts and Mitigation Measures

This section describes impacts related to construction of the project and is organized based on the significance criteria outlined above and the data provided in the tables below.

4.2.5.1 Conflict with or obstruct implementation of the applicable clean air plan

According to the SLOAPCD's *CEQA Air Quality Handbook* (2012), a consistency analysis with the *Clean Air Plan* is required for a program-level environmental review, and may be necessary for a larger project-level environmental review, depending on the project being considered. Project-level environmental reviews which may require consistency analysis with the *Clean Air Plan* include: large residential developments and large commercial/industrial developments. For such projects, evaluation of consistency is based on a comparison of the proposed project with the land use and transportation control measures and strategies outlined in the *Clean Air Plan*. If the project is consistent with these measures, the project is considered consistent with the *Clean Air Plan*.

The proposed project is consistent with current zoning and would not result in increased population or employment. In addition, the proposed project would not result in the installation of any major stationary sources of emissions. For this reason, the proposed project would not conflict with SLOAPCD's *Clean Air Plan*. This impact is considered *less than significant*. No mitigation is required.

4.2.5.2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation

Estimated daily and quarterly emissions are summarized and compared to SLOAPCD's significance thresholds in Table AQ-2. Maximum daily construction-generated emissions of ROG+NOX and exhaust PM10 could potentially exceed SLOAPCD significance thresholds. Quarterly thresholds would not be exceeded. In addition, fugitive dust generated during construction may result in localized pollutant concentrations that could result in increased nuisance concerns to nearby residents.

Table AQ-2
Construction Emissions

Criteria	Project Emissions	Significance Threshold	Threshold Exceeded?
Daily Emissions (ROG+NOX)	220 lbs	137 lbs	**Yes**
Daily Emissions (DPM)	10 lbs	7 lbs	**Yes**
Quarterly Emissions (ROG+NOX)	1.9 tons	2.5 tons	No
Quarterly Emissions (DPM)	0.09 tons	0.13 tons	No
Quarterly Emissions (Fugitive PM)	0.3 tons	2.5 tons	No

AQ Impact 1 Project construction activities would result in emissions levels that exceed SLOAPCD thresholds.

AQ-mm 1 A Construction Activity Management Plan (CAMP) shall be prepared for the proposed project. The CAMP shall be submitted to the SLOAPCD for review and approval prior to the start of construction. The CAMP shall include, at a minimum, the following elements:

1. *Identification of the project construction schedules. To the extent possible, construction activities should be phased to minimize cumulative increases of daily emissions from multiple activities.*
2. *Identification of schedules for truck hauling activities and associated haul routes. Haul routes and schedules that would have the least impact to nearby sensitive receptors shall be selected.*

   Construction activities and haul truck trips should be scheduled during non-peak hours (as determined by the Public Works Director) to reduce peak hour emissions.
3. *Identification of construction-equipment permitting requirements. Portable equipment, 50 horsepower (hp) or greater, used during construction activities may require California statewide portable equipment registration (issued by the California Air Resources Board) or a SLOAPCD permit. Examples of such equipment may include, but are not limited to, standby generators, material processing equipment (e.g., crushers, conveyors, portable batch plants, tub grinders, trammel screens).*
4. *Identification of a designated person or persons responsible for implementation of the CAMP and emissions monitoring and compliance. The designated individual(s) shall be responsible for monitoring of fugitive dust emissions and the implementation/enhancement of measures, as necessary, to minimize dust complaints, reduce visible emissions below the SLOAPCD's limit of 20% opacity for greater than 3*

minutes in any 60-minute period. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition.

5. *Tabulation of on-road and off-road construction equipment. Emissions shall be quantified in accordance with SLOAPCD-recommended methodologies based on project-specific construction requirements (e.g., construction schedules, construction vehicle trips, and off-road equipment fleet to be used during project construction.*
6. *Identification of fugitive dust and mobile-source emission control measures to be implemented sufficient to demonstrate compliance with SLOAPCD's CEQA thresholds of significance and to minimize nuisance impacts at nearby sensitive receptors.*

Residual Impact. This mitigation measure would reduce impacts to *less than significant*. No additional mitigation is required.

4.2.5.3 Expose sensitive receptors to substantial pollutant concentrations

The project site is located within and adjacent to San Luis Obispo Creek between the Marsh Street Bridge and Madonna Road Bridge. The proposed construction area is bordered on the west by Highway 101 and on the east by Higuera Street and existing development. The adjacent existing development consists largely of a mix of light industrial, commercial, and residential land uses. The nearest residential dwellings are located adjacent to and east of San Luis Obispo Creek along Brook Street, south of South Street. St. Luke Missionary Baptist Church and Eto Park are also located along Brook Street, south of South Street. In addition, Mathews Trailer Lodge is located adjacent to and east of San Luis Obispo Creek, south of Bianchi Lane.

Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing materials could be encountered during demolition of existing structures, particularly older structures constructed prior to 1970. Asbestos can also be found in various building products, including (but not limited to) utility pipes/pipelines (transite pipes or insulation on pipes). If a project will involve the disturbance or potential disturbance of ACM, various regulatory requirements may apply, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - Asbestos NESHAP). The project site will require demolition of Bianchi Lane Bridge. As a result, demolition activities have the potential to result in the disturbance of ACM.

Construction of the proposed project may result in the generation of fugitive dust. Fugitive dust emissions would be primarily associated with earth-moving, material handling and demolition activities, as well as vehicle travel on unpaved and paved surfaces. Onsite off-road equipment and trucks would also result in short-term emissions of diesel-exhaust PM (DPM). Construction-generated emissions of PM could result in localized concentrations of PM that could result in increased nuisance impacts to nearby land uses and receptors.

Demolition of structures coated with lead based paint can have potential negative air quality impacts and may adversely affect the health of nearby individuals. Improper demolition can result in the release of lead containing particles from the site. Sandblasting or removal of paint by heating with a heat gun can result in significant emissions of lead.

AQ Impact 2 The project could expose sensitive receptors to pollutants such as lead and fugitive dust.

AQ-mm 2 The following measures shall be implemented to reduce potential expose of sensitive receptors to substantial pollutant concentrations. These measures shall also be included in the CAMP to be prepared for this project

1. *Demolition of onsite structures shall comply with the National Emission Standards for Hazardous Air Emissions (NESHAP) requirements (NESHAP, 40 CFR, Part 61, Subpart M) for the demolition of existing structures. The SLOAPCD is delegated authority by the Environmental Protection Agency (EPA) to implement the Federal Asbestos NESHAP. Prior to demolition of onsite structures, the SLOAPCD shall be notified, per NESHAP requirements.*
2. *If during demolition of Bianchi Lane Bridge, paint is separated from the construction materials (e.g. chemically or physically), the paint waste will be evaluated independently from the building material by a qualified hazardous materials inspector to determine its proper management. All hazardous materials shall be handled and disposed in accordance with local, state and federal regulations.*
3. *According to the Department of Toxic Substances Control (DTSC), if paint is not removed from the building material during demolition (and is not chipping or peeling), the material can be disposed of as construction debris (a non-hazardous waste). The landfill operator will be contacted prior to disposal of building material debris to determine any specific requirements the landfill may have regarding the disposal of lead-based paint materials. The disposal of demolition debris shall comply with any such requirements.*
4. *On-road diesel vehicles shall comply with Section 2485 of Title 13 of the California Code of Regulations. In general, the regulation specifies that drivers of said vehicles:*
    - *Shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location, except as noted in Subsection (d) of the regulation; and,*
    - *Shall not operate a diesel-fueled auxiliary power system to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5.0 minutes at any location when within 1,000 feet of a restricted area, except as noted in Subsection (d) of the regulation.*
    - *Off-road diesel equipment shall comply with the 5-minute idling restriction identified in Section 2449(d)(2) of the California Air Resources Board's In-Use off-Road Diesel regulation.*
    - *Signs must be posted in the designated queuing areas and job sites to remind drivers and operators of the state's 5-minute idling limit.*
    - *Construction truck trips shall be scheduled, to the extent feasible, to occur during non-peak hours.*
    - *The burning of vegetative material shall be prohibited.*
5. *Should hydrocarbon contaminated soil be encountered during construction activities, the SLOAPCD shall be notified as soon as possible and no later than 48 hours after affected material is discovered to determine if a SLOAPCD Permit will be required. In addition, the following measures shall be implemented immediately after contaminated soil is discovered:*

- *Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;*
- *Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH –non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate;*
- *Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;*
- *The air quality impacts from the excavation and haul trips associated with removing the contaminated soil must be evaluated and mitigated if total emissions exceed the SLOAPCD's construction phase thresholds;*
- *During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and,*
- *Clean soil must be segregated from contaminated soil.*

Residual Impact. This measure, which address TACs and similar pollutants would reduce impacts to a *less than significant* level. No additional mitigation is required.

4.2.5.4 Create objectionable odors affecting a substantial number of people

The proposed project would not result in the installation of any equipment or processes that would result in odorous emissions. However, construction of the proposed project would involve the use of a variety of gasoline or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel exhaust, may be considered objectionable by some people. In addition, pavement coatings and architectural coatings used during project construction would also emit temporary odors. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly with increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions. For these reasons, potential exposure of sensitive receptors to odorous emissions would be considered *less than significant*. No mitigation is required.

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

Estimated GHG emissions attributable to future development would be primarily associated with increases of CO2 from mobile sources. To a lesser extent, other GHG pollutants, such as CH4 and N2O, would also be generated. Estimated increases in GHG emissions associated with construction of the proposed project are summarized in Table AQ-2. Assuming that all construction activities were to occur within a single year, annual emissions of GHGs would total approximately 430.4 MTCO2*e*. There would also be a small amount of GHG emissions from waste generated during construction; however, this amount is speculative. Short-term construction-generated emissions would not exceed 1,150 MTCO2e/year. The proposed project is consistent with current zoning and would not result in increased population or employment, nor would the project result in the installation of any major stationary sources of emissions. As a result, the proposed project is not anticipated to result in long-term increases of GHGs. Impacts would be *less than significant*. No mitigation is required.

Table AQ-3
Construction GHG Emissions

Construction Activity	GHG Emissions (MTCO2e/Year)
Bianchi Lane Bridge Demolition/Removal	27.3
Bianchi Lane Bridge Construction	18.5
Bianchi Lane Grading	4.6
Bianchi Lane Paving	3.0
Excavation of Two New By-Pass Channels	300.4
Construction of Terraces and Benches	63.4
Sediment Removal at Marsh Street Bridge	13.2
Construction Phase Total	**430.4**
SLOAPCD Significance Threshold	**1,150**
Exceeds Threshold?	**No**

4.2.5.6 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed project is consistent with current zoning and would not result in increased population or employment, and is not anticipated to result in long-term increases of GHGs. In addition, the preliminary grading for the future bikeway would help to support the GHG-reduction measures identified in the City's CAP, including measures to improve bicycle access and efforts to achieve a 20 percent bicycle mode share by 2020. The proposed project would also include the planting of approximately 240 new trees. Over the life of the project, these trees would result in an increase in carbon sequestration of roughly 170 MTCO2*e*. For these reasons, this impact would be considered *less than significant*.

4.2.6 Cumulative Impacts

The County is currently designated non-attainment for the state ambient air quality standards (AAQS) for ozone and PM10. Short-term construction-generated emissions of ozone precursor pollutants (e.g., ROG and NOX) and exhaust PM10 could potentially exceed SLOAPCD significance thresholds. In addition, fugitive dust generated during construction may result in localized pollutant concentrations that could result in increased nuisance concerns to nearby residents. Uncontrolled increases of these construction-generated pollutants could contribute, on a cumulative basis, to existing non-attainment conditions. Implement of AQ-mm-1 and AQ-mm-2 would reduce project-specific impacts and the project's contribution to cumulative impacts to a *less than significant* level. Further, all emissions are short-term, and therefore the project would contribute no emissions once construction is completed. No additional mitigation is required.

4.3 Biological Resources

This section evaluates potential impacts to biological resources within the project area. The analysis considers special-status plant, animal, and vegetation communities as well as impacts to areas that are located within the jurisdiction of state and federal resource agencies. Potential short-term and long-term impacts to biological resources are described. For those instances where potential impacts to sensitive biological resources may occur, mitigation measures and best management practices have been developed. The San Luis Obispo Creek watershed and creek system was described in depth in the Waterway Management Plan (WMP) and Environmental Impact Report/Statement (EIR/EIS), and readers should refer to those documents for additional setting information. This section focuses specifically on the project corridor.

4.3.1 Methodology

This section was prepared based on a number of literature reviews and field surveys performed during preparation of the WMP and subsequent project-specific assessments. The WMP, Volume 1, Appendix B included a biological resources inventory of each reach of San Luis Obispo Creek. A project-specific habitat assessment was prepared by the County Public Works Department in 2010. Once the 30% plans were completed in 2015, an updated literature review and biological reconnaissance surveys were completed. In addition, recently completed environmental documents prepared for the Los Osos Valley Road/Highway 101 interchange project, which is approximately 1.5 miles downstream of the project, were reviewed.

This baseline environmental data was reviewed in the context of the proposed project areas of disturbance and proposed enhancement activities to identify short and long-term impacts that could result from the project. Project-proposed mitigation, which is consistent with the best management practices and other WMP guidance, was then reviewed to determine if it reduced impacts to a less than significant level. In cases where it did not, additional mitigation is recommended.

4.3.2 Existing Conditions

The project corridor follows the San Luis Obispo Creek corridor between Marsh Street and Madonna Road. The corridor has been impacted historically through the construction of Highway 101, and by the encroachment of commercial and residential land uses along the Mid-Higuera commercial strip. In some places, this encroachment is literally beyond the top of the creek bank. In addition, creek bank stabilization in the form of sacrete walls and concrete, are located along the banks of the creek. The Bianchi Lane Bridge and the Marsh Street Bridge cross the creek within the project area. A number of culverts discharge into the creek through the project corridor.

Based on the Natural Resources Conservation Service maps, soils within the project corridor include Salinas silty clay loam, formed in alluvium weathered from sedimentary rocks. Uplands in the northwestern portion of the study area are mapped as Los Osos-Diablo complex, which formed in residual material weathered from sandstone or shale. No serpentine-derived soils are mapped within the project corridor.

4.3.2.1 WMP Reach 10 Biological Resources Inventory (2002)

The project corridor includes the downstream 75% of what is considered Reach 10 in the WMP. Reach 10 is described in the WMP as follows:

- land use within this reach is largely urban, with both commercial and residential development encroaching on the creek corridor;

- the riparian corridor ranges in width from 15-35 meters, with mixed willows and eucalyptus dominating the canopy vegetation;
- understory species consist largely of exotics, such as *Arundo*, castor bean, and cape ivy;
- approximately 92% of Reach 10 is classified as flatwater habitat, with pools and riffles composing nearly 5% and 3% of the remaining instream habitat areas, respectively;
- the pool frequency ratio was 6.5/km, which represents one of the lowest frequencies noted within the watershed; and,
- concrete rip-rap and sack revetments, and gabions are abundant along the streambank at several locations, apparently reflecting attempts to stabilize actively eroding slopes adjacent to residential and commercial developments.

The inventory identified 13 special-status botanical species that could occur in the watershed – noting that most are associated with serpentine-derived soils. None of these species were observed within the reach during spring surveys performed for the WMP. This may be in large part due to the apparent lack of serpentine-derived soils within the project corridor.

The inventory also identified 13 special-status wildlife species with the potential to occur within the watershed. Of these, three either have been observed or have the potential to be observed within Reach 10 - the south-central California coast steelhead, the monarch butterfly, and pallid bat.

4.3.2.2 Habitat Assessment (2010)

The habitat assessment prepared in 2010 (County of San Luis Obispo 2010) included a review of CNDDB records, a species list provided by the USFWS and two field surveys, conducted in May 2010. The surveys identified three primary vegetation communities within the project area, Riparian Forest, Riverine, and Non-native Annual Grassland. The assessment noted the dominance of nonnative, invasive species within the understory of the riparian forest habitat. Based on a list of CNDDB records within the USGS San Luis Obispo quadrangle, the assessment considered 26 special–status plant species, including all 13 considered in the original WMP inventory. No special-status plant species were observed during the field surveys. The habitat assessment confirmed the lack of serpentine soils and outcrops within the project area.

Thirteen special-status wildlife species were considered in the assessment. Those that have been observed in the past, and with the potential to occur within the project area include monarch butterfly, south-central California coast steelhead, pallid bat, Yuma myotis, Cooper's hawk, and yellow warbler, as well as numerous species protected by the Migratory Bird Treaty Act (MBTA) that may nest in the riparian corridor. The assessment concluded that the riparian habitat along the project corridor was generally of low quality due to a number of factors, including:

1. much of the native plant cover, especially the understory, has been replaced by non-native species, many of which are invasive;
2. urban uses occur along the majority of the east bank;
3. non-engineered concrete rubble as well as engineered slope protection exists in many places, reducing the area of natural stream bank, and failed structures have resulted in rubble littering the streambed;

4. there is considerable unauthorized human use of the area, including encampments, with associated refuse;
5. a minimal amount of adjacent natural upland habitat exists; and
6. Highway 101, just to the west, acts as a barrier to wildlife movement.

4.3.2.3 Vegetation Communities

Biological resources reconnaissance surveys performed in March 2016 confirmed the conclusions of the 2010 habitat assessment. There are three primary vegetation communities within the project corridor. They are described below. A complete list of species identified during the 2010 and 2016 surveys is included in Appendix D. No off-channel or adjacent wetlands were identified within the project corridor.

Riparian Forest

Riparian forest occurs through much of the project area, and consists of moderate to dense closed-canopy broadleaf vegetation that closely follows streambank contours. A mixture of native and non-native plant species characterize the area. Common overstory species include: arroyo willow (*Salix lasiolepis*), western sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii ssp. fremontii*), white alder (*Alnus rhombifolia*), and non-native blue gum eucalyptus (*Eucalyptus globulus*). Understory species include the non-native invasive species such as elmleaf blackberry (*Rubus ulmifolius*), cape ivy (*Delairea odorata*), greater periwinkle (*Vinca major*), and garden nasturtium (*Tropaeolum majus*), as well as native California blackberry (*Rubus ursinus*) and mugwort (*Artemisia douglasiana*). A large stand of mature blue gum trees occurs at the south end of the project area along the east bank. Mature blue gum trees are also present on the west side of the Bianchi Lane bridge.

Riverine

Riverine habitat is found within the actively flowing channel, roughly corresponding with the creek's ordinary high water mark (OHWM). Seasonally, this habitat type supports emergent hydrophytes such as watercress (*Nasturtium officinale*), giant horsetail (*Equisetum telmateia var. braunii*) and spearmint (*Mentha spicata*). Filamentous green algae were found attached to cobbles and other streambed substrate, especially where sufficient sunlight reaches the water.

Non-native Grassland

Non-native grassland occurs in the proposed Bianchi and South Street bypasses. The dominant plant species include non-native grasses such as slender wild oat (*Avena barbata*), Spanish brome (*Bromus madritensis)*, Harding grass (*Phalaris aquatica*), Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), and mostly non-native annual and perennial herbs, including Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marianum*), and rose clover (*Trifolium hirtum*). This community is sparsely vegetated with nonnative forbs, and shrub species such as coyote brush (*Baccharis pilularis*). These areas are mowed regularly by the City of San Luis Obispo to reduce fire risk and control unauthorized use of the open space properties.

Special-status Plants

In March 2016 a CNNDB search of all plant records within the San Luis Obispo USGS quad was repeated. The nearest special-status plant occurrences exist 0.25 mile to the southwest of the project site in the undeveloped South Hills, and approximately 0.5 mile to the west in the

Laguna Lake area, both of which are associated with serpentine-derived soils. Please refer to Appendix D for a list of special-status plant species considered in this EIR.

On March 25, 2016 an additional biological resources reconnaissance survey of the project area was completed. Jurisdictional areas were confirmed and the site was surveyed again for the presence of special-status botanical and wildlife resources. While the timing of the survey did not coincide with the blooming periods of all species identified in the CNDDB search, the lack of serpentine-derived soils, the high level of disturbance, and extensive non-native grassland and invasive species was confirmed. Consistent with previous survey efforts, no special-status plant species were observed during the 2016 survey.

4.3.2.4 Special-status Wildlife

In March 2016 a CNDDB search of all special-status wildlife records within the San Luis Obispo USGS quad was repeated. Please refer to Appendix D for a list of special-status wildlife considered. Based on the literature review and field surveys, wildlife known to, or with the potential to occur, within the project area includes the following:

South-central California coast steelhead

Steelhead trout (*Oncorhynchus mykiss*) are the anadromous form of rainbow trout (McEwan and Jackson 1996). Steelhead historically ranged from Alaska southward to the California-Mexico border, though current data suggests that the Ventura River is presently the southernmost drainage supporting substantial steelhead runs. Periodically, steelhead are reported within the Santa Clara River and Malibu Creek. Southern steelhead are important in that they represent the southernmost portion of the native steelhead range in North America, having ecologically and physiologically adapted to seasonally intermittent coastal California streams.

Optimal habitat for steelhead throughout its entire range on the Pacific Coast can generally be characterized by clear, cool water with abundant instream cover (e.g., submerged branches, rocks, logs), well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio (Raleigh et al. 1984). However, steelhead are occasionally found in reaches of streams containing habitat which would be considered less than optimal. Steelhead within the central coast region begin moving up coastal drainages (including San Luis Obispo Creek) following the first substantial rainfall of the fall season. Spawning typically occurs in the spring in riffle areas that consist of clean coarse gravels. Deposited eggs incubate for approximately 3 to 4 weeks, with hatched fry rearing within the gravel intersticies for an additional 2 to 3 weeks. Emergent fry rear at the stream margins near overhanging vegetation. Juveniles (smolts), after rearing for 1 to 3 years within freshwater, and post-spawning adults out-migrate to the ocean from March to July, depending on streamflows. Therefore, juvenile steelhead can be found within San Luis Obispo Creek at all times of the year, while adults are more likely to be found from February to July.

All populations of steelhead occurring within the South-Central California Coast Distinct Population Segment (DPS) Region – which is defined as that geographic region north of the Santa Maria River, northward to (and including) the Pajaro River (and its tributaries), Santa Cruz County – were listed as Federally Threatened by the National Marine Fisheries Service (NMFS) in August 1997 and recently reaffirmed by NMFS in their 2015 stock update. Southern steelhead trout are also considered a California Species of Special Concern. The National Marine Fisheries Service (NMFS) lists habitat deterioration due to sedimentation and flooding related to land management practices, and potential genetic interaction with hatchery rainbow

trout, as risk factors to steelhead within the ESU. This species is protected under the Federal Endangered Species Act.

San Luis Obispo City Biologist Freddy Otte has previously reported that steelhead spawning has occurred immediately upstream of the Marsh Street bridge. An individual steelhead and associated redd were observed immediately upstream of the Madonna Road Bridge in 2009. Between the Marsh Street Bridge and the Madonna Road Bridge, San Luis Obispo Creek typically goes dry in the summer. There are several deep pools in the project area that could support over-summer rearing in a normal winter rainfall regime.

California red-legged frog

California red-legged frog (CRLF) (*Rana draytonii*) is federally listed as threatened and a state species of special concern, and is known to occur in central coast watersheds from Point Reyes National Seashore south to Baja California. Counties that support the greatest number of occupied drainages include Monterey, San Luis Obispo, and Santa Barbara (USFWS Federal Register 1996). CRLF require specific habitat characteristics for breeding and upland habitat. Breeding habitat is characterized by still to slow moving water containing emergent vegetation. Breeding occurs following large rain events between the months of November and March. Reddish brown egg masses are laid on emergent vegetation and float at the surface of the water. Upland habitat is necessary for the survival of this species and includes small mammal burrows, leaf litter, downed trees, and dense riparian vegetation. CRLF are generally found in riparian vegetation within 30 meters (100 feet) of a water source, but can move up to 2 miles between aquatic sites to escape drying areas, forage, or breed (USFWS Federal Register 1996). The project site does not support breeding habitat, but does supports marginal upland dispersal habitat for this species.

Monarch butterfly

The overwintering habitats for this species are of special concern and protected by the California Department of Fish and Wildlife. Monarch butterfly uses eucalyptus woodland, as well as other habitat types for winter roosting. Primary roost sites occur in Montana de Oro and Morro Bay state parks, scattered areas throughout the communities of Los Osos, Morro Bay, and Pismo Beach State Park. There are several known aggregation sites within the City of San Luis Obispo, including in eucalyptus trees at Laguna Lake Park and in oak/eucalyptus woodland on Cerro San Luis Obispo (County of San Luis Obispo 2010). There is potential for winter roosting within the project area, although regularly occurring, large aggregations are not expected and have not been observed, probably due to the project's inland location and the lack of large clusters of trees to provide necessary microhabitat conditions (primarily wind protection and adequate sunlight).

Bats

The site visit on May 10, 2010 revealed evidence of bat roosting beneath the Bianchi Lane Bridge over San Luis Obispo Creek, but none under the Marsh Street Bridge. No bats were present at the time of the survey, indicating that the roost is used seasonally or as a night roost. No day roosting bats were observed under the Bianchi Lane Bridge during a March and August 2016 survey. Three sensitive bat species have the potential to occur within the project area, and are discussed below. No bats were observed during the biological surveys.

Townsend's big-eared bat (*Corynorhinus townsendii*). Townsend's big-eared bat is a federal Species of Concern and a California Species of Special Concern. Known to occur in caves, tree cavities and under bridges; most abundant in mesic (wet) habitats. Potential roosting habitat

exists within the project area, however because this species is extremely sensitive to disturbance of roosting sites, roosting is very unlikely. The nearest documented location is on Camp San Luis Obispo north of Highway 1.

Pallid bat (*Antrozous pallidus*). Pallid bat is a California Species of Special Concern. It is found in deserts, grasslands, shrublands and forests. The species is most common in open, dry habitats with rocky areas for roosting. Potential roosting habitat exists within the Project area, but pallid bat was not observed during the surveys. The nearest known location is approximately 0.5 mile upstream from the project site.

Yuma myotis (*Myotis yumanensis*). Yuma myotis is a California Species of Special Concern. This bat is common and widespread in California, and usually forages over water sources such as ponds, streams and stock tanks. This species is known to roost in buildings, caves, old buildings, crevices and in bridges. Potential roosting habitat occurs within the project area.

Avian Species

The San Luis Obispo Creek corridor provides foraging, roosting, and nesting habitat for numerous avian species, including special-status species such as Cooper's hawk. Given the narrow width and disturbed nature of the habitat within the project corridor, the potential for special-status species to occur is reduced relative to the creek corridor in general. Nevertheless, species such as Cooper's hawk and yellow warbler, as well as numerous other migratory birds are known to occur within the project area. A complete list of wildlife observed during biological resources surveys is included in Appendix D.

4.3.3 Regulatory Setting

4.3.3.1 Federal Policy and Regulations

National Environmental Policy Act

The National Environmental Policy Act (NEPA) provides a framework for environmental planning by federal agencies and contains action-forcing procedures to ensure that federal agency decision makers take environmental factors into account. NEPA applies whenever a federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources. It is anticipated that the USACE will act as federal lead agency for this project as they will be issuing a permit in accordance with Clean Water Act (CWA) requirements.

Section 404 of the Clean Water Act of 1977

The USACE is responsible for the issuance of permits for the placement of dredged or fill material into "waters of the United States" pursuant to Section 404 of the CWA (33 United States Code [USC] 1344). As defined by USACE at 33 CFR 328.3(a)(parts 1-6), the following summarizes "Waters of the United States" as:

"Those waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; tributaries and impoundments to such waters; all interstate waters including interstate wetlands; and territorial seas."

The project would place fill, in the form of vegetated rock slope protection and cofferdams, within "waters of the U.S.", in this case San Luis Obispo Creek. Therefore, the project would be subject to Section 404 of the CWA.

Section 401 of the Clean Water Act of 1977

Section 401 of the CWA and its provisions ensure that federally permitted activities comply with the CWA and state water quality laws. Section 401 is implemented through a review process that is conducted by the RWQCB, and is triggered by the Section 404 permitting process described above. The RWQCB certifies via the 401 process that a proposed project complies with applicable effluent limitations, water quality standards, and other conditions of California law. Evaluating the effects of the proposed project on both water quality and quantity (runoff) falls under the jurisdiction of the RWQCB. The proposed project has the potential to result in impacts to water quality and quantity, and therefore compliance with Section 404 of the CWA. Therefore, the proposed project would also require compliance with Section 401 of the CWA, requiring certification by the RWQCB.

Federal Endangered Species Act (FESA)

FESA, administered by the USFWS and NMFS, provides protection to species listed as threatened or endangered. FESA also provides protection to those species proposed to be listed under FESA. In addition to the listed species, the Federal government also maintains lists of species that are neither formally listed nor proposed, but could potentially be listed in the future. Species on this list receive “special attention” from federal agencies during environmental review, although they are not protected otherwise under the FESA. The candidate species include taxa for which substantial information on biological vulnerability and potential threats exist, and are maintained in order to support the appropriateness of proposing to list the taxa as an endangered or threatened species. USFWS and NMFS also regulate activities conducted in federal critical habitat, which are geographic units designated as areas that support primary habitat constituent elements for listed species.

Due to the presence and/or potential of federally listed species within the project area, including steelhead and California red-legged frog, compliance with Section 7 of FESA would be required. Potential impacts to listed species resulting from the implementation of a project would require the responsible agency or individual to formally consult with the USFWS or NMFS to determine the extent of impact to a particular species.

Migratory Bird Treaty Act (MBTA)

The MBTA of 1918 protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to put an end to the commercial trade in bird feathers, popular in the latter part of the 1800’s. The MBTA is enforced by the USFWS, and potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies. Numerous migratory bird species were observed within the project corridor during surveys.

4.3.3.2 State Policy and Regulations

California Endangered Species Act (CESA)

The CESA ensures legal protection for plants listed as rare or endangered, and wildlife species formally listed as endangered or threatened. The state also maintains a list of SSCs. SSC status is assigned to species that have limited distribution, declining populations, diminishing habitat; or unusual scientific, recreational, or educational value. Under state law, the CDFW is empowered to review projects for their potential to impact special-status species and their

habitats. Under CESA, CDFW reserves the right to request the replacement of lost habitat that is considered important to the continued existence to CESA protected species. Take of state-listed species would require a Section 2081 Incidental Take Permit from the CDFW. Due to the lack of state listed species within the project corridor, it is unlikely that a Section 2081 Incidental Take Permit will be necessary.

California Fish and Game Code

California Fish and Game Code §3511 includes provisions to protect Fully Protected (FP) species, such as: (1) Prohibiting take or possession "at any time" of the species listed in the statute, with few exceptions; (2) stating that "no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" the species; and (3) stating that no previously issued permits or licenses for take of the species "shall have any force or effect" for authorizing take or possession. CDFW is unable to authorize incidental take of "fully protected" species when activities are proposed in areas inhabited by those species.

Sections 3503 of the Fish and Game Code state that it is “unlawful to take, possess, or destroy the nest or eggs of any bird, with occasional exceptions.” Section 3503.5 of the Fish and Game Code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest of eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” In addition, §3513 states that it is unlawful to take or possess any migratory bird as designated in the MBTA or any part of such migratory birds except as provided by rules and regulations under provisions of the MBTA. White-tailed kite is a fully protected species under §3511 and has a potential, albeit a low potential, to occur within the project corridor.

CDFW also manages the California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900, et seq), which was enacted to identify, designate, and protect rare plants. In accordance with CDFW guidelines, California Native Plant Society (CNPS) 1B list plants are considered “rare” under the Act, and are evaluated in CEQA documents.

Section 1602 of the Fish and Game Code

CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the law requires any person, state or local government agency, or public utility proposing a project that may impact a river, stream, or lake to notify the CDFW before beginning the project. If the CDFW determines that a project may adversely affect existing fish and wildlife resources, a Lake or Streambed Alteration Agreement (SAA) is required. A SAA lists the CDFW conditions of approval relative to the proposed project, and serves as an agreement between an applicant and the CDFW. As proposed the project would require a SAA from CDFW.

4.3.4 Significance Criteria

The significance of potential biological impacts is based on Appendix G of the State *CEQA Guidelines*. Using these guidelines, activities requiring CEQA review within the project corridor would have a significant impact on biological resources if they would:

1. Result in a loss of unique or special-status species or their habitats;
2. Reduce the extent, diversity or quality of native or other important vegetation;
3. Impact wetland or riparian habitat;
4. Interfere with the movement of resident or migratory fish or wildlife species, or factors, which could hinder the normal activities of wildlife; or

5. Conflict with any regional plans or policies to protect sensitive species, or regulations of the California Department of Fish & Wildlife or U.S. Fish & Wildlife Service.

4.3.5 Impacts and Mitigation Measures

This section describes impacts related to construction of the project and is organized based on the significance criteria outlined above and the data provided in the two tables below. Impacts to vegetation communities are shown in Table BR-1. Temporary impacts would result from all components of the project including the dewatering, the bridge replacement, the flow return, and the bypass channels. Installation of the vegetated rock slop protection is considered a temporary impact.

Table BR-1. Impacts to Vegetation Communities

Vegetation Community	Temporary Impacts
Nonnative grassland/Ruderal	4.09
Riparian Forest	2.38
Riverine	1.56
Total	8.03

Approximately 128 mature native trees would be removed during construction of the project, primarily at the four benches, as well as at the confluences of the bypass channels and the creek channel. The species and number of each species to be removed are shown in Table BR-2. It may be possible to protect some of the trees from impact during construction, but that cannot be concluded with certainty until much closer to project construction; therefore, this evaluation assumes that all trees indicated “to be removed” or where “removal may be necessary” in the project plans (Appendix B), would be removed.

Table BR-2. Tree Removal

Common Name	Scientific Name	Number
Bay laurel	*Umbellularia californica*	2
California black walnut	*Juglans californica*	16
Coast live oak	*Quercus agrifolia*	7
California sycamore	*Platanus racemosa*	1
Black cottonwood	*Populus trichocarpa*	14
Arroyo willow (primarily)	*Salix lasiolepis*	88
Total		**128**
Nonnative/ornamental	*Multiple, primarily Eucalyptus globulus*	24

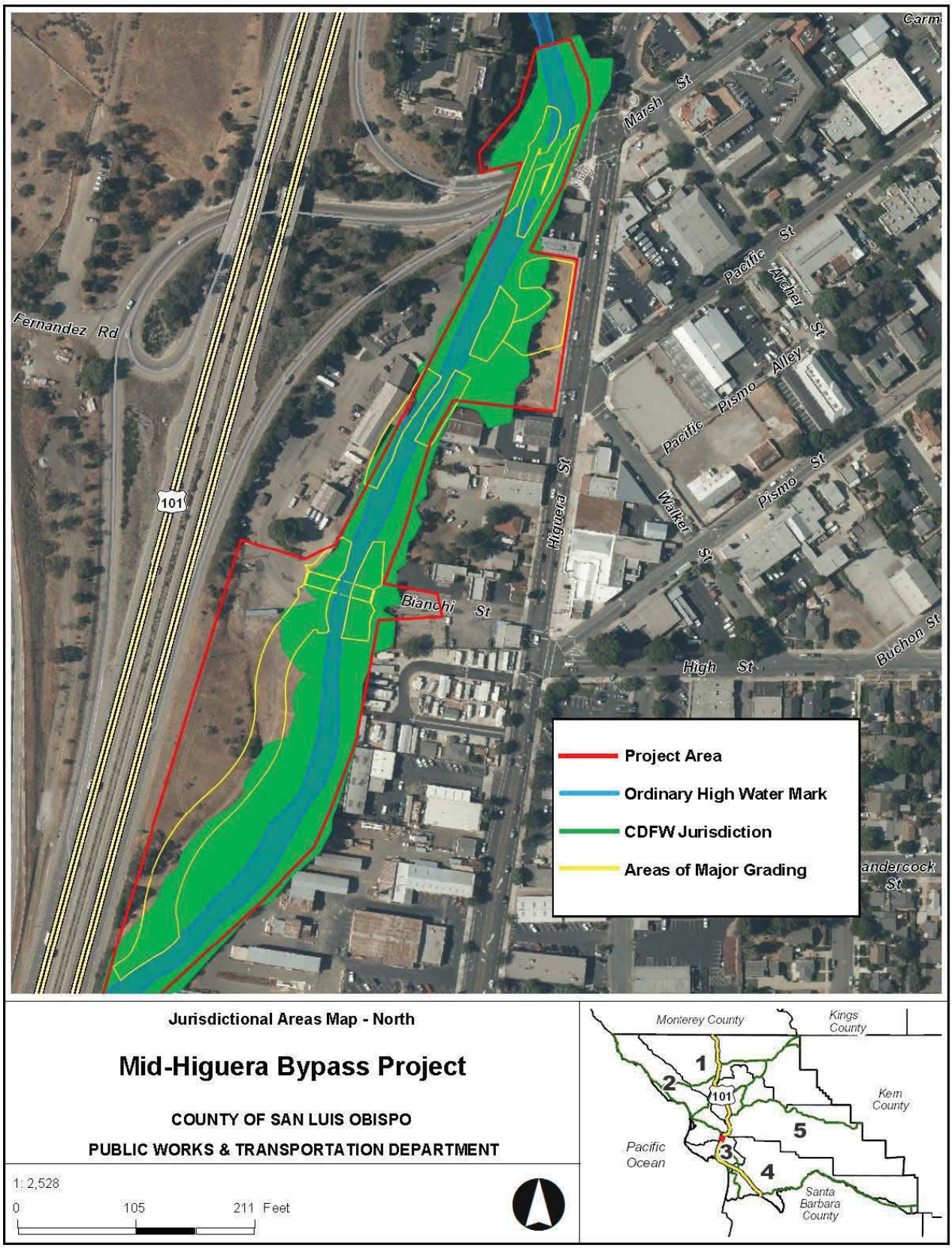
Impacts to jurisdictional areas are focused primarily in the areas where bypass channels intercept the existing creek channel and at the four bench locations. Impacts to jurisdictional areas are shown in Figure BR-1 and in Table BR-3. Representative photos of the primary impact areas are included in Appendix D. USACE impact area equals the ordinary high water mark (OHWM). No other waters of the US were identified within the project area. The CDFW and RWQCB impact area includes the edge of the San Luis Obispo Creek riparian corridor.

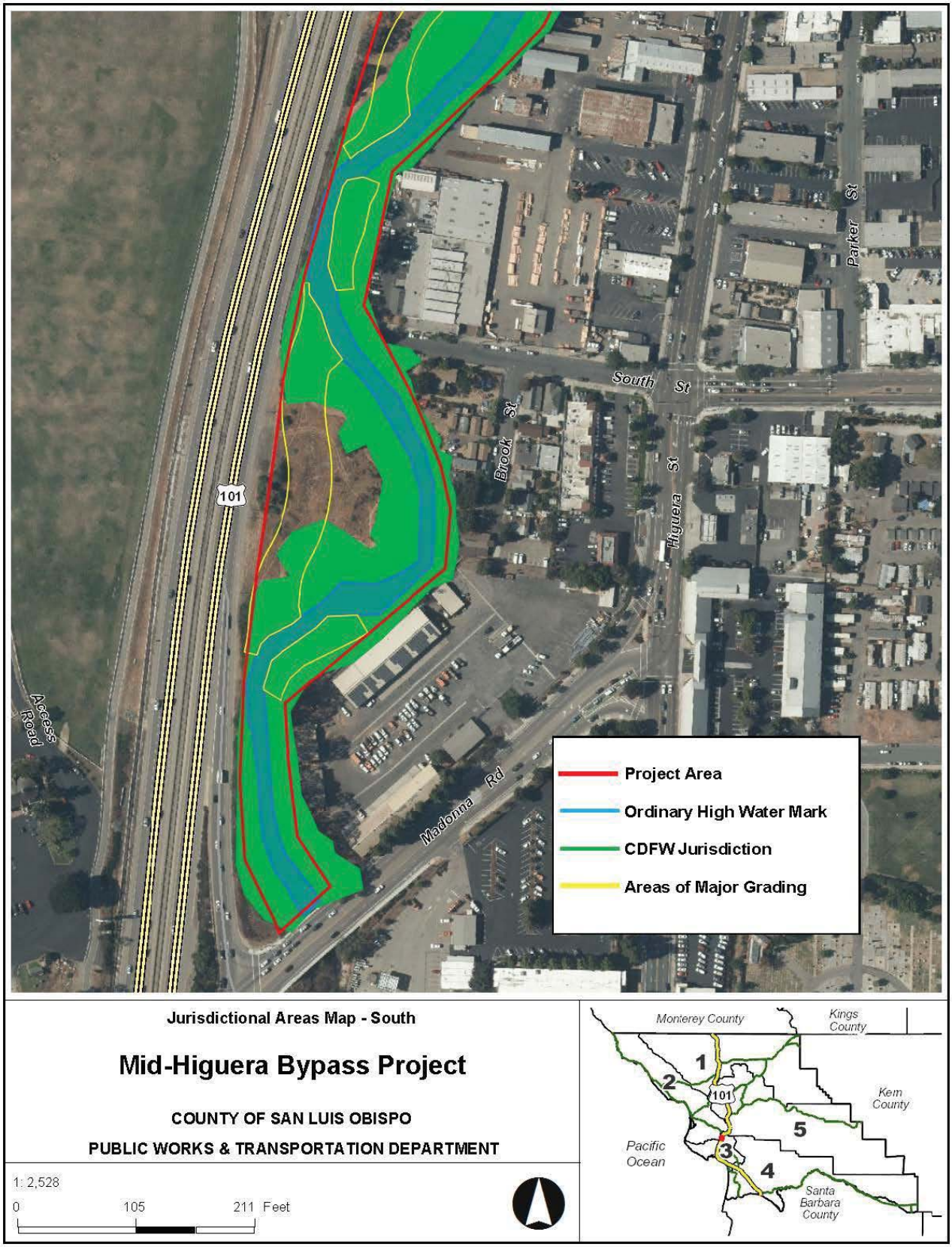
Table BR-3 Impacts to Jurisdictional Features (acres)

Jurisdictional Feature	Project Component	Temporary Impacts	Permanent Impacts
USACE	All areas of the OHWM between 3 sets of dewatering cofferdams	1.56	0.19[1]
	Total	**1.56**	**0.00**
CDFW / RWQCB	Bypass channels/vegetated RSP[2]	1.18	0.19[1]
	Benches, Flow Return, Marsh St sediment removal[1]	1.20	0.00
	3 dewatered areas/OHWM Impacts	1.56	0.00
	Bianchi Lane Bridge Center and Eastern Supports	Included above	0.01
	Total	**3.94**	**0.20**

1. These permanent impacts include the vegetated RSP, root wads and flow deflectors, which would be considered “beneficial fill”
2. To avoid double counting, this includes areas inside of CDFW/RWQCB jurisdiction but outside of the OHWM.

This EIR includes mitigation measures that are applicable to the project-specific impacts identified, and have been applied for similar projects, including those in San Luis Obispo Creek and County. Further, mitigation measures recommended below include as much detail as applicable at this stage of the process, but it is likely that they will be refined through the subsequent resource agency permitting process.


Carm
Marsh St
Pacific St
Archer St
Alley
Pismo St
Walker St
Bianchi St
High St
Buchon St
Fernandez Rd
101
Higuera St
Project Area
Ordinary High Water Mark
CDFW Jurisdiction
Areas of Major Grading
Jurisdictional Areas Map - North
Mid-Higuera Bypass Project
COUNTY OF SAN LUIS OBISPO
PUBLIC WORKS & TRANSPORTATION DEPARTMENT
1: 2,528
0
105
211 Feet
Monterey County
Kings County
Kern County
Pacific Ocean
Santa Barbara County
1
2
3
4
5


Project Area
Ordinary High Water Mark
CDFW Jurisdiction
Areas of Major Grading
South St
Brook St
Higuera St
Parker St
Madonna Rd
Access Road
101
Jurisdictional Areas Map - South
Mid-Higuera Bypass Project
COUNTY OF SAN LUIS OBISPO
PUBLIC WORKS & TRANSPORTATION DEPARTMENT
1: 2,528
0
105
211 Feet
Monterey County
Kings County
Kern County
Pacific Ocean
Santa Barbara County
1
2
3
4
5
101

4.3.5.1 Loss of Unique or Special-status Species or their Habitats

4.3.5.1.1 Special-status Wildlife Impacts

A number of special-status wildlife species are known or have the potential to occur within the project area and would potentially be impacted by project construction. These species are described below.

California red-legged frog

There are no recorded occurrences of CRLF in CNDDB records for this or neighboring reaches of San Luis Obispo Creek; however, CRLF has been observed downstream at the City's Water Recycling Facility (Caltrans 2008). The proposed project would not impact any potential CRLF breeding habitat, but may impact foraging habitat and aquatic dispersal/summer habitat. These impacts may result from dewatering activity and/or from clearing riparian vegetation, which would result in a temporary loss of potential foraging and dispersal habitat. Construction activities, which include the use of heavy equipment in and adjacent to riparian habitat, would potentially impact foraging or dispersing CRLF.

BR-Impact 1 California red-legged frog may be directly impacted during construction activities.

BR-mm 1 *Through the USACE permit process, conduct consultation with the USFWS to develop avoidance and minimization measures for the CRLF. These measures may include, for example, the measures described in the 1999 CRLF Programmatic Biological Opinion between the USFWS and the USACE.*

Residual Impact. The Programmatic Biological Opinion (BO) measures referred to in BR-mm 1 are included in Appendix D. The BO measures include pre-construction surveys, identifying potential relocation sites, and using only qualified biologists to implement the measures. Implementation of BR-mm 1, will reduce potential direct impacts to a *less than significant* level. No additional measures are required.

South-central California Coast Steelhead

This section first describes potential construction-related impacts to steelhead, and then describes potential longer-term impacts to steelhead habitat within the project area. Within the project area San Luis Obispo Creek supports rearing habitat for juvenile steelhead, and is a known migration corridor for adult steelhead and out-migrating juveniles, including steelhead smolts. Gravel bars present in the vicinity of the project area may support spawning of adult steelhead, although to what extent adults use this habitat for spawning is unknown.

Construction-Related Impacts to Steelhead

The project could directly impact steelhead during project construction activities occurring in the wetted (below the OHWM) portion of the channel. Project activities within the channel would occur in the driest portion of the year, outside of the peak steelhead migration period of March through May (Caltrans 2008), thereby reducing potential impacts, although some steelhead are expected to be in the project area during the construction period. Steelhead would potentially be impacted during the dewatering process as they could be stranded, trapped, or injured during handling and relocation.

BR-Impact 2 South-central California coast steelhead may be directly impacted during construction activities.

BR-mm 2 *Construction requiring stream dewatering, stream crossings, or work in the channel bed will not start before June 1. Upstream and downstream passage for fish, including juvenile steelhead, will be provided through or around construction sites at all times. Cofferdams will be installed to divert streamflow around each in-stream construction area.*

BR-mm 3 *Through the USACE permit process, conduct consultation with the NMFS to develop avoidance and minimization measures for steelhead. These measures may include, for example, having a qualified biologist onsite during the installation of cofferdams and during the cofferdam dewatering process to capture and move trapped salmonids and other fish as well as identifying the appropriate procedures for relocating fish. Protocols for the capture, handling, and release of fish will be developed in cooperation with NMFS and CDFW and implemented during project construction.*

Residual Impact. Implementation of BR-mm 2 and 3 will reduce potential construction-related impacts to a *less than significant* level. No additional measures are required.

Long-term Impacts to Steelhead Habitat

During the environmental review process for the WMP, which included a more general assessment of potential bypass projects, a number of potential longer-term impacts to steelhead and their habitat were identified. These included impacts to riparian and upland habitat, increased erosion and sedimentation, disturbance of spawning gravels, changes in hydrology, and the potential entrapment of fish in modified/new channels. The EIR/EIS also concluded that more project-specific environmental review should be performed for capital projects, such as the proposed project.

NMFS commented on the WMP Draft EIR/EIS, echoed the comments provided on the WMP, and suggested that channel modification, the creation of new channels, and the use of rip-rap would potentially reduce channel complexity, and negatively affect the creek's function and value as steelhead habitat. The NMFS comment letter is included in the WMP Final EIR/EIS, which is available for review at the District office. The letter from NMFS recommends that further environmental analysis should accomplish five things to reduce uncertainties in the steelhead assessment. Those five things, and a discussion of how they have been addressed, is included below.

1. Define a system for estimating the number of steelhead that may be affected by project-level activities.

   As described above, assuming implementation of a comprehensive dewatering plan, no fish mortality is expected to result from construction of the project. There is the potential that if fish use the bypass channel, they could become stranded in the channel if ponds form as the water recedes. Fish stranding would be unlikely because the bypass channels would only be active for limited periods of time. For example, the baseline flow for this stretch of the creek is 146 cfs. The Bianchi Bypass and South Street Bypass would activate at 1,790 and 440 cfs respectively. During a 2-year storm these bypass channels would flow for approximately 3.5 and 15 hours respectively. The bypass channels would be active during a 100-year storm for less than 19 hours.

   In addition, the bypass channels would be unattractive to migrating steelhead as they provide little habitat/cover, only function during higher flow events, and they would be sloped at approximately 2% downstream to discourage ponding. Additionally, habitat improvements such as scour pools and root wads are proposed at the channel transition areas to

encourage fish to hold in the main channel. To further avoid potential fish stranding, two additional mitigation measures are included below. These measures require use of boulder clusters at the upstream transition areas to provide additional holding habitat in the main channel, and they require post-storm monitoring of the bypass channels to identify any potential ponded water and fish that may be stranded.

2. Define a process for measuring the type, quantity, and quality of habitat that is affected by project-level activities.

   During development of the WMP and this Supplemental EIR, the habitat characteristics of the project area, which is part of Reach 10, were evaluated. As described in section 4.3.2.2, Reach 10 has one of the lowest pool to riffle ratios in the creek system, is 92% flatwater habitat, and has an understory largely consisting of non-native, invasive vegetation. Recent assessments of the area conducted as a part of this Supplemental EIR process confirm that these conditions remain consistent with those first described in the WMP. Impacts to jurisdictional areas and vegetation communities as well as mitigation measures that address those impacts are described in Sections 4.3.5.2 through 4.3.5.4 below. In addition, mitigation measure BR-mm 7 proposed below requires a quantitative assessment of Reach 10 similar to what was performed for the WMP, be performed prior to construction, and regularly post-construction. These follow-up assessments would be performed in coordination with revegetation monitoring. Together these measures would confirm whether or not the project has had long-term impacts to the biological resources within the project area.

3. Outline the compensatory mitigation program that will be implemented to offset effects of project-level activities on steelhead and instream and riparian habitat.

   The compensatory mitigation program is outlined in this section of the EIR. It is entirely in-kind and onsite, and focuses on the replacement of nonnative vegetation with native vegetation, installation of flow deflectors and rootwads, and utilizes vegetated rip-rap in places where the use of rock for erosion control and bank stabilization is unavoidable, such as at bypass channel transition areas. The proposed compensatory mitigation is not based on typical mitigation “ratios,” but rather, it encompasses a strategy to improve habitat on a long-term basis.

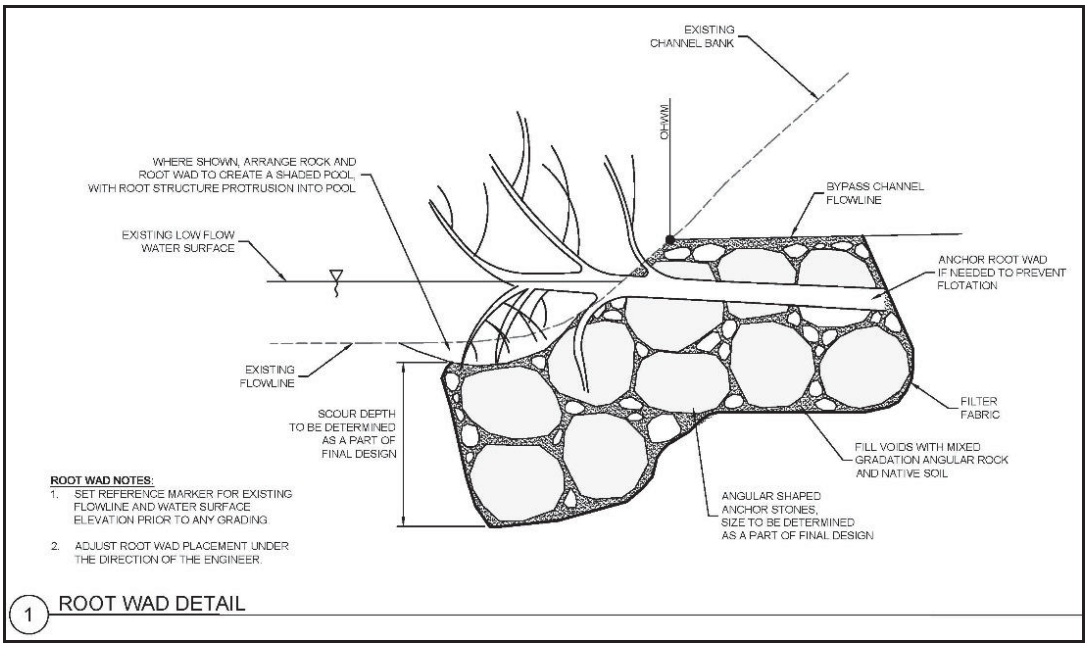
4. Define a procedure for measuring and detecting spatial and temporal changes in habitat quality and quantity.

   Spatial and temporal changes within the project area may be detected as described above. Habitat value in the main channel is expected to be improved overall for the reasons described above (i.e. rootwads, vegetated RSP, removal of invasive vegetation). Further, the proposed project area includes approximately 75% of the length of Reach 10. By including the entire reach in follow-up monitoring, the District may gain a better understanding of unrelated changes in habitat upstream of the project as well.

5. Define a protocol that will track performance of the measures proposed, respond to new information or changing conditions, and detect and reconcile deficiencies or problems in a timely manner.

Protocol for tracking the performance of the measures proposed will be developed in the HMMP, which will be reviewed and approved by the CDFW, RWQCB, and USACE, in consultation with NMFS and USFWS. HMMPs include performance criteria and outline a monitoring protocol. In addition, the HMMP will include contingency measures to be implemented in the event that the proposed measures are not meeting the performance criteria.

The photo above shows the existing conditions at the proposed upstream end of the Bianchi Bypass channel from the existing bridge. The figure below illustrates the conceptual root wad detail that would be installed at this location. The new Bianchi Lane Bridge would be located upstream from the existing bridge. This area is further described on Sheets C6 in Appendix B of this EIR.



BR-Impact 3 Implementation of the project would potentially result in long-term adverse impacts to the habitat value of the creek for steelhead within the project area.

BR-mm 4 *Prior to construction the project plans shall be revised to show the bypass channels sloped towards the "inside" bank to minimize the potential for ponding water.*

BR-mm 5 *Prior to construction the project plans shall incorporate additional boulder clusters or similar features into the design of the transition areas*

BR-mm 6 *At the appropriate time following applicable storm events, the bypass channels shall be inspected to determine the potential for ponded water and to confirm no fish have been stranded. In the event that special-status fish are observed stranded in the bypass channels, they shall be relocated by a qualified biologist consistent with necessary permits and authorizations.*

BR-mm 7 *Prior to construction and following construction at appropriate intervals, the habitat assessments consistent with those performed for the WMP shall be conducted by qualified biologists. These efforts shall be described in and coordinated with habitat restoration monitoring to be described in the HMMP for the project.*

Residual Impact. Implementation of the measures described above would reduce potential impacts to *less than significant* levels. No further measures are required.

Monarch Butterfly

Project construction will include substantial disturbance adjacent to large eucalyptus stands and the removal of a number of large eucalyptus. No CNDDB records of monarch butterfly overwintering occur within the project corridor, and large populations were not observed during biological resources surveys for the project. However, the larger trees and stands potentially provide habitat for overwintering monarch butterfly.

BR-Impact 4 Removal of larger stands of eucalyptus within the project corridor would potentially impact overwintering monarch butterflies.

BR-mm 8 *To avoid impacts to monarch butterflies, construction shall be avoided as feasible during the monarch butterfly wintering period (November to February). However, if work is scheduled to occur during this time, the project corridor shall first be surveyed for overwintering monarch butterfly. If substantial monarch butterfly population is observed, tree removal shall cease within 200 feet of the population, and sufficient dust control measures shall be implemented to minimize dust emissions and associated impacts to any eucalyptus groves within or directly adjacent to project-related ground disturbance.*

Bats

Various bat species, including special-status bats such as pallid bat and Yuma myotis could use the Bianchi Lane Bridge as a roosting location; however, no day roosting bats were observed during biological resources surveys. Crevices in trees onsite could provide roosting habitat for bat species, as well. Construction includes the demolition of the Bianchi Lane Bridge and tree removal which could impact roosting bats.

BR Impact 5 Demolition of the Bianchi Lane Bridge and tree removal would potentially impact roosting bats.

BR-mm 9 *Prior to construction, one daytime and one night-time pre-construction surveys shall be conducted by qualified biologists no more than 30 days prior to construction to determine if bats are day or night roosting in the project area. The biologist(s) conducting the preconstruction surveys will also identify the nature of the bat utilization of the area (i.e., no roosting, night roost, day roost, maternity roost). If bats are found to be roosting in the surveyed areas, the following measures will be implemented during construction:*

1. *If there is only night roosting by bats and the roost substrate will not be impacted, work may proceed as normal provided that no night-time work is scheduled.*
2. *If there is day roosting by bats (or night roosting and work during nighttime), qualified biologists shall monitor any construction activities within 100 ft for disturbance to bat roosting. If bat roosting behavior is determined to be adversely impacted by construction activities, construction must be avoided in the vicinity of bat roosts until either bats are no longer roosting or they have been excluded from roosting.*
3. *If maternity roosts are detected, construction activities must be avoided within 100 ft (30 m) of an active maternity roost until the end of the maternity roosting season (end of September). No roost exclusion shall be conducted if maternity roosts are detected.*
4. *Readily visible exclusion zones shall be established in areas where roosts must be avoided.*

BR-mm 10 *The design of the new Bianchi Lane Bridge shall incorporate bat friendly features and/or provide areas where manmade roosts can be easily attached during construction. If manmade roosts are to be attached to the bridge, this shall be accomplished prior to the conclusion of construction activities.*

Residual Impact. Implementation of BR-mm 5 will reduce potential impacts to bat species to a *less than significant* level. No additional measures are required.

4.3.5.1.2 Special-status Plant Impacts

During preparation of the 2010 Habitat Assessment and subsequent follow-up analysis, a records search was conducted to identify special-status plant species with the potential to occur within the project site. References included the CNDDB and the Los Osos Valley Road/Highway 101 Interchange environmental documents, which were completed in 2011 for a large project approximately 1.5 miles downstream. During multiple surveys of the project area for the WMP, 2010 Habitat Assessment, and this EIR, no special-status plant species were identified.

No impacts to special-status plant species would result from the project, and no mitigation is required.

4.3.5.2 Reduce the Extent, Diversity, or Quality of Native or Other Important Vegetation

As shown in Table BR-1, three vegetation communities would be impacted by the project. Two of these communities, Riparian Forest and Riverine, could be considered “native and important” to the function and value of the creek corridor, although as described above, the habitat provided is of relatively low quality due to the urban encroachment and substantial nonnative vegetation. As currently proposed, despite the impacts to the vegetation communities above,

the project is expected to result in improvements to the value of the habitat along San Luis Obispo Creek. This is due to the following:

- Non-native trees removed during construction would be replaced with native species
- Trash and other debris encountered during construction would be removed.
- Root wads and flow deflectors would be installed within the channel to increase habitat complexity in the channel by increasing the percentage of pools and riffles within the reach (refer to Sheet C7 of the project plans).
- Populations of invasive species within the construction area would be removed and all disturbed areas would be revegetated with native species.

While the area of disturbance is one measure of the temporary impacts resulting from construction, due to the large percentage of nonnative species that create the understory, another measure of impacts is the tree removal required for the project. As currently proposed, the project would result in the removal of up to 152 mature trees. Up to 128 of these trees are native species, including, but not limited to coast live oak, valley oak, cottonwood, walnut, and arroyo willow.

The loss of this vegetation during construction will result in a temporary reduction in roosting, foraging and nesting habitat for birds and other wildlife. The temporary absence of overstory vegetation will result in impacts to aquatic organisms by reducing shading, increases in water temperature, and possibly increased algae growth. These impacts are expected to last several years, with improvement each year, until proposed revegetation matures. In the longer-term, the reduction in willows along the corridor may reduce the amount of mid-level vegetation available to birds for foraging, roosting and nesting, and will reduce the numbers of insects available to animals (including fish) which feed on these invertebrates. Increased penetration of sunlight may also encourage the proliferation of some undesirable plant species, which in turn could make native plant restoration more challenging. At the same time, the reduction in non-native and invasive species, as well as increased channel complexity are considered beneficial impacts of the project.

Consistent with the long-term management goals of the WMP Drainage Design Manual Figure 11-2 and as shown on Sheet V1, Appendix B of the project plans, willows, as well as any nonnative tree species, would be replaced with “native, erect, single-trunked species” such as cottonwood, maple and bay, in order to provide stormwater capacity while enhancing habitat. Native trees removed by the project would be replaced at an approximately 2:1 ratio and planted in clusters as shown in Figure 11-2, Appendix B.

BR Impact 6 Project construction will impact approximately 3.94 acres of riparian forest and riverine communities combined, and result in the removal of approximately 128 native trees, impacting the riparian habitat for wildlife.

BR-mm 11 *Prior to construction, the project proponent will retain a qualified biological monitor(s) to monitor construction and ensure compliance with Avoidance and Minimization Measures within the project environmental documents.*

BR-mm 12 *Before any activities begin on a project, a qualified biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the important vegetation and special-status resources that occur in the project area, the specific measures that are being implemented to conserve them and the boundaries within which the project may be*

accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.

BR-mm 13 *During construction, work within the creek shall be conducted when the creek does not contain flowing or standing water, if feasible. If work activities must occur when water is present in the creek channel, the contractor shall dewater the creek prior to conducting the activities.*

BR-mm 14 *Prior to any construction work beginning, including any vegetation clearing, sturdy high visibility fencing shall be installed to protect jurisdictional areas and sensitive resource areas adjacent to the work area. This fencing shall be placed so that unnecessary impacts to adjacent habitat are avoided. No construction work (including storage of materials) shall occur outside of the "Project Limits". The required fencing shall remain in place during the entire construction period and maintained as needed by the contractor.*

BR-mm 15 *During construction, the cleaning and refueling of equipment and vehicles will occur only within a designated staging area and as far from aquatic areas as feasible. At a minimum, all equipment and vehicles will be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills.*

BR-mm 16 *During construction, the biological monitor(s) will ensure that the spread or introduction of invasive exotic plant species is avoided to the maximum extent possible. When practicable, invasive exotic plants in the project site will be removed and properly disposed.*

BR-mm 17 *During construction, trash will be contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas. All vegetation removed from the construction site shall be taken to a certified landfill to prevent the spread of invasive species.*

BR-mm 18 *During construction, no pets will be allowed on the construction site.*

BR-mm 19 *Prior to construction, a comprehensive Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared that reflects the guidance of the WMP and includes the following guidelines:*

1. *Results in an improved pool to riffle ratio, reduction in invasive species, and increase of canopy cover provided by native species for Reach 10 compared to the 2002 assessment.*
2. *A 1:1 replacement ratio for temporary impacts to riverine and riparian vegetation communities.*
3. *A 2:1 replacement ratio for permanent impacts to riverine and riparian communities.*
4. *A replacement ratio for native trees and shrubs impacted by the project that will result in equal to or better habitat conditions within the project corridor as quickly as feasible.*
5. *Considers invasive species and debris removal in-lieu of a strict tree replacement ratio where appropriate.*

6. *Allows for flexibility in species to be planted so that predominately single-trunk species such as black walnut, black cottonwood, and bay laurel can be substituted for willows, for example.*
7. *Takes advantage of the bypass channels and terraces between the bypass channels and the creek to replace the ruderal and nonnative annual grassland vegetation communities with riparian and native upland ones, even in areas not directly impacted by the project construction.*

BR-mm 20 *During construction, the project will make all reasonable efforts to limit the use of imported rock. Imported material should be obtained from a source that is known to be free of invasive plant species; or the material must consist of purchased clean material such as crushed aggregate, sorted rock, or similar.*

Residual Impact. Implementation of BR-mm 7 through BR-mm 16, along with the development of plans such as the Dewatering and Diversion Plan, the Spill Prevention and Control Contingency Plan, and the Stormwater Pollution Prevention Plan which will all be prepared subsequently, will reduce potential impacts to important natural communities to a *less than significant* level. No additional measures are required.

4.3.5.3 Impact Wetland or Riparian Habitat

San Luis Obispo Creek is a perennial stream and would be considered “other waters” by the USACE. The area of other waters corresponds with the Riverine vegetation community described above, and the OHWM of the creek. During surveys for the project no off-channel, adjacent, or other wetlands were observed. Impacts to the other waters and Riparian Habitat are also described above.

4.3.5.4 Interfere with the Movement of Resident or Migratory Fish or Wildlife Species, or Factors, which Could Hinder the Normal Activities of Wildlife?

Potential impacts to fish and other wildlife have been described previously. To avoid redundancy, this section includes only a discussion of migratory avian species. Several special-status avian species such as Cooper’s hawk and non–sensitive migratory birds could nest in and adjacent to the project area. A complete list of avian species observed during biological resource surveys is included in Appendix D. The breeding season for most birds is generally from February 15 to September 1, peaking from April through June, with exceptions. Cooper’s hawk is designated as a state species of special concern. Construction is expected to begin in the dry season, approximately April 15 at the earliest. Birds nesting in the project corridor could be disturbed by the noise, dust and similar disturbances such that they abandon a nest. Further, nests could be directly impacted during tree removal, grading, and similar activities.

BR-Impact 7 Construction activities would result in impacts to nesting avian species

BR-mm 21 *To protect special-status avian species and those species protected by the MBTA, the District shall avoid vegetation clearing and earth disturbance during the typical nesting season (February 15 to September 1). If avoiding construction during this season is not feasible, a qualified biologist shall survey the area within one week prior to activity beginning on site. If nesting birds are located on or near the proposed project site, they shall be avoided until they have successfully fledged. A buffer zone of 50 feet will be placed around all non-sensitive, passerine bird species, and a 250-foot buffer will be implemented for raptor species, and all activity will remain outside of that buffer until the qualified biologist has determined that the young have fledged. Buffer reductions and/or work within non-disturbance buffer areas can be completed only with approval*

from relevant resource agencies.

Residual Impact. Implementation of BR-mm 16 will reduce potential impacts to a *less than a significant level*. Measures BR-6 through 15 will reduce indirect impacts and short-term impacts to vegetation in the project corridor that may be used as habitat for nesting birds to a *less than significant* level. No additional measures are required.

4.3.5.5 Conflict with any Regional Plans or Policies to Protect Sensitive Species, or Regulations of the California Department of Fish & Wildlife or U.S. Fish & Wildlife Service

Critical habitat was redesignated for south-central California coast steelhead by NOAA Fisheries (70 FR 52574, September 2, 2005). San Luis Obispo Creek is included in the critical habitat designation. As described above, the project would potentially directly impact steelhead during dewatering operations, and result in potential indirect temporary impacts through the short-term loss of riparian and riverine habitat, resulting in secondary in this habitat. Potential impacts and mitigation is described above. No additional mitigation is required.

4.3.6 Cumulative Impacts

Implementation of the Waterway Management Plan as well as the other projects identified in the Cumulative Development Scenario, when considered along with the proposed project, could have a significantly cumulative impact to the San Luis Obispo Creek watershed. These impacts include the temporary loss of riparian vegetation, use of heavy equipment within the riparian corridor, and in some cases the low-flow channel, as well as possible indirect impacts to wildlife along the corridor through the introduction of additional recreational uses within the corridor. However, projects that potentially directly affect San Luis Obispo Creek are generally highly regulated. The proposed project would require permits or other authorizations from regulatory agencies including the USACE, RWQCB, CDFW, USFWS, and NMFS. These agencies are responsible to authorize projects that avoid, minimize, and/or mitigate impacts to habitats, jurisdictional waters, and sensitive plant and wildlife species. The projects listed in the cumulative development scenario are also potentially subject to regulations by all of these agencies.

In addition, there are ongoing efforts by the City of San Luis Obispo, and the San Luis Obispo Land Conservancy to improve habitat value within the creek watershed – the ongoing *Arundo* removal projects, for example, as well as the upgrade to the City's Water Recycling Facility. These projects, along with the propped project enhancement activities will result in cumulative beneficial impacts to the watershed and the species potentially impacted by the proposed project, including the CRLF and steelhead. As a result, no mitigation beyond that already discussed in this EIR is required to address the project's potential contribution to cumulative impacts.

4.4 Cultural Resources

This section describes potential impacts to cultural (historic and/or prehistoric) resources that may result from the project. The information that follows relies primarily on two documents, the EIR/EIS and the Archaeological Survey Report (ASR) prepared for the project (County of San Luis Obispo 2011).

4.4.1 Methodology

The ASR prepared for the project included a records search and a pedestrian survey. The records search was conducted for all known archaeological sites, historic resources, and surveys within the project corridor (referred to as the Area of Potential Effect [APE] in the ASR). A search of the inventories for the State Historic Property Data Files, National Register of Historical Landmarks, California Points of Historic Interest, California OHP Archaeological Determinations of Eligibility, and the Caltrans State and Local Bridge Surveys yielded six property evaluations within the search radius.

The records search revealed that much of the corridor has previously been subject to cultural resources surveys between 1978 and 2008. Several surveys have been conducted along South Higuera Street, and one focused on Highway 101's right of way through the length of the project area. The creek banks have also been surveyed, twice. In all, 25 surveys have been conducted and five historic properties have been recorded within the search area. No prehistoric sites have been recorded in the project corridor.

The project corridor was visually inspected on May 5, and May 10, 2010. The limits of the APE were surveyed in several meandering transects, focusing on bare soils and exposed creek banks. All bare soils and gopher burrows were inspected for the presence of cultural materials. Ground surface visibility varied between completely obscured (asphalt areas) and approximately 30%. The majority of the survey area consisted of non-native annual grassland and riparian vegetation. Survey of the creek banks was obscured by sacrete and rubble walls, and dense riparian vegetation.

4.4.2 Existing Conditions

The project area was prehistorically inhabited by the Obispeño Chumash. The Chumash and their ancestors have inhabited San Luis Obispo County for at least 10,000 years (Greenwood 1972; Fitzgerald et al. 1998). The Northern Chumash, or Obispeño, are the northernmost Chumash speaking peoples of California and ranged from the Pacific Coast east to the coastal ranges and from the Santa Maria River north to San Simeon or beyond.

The Chumash developed a complex system of social organization rarely observed in other hunting and gathering groups in the world. The Obispeño were hunter-gatherer-fishers who resided in both ephemeral camps and permanent villages. Many of the coastal sites are easily identifiable due to their high density of shellfish remains while many of the interior sites (including sites in the project vicinity) are identified predominantly through the presence of flaked stone tool manufacture remains. The Chumash were adept at recovering not only shellfish, but also hunted small and large game, waterfowl, and gathered a large assortment of plants including acorns as a staple food. The Chumash are also world-renown for their elaborate basketry.

After the Mission system was established in 1772 in San Luis Obispo and soon after in Santa Barbara, Santa Inez, San Buenaventura, and La Purisima, Chumash populations immediately declined, resulting in near extinction of the people by the early 1900s. Today, descendants of these groups continue to live in San Luis Obispo, Santa Barbara, and Ventura Counties.

The historic period begins with Spanish exploration of California in 1542. In 1822, California became a Mexican territory and the lands of the Mission were secularized and disbanded by 1834. The County of San Luis Obispo was established in 1850, and at that time, the area to become the City of San Luis Obispo consisted of approximately 150 buildings. The City was incorporated in 1876. Also in 1876, the San Luis Obispo and Santa Maria railroad was completed between Port San Luis (then called Port Harford) and the City. The Pacific Coast Railroad terminal was located near the intersection of South Higuera and South Streets, just east of the project corridor. The railroad operated a roundhouse and warehouses until the 1930s. The San Luis Lumber company was serviced by the railroad and occupied the entire block bounded by Higuera, Beebee, South, and High Streets.

The Smith and Waites Planing Mill and Machine Shop was established in 1883 where Haywood Lumber currently exists northwest of the intersection of South Higuera Street and South Street east of the creek. Construction of the railroads brought immigrants from China and Great Britain. Dairying was an important industry in the County in the early 20th century, attracting farmers of Italian-Swiss descent.

Later, Japanese farm laborers arrived to the City, and settled in the area of lower Higuera, at South Street. A cluster of six wood frame houses on Brook Street constitute the only remaining farm labor camp in the City. This area, in the 1930's, was referred to as the "Japanese Village" and on the pre-1957 Sanborn maps, Brook Street was known as Eto Street. South Higuera Street served as major thoroughfare even after the Pacific Coast Railroad was closed. Higuera was (and still is today) lined with automobile repair shops and service stations. Over time, the Mid-Higuera Street corridor between Madonna and Marsh became less residential and more industrial. Today, very few homes remain in this area.

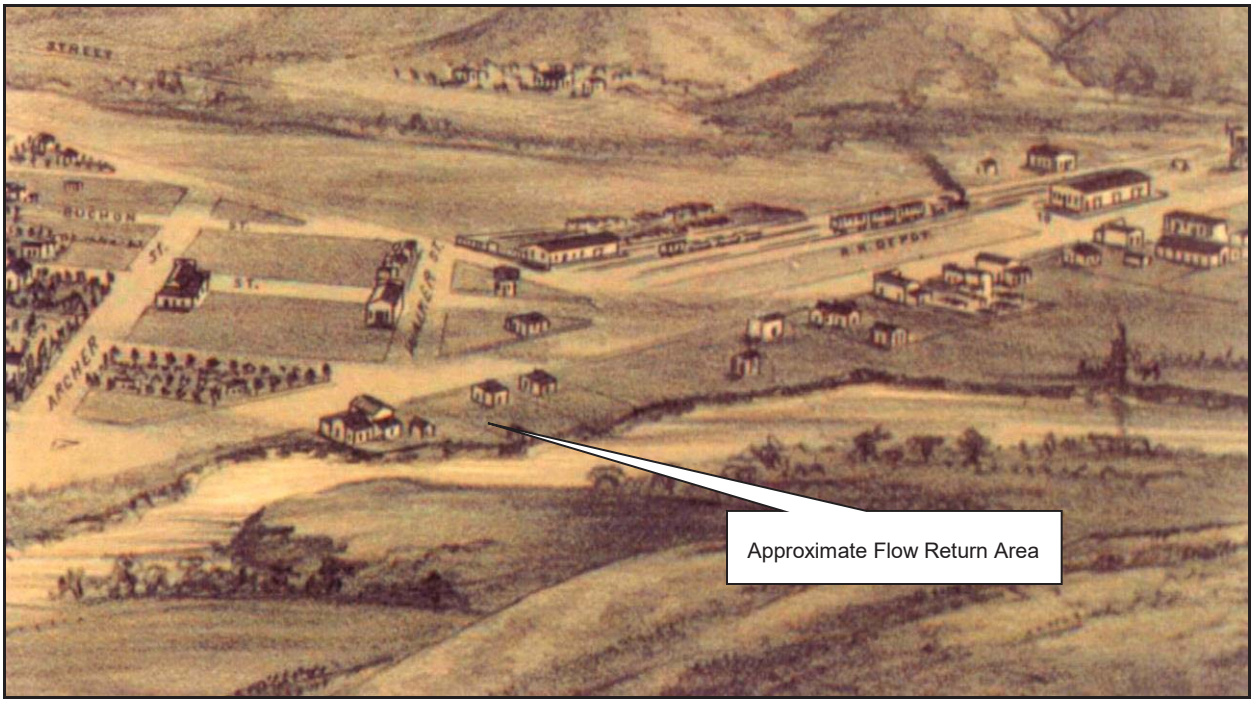


Figure CR-1 – Birds Eye View of San Luis Obispo, 1877

4.4.3 Regulatory Setting

4.4.3.1 State Regulations

California Environmental Quality Act

CEQA (Public Resources Code 21000 et seq.) requires lead agencies to consider the potential effects of a project on significant historical and archaeological resources. Significant impacts on such resources are to be avoided or mitigated to less than significant levels. Other state laws govern actions affecting cemeteries and human remains.

State historic preservation regulations affecting this project include the statutes and guidelines contained in CEQA (Public Resources Code Sections 21083.2 and 21084.1 and Section 15064.5 of the CEQA guidelines). CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. CEQA Guidelines provides criteria for determining the significance of a cultural resource. This section states the following:

"Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code §5024.1, Title 14 CCR, Section 4852) including the following:

> *(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;*
>
> *(B) Is associated with the lives of persons important in our past;*
>
> *(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or*
>
> *(D) Has yielded, or may be likely to yield, information important in prehistory or history."*

Assembly Bill 52

With passage of Assembly Bill 52 the State of California recognized, among other things, that:

"California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated. Because the California Environmental Quality Act calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources."

AB 52 therefore requires lead agencies to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project. When responding to the lead agency, the California Native American tribe shall designate a lead contact person. California Native American tribes have 30 days to request consultation regarding possible significant effects that implementation of the proposed project may have on tribal cultural resources. AB 52 notifications began on January 6, 2016. The response period concluded on February 8, 2016. A number of responses were received, however, no previously unknown resources were identified by respondents.

4.4.3.2 City of San Luis Obispo Regulations

The City of San Luis Obispo General Plan, Conservation and Open Space Element (2006) includes a number of policies intended to preserve cultural resources. These polices include:

3.5.4. Archaeologically sensitive areas. Development within an archaeologically sensitive area shall require a preliminary site survey by a qualified archaeologist knowledgeable in Native American cultures, prior to a determination of the potential environmental impacts of the project.

3.5.5. Archaeological resources present. Where a preliminary site survey finds substantial archaeological resources, before permitting construction, the City shall require a mitigation plan to protect the resources. Possible mitigation measures include: presence of a qualified professional during initial grading or trenching; project redesign; covering with a layer of fill; excavation, removal and curation in an appropriate facility under the direction of a qualified professional.

3.5.6. Qualified archaeologist present. Where substantial archaeological resources are discovered during construction or grading activities, all such activities in the immediate area of the find shall cease until a qualified archaeologist knowledgeable in Native American cultures can determine the significance of the resource and recommend alternative mitigation measures.

3.5.7. Native American participation. Native American participation shall be included in the City's guidelines for resource assessment and impact mitigation. Native American representatives should be present during archaeological excavation and during construction in an area likely to contain cultural resources. The Native American community shall be consulted as knowledge of cultural resources expands and as the City considers updates or significant changes to its General Plan.

4.4.4 Significance Criteria

Appendix G of the CEQA Guidelines provides guidance in determining a project's impact on cultural resources. This guidance has been used to develop the significance criteria for cultural resources. Specifically, the project would have a significant impact on cultural resources if:

1. The project causes a substantial adverse change in the significance of an historical resource. This would include physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired;
2. The project causes a substantial adverse change in the significance of an archaeological resource;
3. If the project directly or indirectly destroys a unique paleontological resource or site or unique geologic feature; or
4. If the project disturbs any human remains, including those interred outside of formal cemeteries.

The project will disturb recent alluvium deposits and therefore no paleontological resources would be impacted. Further, there are no impacts expected to human remains. The section that follows considers historic and prehistoric resources.

4.4.5 Impacts and Mitigation Measures

This section describes potential impacts and is organized based on the significance criteria #1 and #2 outlined above.

4.4.6 The project causes a substantial adverse change in the significance of an historical resource

The potential for encountering buried historical deposits is high throughout the project area, but especially at the Marsh Street terrace. Evaluation of other projects in the vicinity have yielded

buried historical trash dumps along the creek. The discussion of impacts and mitigation measures that follows is focused on historical resources and organized by project component, or sub-component, as applicable. The place names in the ASR and the current project description vary at times, so names are cross-referenced in parentheses, as necessary.

Flow Return (Marsh Street Terrace)

The Flow Return component is the most sensitive area for buried historical resources. The project would include excavating the majority of the northern half of the parcel to construct the flow return. Excavation would occur from the eastern edge of the parcel to approximately the bank of the creek, where additional grading for a creek bench would occur.

The location is currently undeveloped; however, Sanborn Fire Insurance maps show that this was a residential neighborhood on the fringe of the railway district beginning with the first structure dating to at least 1891. Over the next 100 years, the following residences and businesses existed on these lots: residences (1891, 1909, 1926, 1930's-1940's), automobile service station, auto repair shop (1926, on "pilings over the creek"), stone cutting business (1931), leather shop, possible restaurant, beer warehouse, laundry facility, auto repair, motorcycle repair shop, and a plumbing business. Further, a structure can be seen in this location on the 1877 "Birds Eye View of San Luis Obispo" (refer to Figure CR-1) that was demolished by the time the 1891 Sanborn map was drawn.

At the turn of the century, trash pits and privies would have been located away from the homes, toward the creek banks. Significant intact, but buried, deposits may be encountered during construction.

Pinch Point (Madonna Bench)

This portion of the project would involve the excavation of the creek banks on both sides of the creek, up to approximately 240 feet on the western side. When the ASR was prepared, the project included construction of a bench, approximately 7 feet in depth, on the western creek bank, only, although it would span from the Marsh Street Bridge to the Bianchi Lane Bridge, which is approximately 640 feet. The area close to Bianchi Lane has been determined to be sensitive in the past for historic resources.

Bianchi Bypass (Bianchi Lane Terrace)

This portion of the project is located on the west side of the creek and would involve construction of the bypass channel approximately 6 to 8 feet deep from the Bianchi Lane Bridge south approximately 800 feet. The Bianchi Bypass includes two City-owned open space parcels that are located between Highway 101 and the creek. No structures are currently on the property. Sanborn maps did not cover this area. Historical aerials from 1937 show this area as undeveloped. The 1949 aerial shows grading or fill at this location, likely related to the construction of Highway 101. Surface survey revealed only modern trash related to homeless encampments along the creek bank.

Bianchi Lane Bridge

The Bianchi Lane Bridge is a single-span steel bridge with a date stamp of 1905. This bridge was originally a railroad bridge near Elks Lane that was converted to an automobile bridge and moved to its current location around 1940. It was evaluated by Caltrans for National Register significance and found to be ineligible.

South Street Bench

This portion of the project would involve the construction of a bench, approximately 8 feet deep and 200 feet long, located on a narrow strip of City-owned open space property that is located between the creek and the Hayward Lumber Yard at the western end of South Street. This specific area is not covered by the Sanborn maps, but areas immediately to the east are. A small dwelling was located on the north side of South Street approximately 100 meters east of San Luis Obispo Creek in 1888. Trash dumps associated with this structure may be found buried closer to the creek. The commercial property immediately adjacent to this proposed bench was surveyed in 1998 and did not show any surface indications of cultural resources. A buried historical trash dump was previously discovered at the end of South Street just about 10 meters south of this bench location.

South Street Bypass

The South Street Bypass would be approximately 10 feet deep and 600 feet long, parallel to and west of the existing creek. The South Street Bypass is situated on City-owned open space property located between Highway 101 and the creek. The west side of the creek is generally less sensitive than the east, where the commercial development and railway yard were located. There is no evidence from the historical aerial photographs dating back to 1937 that this parcel was ever developed. This area appears to be heavily impacted (and possibly filled) from the construction of Highway 101.

Impact CR-1 Excavation of the project components, including, but not limited to the Flow Return, the Pinch Point, and the Bypass channels, have the potential to impact buried historical resources.

CR-mm-1 *Prior to construction, a detailed excavation and monitoring plan shall be prepared and implemented by a qualified historical archaeologist. The monitoring plan should specify the following:*

1. *A description of preconstruction exploratory excavations at the Flow Return;*
2. *A description of how and where the monitoring will occur;*
3. *Description of monitoring intensity at different project locations;*
4. *A description of the resources anticipated to be discovered;*
5. *A description of the circumstances under which construction will be halted;*
6. *Description of the procedures to be followed in the event significant resources are found;*
7. *Personnel involved in monitoring activities; and*
8. *Arrangements for curation and a description of those materials that would qualify for curation.*
9. *Procedures to be implemented in the event there is an unanticipated historical or prehistoric discovered within the project area during construction to ensure compliance with State and local code.*

Residual Impact. After implementation of MMCR-1, residual impacts to cultural and paleontological resources would be *less than significant*.

4.4.7 The project causes a substantial adverse change in the significance of an archaeological resource.

No prehistoric archaeological sites were discovered in the project's APE. Furthermore, the project excavation areas are located within the creek banks that would have been active floodplain (and therefore, unattractive for human settlement) until channelization by urban uses. The potential for prehistoric buried resources is very low in this area. *No impacts* will result from the project and no measures other than those already required by City code are required.

4.4.8 Cumulative Impacts

Implementation of the proposed project, combined with other reasonably foreseeable projects within the creek watershed could result in the cumulative discovery and/or disturbance of cultural resources. Redevelopment of the Mid-Higuera corridor could impact cultural resources. The proposed project would not impact any known prehistoric resources and therefore would not contribute to cumulative impacts to prehistoric resources.

The project would potentially impact historic resources, although mitigation measures have been recommended to reduce project-specific impacts to less than significant levels. This, along with the cultural resources avoidance and minimization measures in the WMP, the Mid-Higuera Enhancement Plan, and in the City's General Plan and codes which would be applied to future projects, ensure that the proposed project would have a *less than significant* cumulative contribution to cultural resources.

4.5 Hazards and Hazardous Materials

This sections describes the hazards and hazardous materials conditions that may affect or be affected by the project. The information in this section summarizes three reports prepared for the project, including the *Phase I Environmental Site Assessment and Preliminary Phase II Subsurface Assessment Activities for Properties Associated with Proposed Mid-Higuera By-Pass Project (Padre 2010)*, and the Report of Findings of the Supplemental Soil Assessment Activities for the Mid-Higuera Bypass Project (Padre 2016). These documents are available for review in their entirety from the District.

4.5.1 Existing Conditions

4.5.1.1 Phase I Environmental Site Assessment Results

The objective of the Phase I Environmental Site Assessment (Phase I) prepared for the project was to

"…evaluate whether current or previous land use at or adjacent to the Project Site may have involved, or resulted in the use, storage, disposal, treatment, and/or release of hazardous substances to the environment, resulting in the determination of a Recognized Environmental Condition (REC) associated with the various the Project Site properties."

A REC is defined by ASTM E-1527-05 as the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products into structures on the property or into ground, groundwater, or surface water of the property.

After a review of available resources, the following conclusions were made regarding the potential for the presence of hazardous materials within the project area. In some cases, different terms were used for the project components. In these cases, the current name is provided first and the name used in the technical report is included in parentheses.

Flow Return (Marsh Street Terrace)

A former gasoline service station was located on a portion of this component from the 1950s to the 1990s. The property had three underground storage tanks (USTs), which were removed in the 1980s; however, supporting documentation was not available regarding the soil conditions surrounding the USTs upon removal. Additionally, other portions of this component (between 316 and 350 Higuera Street) have historically been occupied by auto repair facilities, a possible dry cleaner/laundry facility, and a stone cutting business (circa 1920s). Off-site uses that could affect this component include a former PG&E substation with a listed open Leaking UST case, and a former manufactured gas plant with continuing investigation/remediation pending. Both of these uses were located immediately east of the Flow Return, across Higuera Street.

Madonna Bench

This bench would be excavated on the eastern side of the Madonna Construction Yard property, between the channel and the structures. The property has maintained up to four USTs through the early 2000s, and a closed LUST case was documented for the properly. Additionally, the aboveground storage of numerous types of chemicals and petroleum products has been documented, and the property was generally used as a heavy equipment construction and maintenance yard circa 1950s to the present.

Bianchi Bypass and Bridge (Bianchi Lane Terrace)

Based on a review of aerial photographs, it appears that undocumented fill material may have been placed in the area of the proposed bypass. Additionally, the Bianchi Bridge and Bypass area appears to have been used as a heavy construction equipment storage area associated with the Madonna Construction Yard.

South Street Bypass and Bench

The proposed bench between the Bianchi Bypass and South Street Bypass is located immediately adjacent to a listed UST and closed LUST case (34 South Street). The LUST was removed, impacted soil was remediated, and the LUST case was closed with the SLO Fire Department. Additionally, this property was documented to have been a laundry facility or uniform care service facility prior to the 1990s. The northern-most area of the bench South Street Bench is also located adjacent to a property known to have maintained an “oil shack” with shallow soil documented to contain petroleum hydrocarbons exceeding SLO Fire Department cleanup goals. However, the oil shack and the shallow soil in the area were reportedly removed approximately 15 to 20 years ago. The Phase I did not identify any potentially hazardous conditions associated with the properties included as part of the South Street Bypass.

4.5.1.2 Preliminary Phase II Environmental Site Assessment Results

In an effort to better characterize the potential hazardous materials issues in the project area identified in the Phase I, the County proceeded with preliminary Phase II (subsurface sampling) hazardous materials assessment. The preliminary Phase II work included the development of the nine direct-push drill holes, seven hand augured drill holes, and the collection of several soil samples from the surface/shallow soil zone. The results of the preliminary Phase II work are summarized below:

Flow Return

A total of 11 drill holes were advanced in this area to assess subsurface soils for the presence of petroleum hydrocarbons associated with a former gasoline service station and those that may presence or evidence of impacts that may be associated with past industrial activities, auto repair shops, and possible laundry/dry cleaning facility. Based on the analytical results and field observations, there was no indication of fuel or waste oil releases to the subsurface soil from the former gasoline station USTs or associated product piping.

At one drill hole on the southern portion of this component (HA-3), an approximately 1-foot layer of black sandy soil with ash or slag and brick fragments was encountered beginning at a depth of 2 feet below surface at drill hole location HA-3. Soil samples collected indicated concentrations of PAHs exceeding the Residential RSLs and TPH exceeding SLOFD cleanup goals. The vertical extent of PAH and TPH-containing soil within drill hole HA-3 is estimated to approximately 3 feet below surface. The lateral extent of the ash/slag layer could not be evaluated during the assessment.

Madonna Bench

Four shallow zone (within upper 1-foot) soil samples were collected and chemically analyzed to evaluate for the presence of petroleum hydrocarbons and California-regulated metals associated with historical chemical use and storage and the maintenance of construction equipment at this area of the project site. TPH was indicated in all four samples at concentrations exceeding the SLOFD action level of 100 mg/kg. Additionally, soluble lead was indicated at a concentration exceeding the STLC, which renders the soil as California

Hazardous for disposal criteria should the soil be disposed at a landfill. The vertical and lateral extents of TPH and STLC lead containing soil were not characterized.

Bianchi Bypass and Bridge (Bianchi Lane Terrace)

Based on the field observations and analytical results from five collected soil samples, TPH was indicated at a concentration exceeding the SLOFD action level in one sample collected at a depth of two feet below surface. The sole, shallow zone TPH concentration detection may have been a result of asphalt debris associated with an old, weathered asphalt road observed within the area assessed.

South Street Bench

Two drill holes were advanced within this area of the project site. Based on the field observations, there was no indication of TPH-containing soil at the drill hole locations. A third drill hole originally proposed was not advanced because upon further review, the proposed the bench area would not extend into the area of the former “oil shack” on the adjacent property to the north.

Lead and Naturally Occurring Asbestos Sampling

Surface soil samples were collected near Hwy 101 on the northern-most area of the South Street Bypass and within the Bianchi Lane Bypass nearest Hwy 101. The samples were chemically analyzed for lead and naturally occurring asbestos. The lead concentrations did not exceed the Residential RSL and asbestos was not detected in the two samples collected.

4.5.1.3 Subsequent Phase II Environmental Site Assessment Results

In April 2016 a subsequent Phase II environmental assessment was performed. The intent of the subsequent assessment was to further characterize the lateral and vertical extent of chemicals of potential concern (COPC) in two project areas, the Flow Return Area and the north end of the Bianchi Bypass. A total of 15 drill holes were made and soil samples collected for testing at appropriate depths. Forty-three soil samples were collected.

Flow Return Area

Subsurface soil encountered in this area primarily consisted of fill material including large granitic gravel, concrete debris, brick, and asphaltic clasts contained within a sandy soil. The large gravel and concrete debris made it impossible to advance the manual hand auger drill below one to two feet at the locations of several drill holes.
COPCs identified at the Flow Return Area include lead and several PAH constituents within the upper three to five feet of soil and laterally distributed across most of the area, including the proposed bench area.

Lead, at concentrations in excess of the ESL, is located primarily within the northwestern area of the proposed flow return and the northern portion of the proposed bench, with the maximum vertical extent estimated at a depth of approximately four feet at both areas. Lead, at concentrations in excess of the TTLC and/or the STLC (California-hazardous), was identified within the northwestern area of the proposed flow return and northeastern area of the proposed bench.

PAH constituents exceeding the ESLs are generally widespread throughout both the flow return and bench areas. The estimated average depth of the contamination is approximately three feet at both the flow return and bench areas. However, the vertical extent was not defined at the location of eight drill holes advanced at both the flow return and bench areas due to concrete and/or large gravel encountered during the course of the hand-auger.

Based on the preliminary and subject supplemental assessment data, the report concluded that approximately 1,810 cubic yards of soil are impacted with PAH constituents and lead concentrations exceeding their respective ESLs. Of the estimated 1,810 cubic yards, approximately 460 cubic yards of soil are additionally impacted with lead exceeding the TTLC and/or STLC values and would be classified as California-hazardous waste for disposal purposes.

Bianchi Bypass/Bridge

A total of eight soil samples were chemically analyzed for the presence of TPH (diesel fuel and motor oil ranges) from this area. None of the soil samples with reportable concentrations of TPH (both diesel fuel and motor oil ranges) exceeded the respective ESLs. A total of eight soil samples collected were chemically analyzed for the presence of California-regulated metals. None of the eight soil samples chemically analyzed for California-regulated metals were indicated in excess of their respective established TTLC concentration. A total of seven soil samples were further chemically analyzed by STLC and/or TCLP methods for soluble chromium and/or nickel. Soluble chromium and nickel concentrations did not exceed their respective STLC values.

4.5.2 Regulatory Setting

Hazards and hazardous material management is subject to multiple laws, policies, and regulations at all levels of government. The agencies responsible for enforcing applicable laws and regulations develop and enforce standards for the handling and cleanup of specific materials determined to pose a risk to human health or the environment. The enforcing agency at the local level for the proposed project area is San Luis Obispo County Health Agency, Division of Environmental Health. Enforcement agencies at the State level include two branches of the California Environmental Protection Agency (CalEPA), the Department of Toxic Substances Control (DTSC), and the RWQCB. The Federal enforcement agency is the EPA. A description of agency involvement in management of hazardous materials is provided below.

4.5.2.1 Federal Policies and Regulations

The EPA is the Federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials; in addition, the EPA provides oversight and supervision for some site investigation/remediation projects. For disposal of certain hazardous wastes, the EPA has developed land disposal restrictions and treatment standards. Legislation includes the Resources Conservation and Recovery Act of 1986 (RCRA), the Superfund Amendments and Reauthorization Act of 1986 (SARA), and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). The Federal regulations are primarily codified in Title 40 of the Code of Federal Regulations (CFR). These laws and regulations include specific requirements for facilities that handle, generate, use, store, treat, transport, and/or dispose of hazardous materials, as well as for investigation and cleanup of contaminated property.

4.5.2.2 State Policies and Regulations

Regional Water Quality Control Board

The project site is located within the jurisdiction of the Central Coast RWQCB. The RWQCB is authorized by the California Porter-Cologne Water Quality Act of 1969 (“the Porter-Cologne Act”), to implement water quality protection laws. When the quality of the groundwater or the surface waters of the State is threatened, the RWQCB has the authority to require investigations and remedial actions. In addition, the Central Coast RWQCB is the State regulatory agency that oversees the local Leaking Underground Fuel Tank (LUFT) program, which was established to

regulate underground fuel tanks. Under the LUFT program, local implementing agencies are required to permit, inspect, and oversee monitoring programs to detect leakage of hazardous materials.

Department of Toxic Substances Control (DTSC)

In California, the DTSC, a branch of CalEPA, works in conjunction with, or in lieu of, the EPA to enforce and implement specific hazardous materials laws and regulations. California has enacted its own legislation pertaining to the management of hazardous materials.

California Occupational Safety and Health Agency

Worker health and safety in California is regulated by the Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA). Cal/OSHA standards and practices for workers dealing with hazardous materials are contained in Title 8 of the CCR, and include Division 1, Chapter 4, Subchapter 7 (General Industry Safety Orders) and Section 5192.

Hazardous Waste and Substance Site List (Cortese List)

The Cortese List is a compilation by the State of California Office of Planning and Research of potential and confirmed hazardous waste and substance sites throughout California. The Cortese list includes tank leaks compiled by the State Water Resources Control Board (SWRCB), abandoned hazardous waste sites by the DTSC, California Bond Expenditure Plan (BEP) and solid waste disposal sites with known migration of hazardous waste. A total of 13 properties within a one half-mile radius of the project were identified on the Cortese list. These properties are described in the Phase 1 (Padre 2010).

4.5.2.3 Local Policies and Regulations

San Luis Obispo County Air Pollution Control District

The federal and state Clean Air Acts are enforced locally by the San Luis Obispo County Air Pollution Control District (SLOAPCD). The SLOAPCD regulates potential discharges of criteria air pollutants (including organic compounds that contribute to ozone formation) and toxic air contaminants.

San Luis Obispo County Health Agency

Pursuant to State law and local ordinance, the Division of Environmental Health of the San Luis Obispo County Health Agency conducts inspections to ensure proper handling, storage, and disposal of hazardous materials and proper remediation of contaminated sites. In addition, the Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act, [i.e., Chapter 6.95 of Division 20 of the California Health and Safety Code]) requires that any business that handles or stores hazardous materials prepare a Hazardous Materials Business Plan. Under this law, businesses are required to submit inventories of on-site hazardous materials and wastes and the locations where these materials are stored and handled. This information is collected and certified by San Luis Obispo County Environmental Health Department for emergency response purposes. There are no cities within San Luis Obispo County that have adopted and implemented their own hazardous materials programs in lieu of the County program; however, the City of San Luis Obispo Fire Department is a participating agency with San Luis Obispo County.

4.5.3 Significance Criteria

Appendix G of the CEQA *Guidelines* states that a project would normally have a significant impact if it would create a potential health hazard or involve use, production, or disposal of

materials that pose a hazard to people, animal, or plant populations in the area affected. For the purposes of this analysis, the questions to be asked include:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
6. 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;
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
8. 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.

As identified in the Initial Study (refer to Appendix A), questions 3 through 8 are not applicable to the proposed project. The project also does not propose routine transport, use, or disposal of hazardous materials, and therefore question 1 is not relevant to the following discussion.

4.5.4 Impacts and Mitigation Measures

The following includes a discussion of the relevant significance criteria from Appendix G.

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

Based on the site assessment reports prepared for the project, excavation proposed in the Flow Return area and at the “Madonna Bench”, which is downstream and on the west side of the channel, will encounter soils/material that should be treated as a hazardous material. Constituents in these materials may include elevated levels of lead and petroleum-based products. It can be assumed that at least approximately 410 cubic yards of material (approximately 40 truckloads) will need to be hauled to an appropriate disposal facility. During excavation construction personnel could be exposed to the hazardous materials, or loose soil could potentially erode or be deposited in the creek channel. In addition, if trucks do not properly secure the hazardous material, the transport of the soil could potentially expose residents to hazardous materials during the hauling process.

Given the long history of commercial use in the area, despite the substantial testing that has occurred, there remains a potential for as yet undiscovered contaminated soil to be encountered during construction.

HAZ Impact 1 During excavation of the project components construction personnel and the local environment may be exposed to hazardous materials that exist in the soils.

Haz-mm-1 *Prior to initiation of construction, the District shall submit to the City of San Luis Obispo Fire Department a Construction Materials Management Plan (CMMP). The CMMP plan shall be implemented throughout construction. The CMMP shall at minimum present an overview of the procedures and protocols that will be utilized during the project to safely and appropriately recover, handle, characterize, store, transport, and dispose of any contaminated materials encountered during construction of the project. In the event that hazardous materials are encountered during excavation activities, the contaminated soil shall be excavated to the extent necessary to safely construct the project.*

Residual Impact. Haz-mm-1 would require that the District prepare a CMMP that would address the handling of known and potentially encountered hazardous materials. The CMMP would describe how contaminated materials should be separated from the other materials, what kind of containment would be required (i.e. tarping, barrels, etc.) and what human safety measures, such as dust control and handling procedures should be implemented to minimize exposure. The CMMP would be reviewed by the two local agencies with the responsibility for regulating hazardous materials. This measure would reduce potential impacts to a *less than significant* level. No additional measures are required.

4.5.5 Cumulative Impacts

Potential hazards in this EIR are location-specific to the extent that they may result in significant impacts on the localized environment, but they are not “cumulative” in the sense normally applied in CEQA documents. Further, the impacts identified in this section are associated with relatively short-term construction activities and the ongoing clean-up of contamination and decommissioning of the Marine Terminal will reduce potential exposure to hazards during construction. The mitigation measures that have been identified for the proposed project would apply cumulatively as well. Cumulative impacts would be *less than significant*. No additional mitigation is required.

4.6 Hydrology / Water Quality

This section includes a discussion of local flooding and drainage conditions, and factors affecting water quality such as erosion and sedimentation. The section draws from previous analysis of the watershed, including the EIR/EIS and the Project Report Design Review (Wallace Group, 2014).

4.6.1 Existing Conditions

The overall hydrologic conditions of the San Luis Obispo Creek watershed are described in detail in the EIR/EIS and Waterway Management Plan (WMP). The project is located entirely within an area identified as Reach 10. The northern portion of the project corridor is approximately 500 feet downstream of the confluence of Stenner and San Luis Obispo creeks. Reach 10 is described in the WMP as follows:

"Reach 10 is a 1.2-km stretch extending from the Madonna Road Bridge upstream to the confluence with Stenner Creek. This reach was also surveyed in 1997 as part of the Phase I studies. For 125 meters upstream of the Madonna Road Bridge the steep west bank is being undercut at the toe, potentially threatening the Highway 101 roadway base fill. Moving upstream, the outside of the next meander bend is protected by a mixture of rip-rap, gabions and grouted rock. Upstream of this is a 100-meter stretch of relatively undisturbed channel before the creek bends back to the east. The outside of this bend, which is protected by sacrete, runs closely alongside Highway 101. The west bank on the upstream edge of the sacrete is over-steepened and could result in gradual failure of the sacrete.

The Hayward Lumber yard, which was repaired in 1999 as part of the Phase I program is 180 meters upstream of the sacrete wall. Approximately 50 meters upstream of the Hayward Lumber is the Bianchi Lane Bridge. On the west bank directly upstream of this bridge, there are a series of culverts that empty into the creek from the top of the bank. The flows from these culverts are creating gullies, which will continue to widen and may eventually jeopardize the bridge foundation. Between the Bianchi Bridge and the Marsh Street Bridge upstream, the channel is straight with steep moderately vegetated banks. Portions of the west bank in this 200-meter stretch show signs of incipient erosion. Between the Marsh Street Bridge and the confluence with Stenner Creek, SLO Creek passes under another small bridge and through a straight stretch of well-vegetated trapezoidal channel. Channel gradient steepens in this area."

4.6.1.1 Local Flooding and Drainage

San Luis Obispo Creek, between Marsh Street and Madonna Road, has flooded six times in the last 40-50 years (Questa 2009). The flooding occurs for a number of reasons, including the creek cross-section is narrow in this area, the floodplain is heavily developed on the eastern side of the creek and the Marsh Street Bridge and the Bianchi Lane Bridge can act as constriction points. During flood events the water level in the creek, immediately north of the Marsh Street Bridge, rises above the top of the creek bank during periods of heavy rain. The creek water subsequently flows into the adjacent streets, damaging public and private property.

The Mid-Higuera area of San Luis Obispo creek has a large upstream watershed, including the Stenner Creek and Brizzolara Creek tributaries. A comprehensive watershed model for San Luis Obispo Creek was developed as part of the WMP. The peak flows derived through the WMP model are the basis for analysis of the Mid-Higuera project. Peak flows for this section of San Luis Obispo Creek are summarized in Table HWQ-1.

Table HWQ-1. San Luis Obispo Creek Peak Flows

Return Interval (year)	Runoff Rate (cfs)
10	7,769
25	9,676
100	12,501

Per the WMP, flow in the creek can respond very quickly to short high intensity rainfall bursts, and floods in the creek tend to be of high magnitude but relatively short duration. Figure HWQ-1 shows the 100-year flood plain in the project area. The floodplain includes nearly the entire project area and surrounding neighborhoods.

4.6.1.2 Water Quality

The issue of surface water quality is important because of the value of the creek for several endangered or threatened plant and animal species. The Regional Water Quality Control Board (RWQCB) has identified multiple beneficial uses for the creek, including present and potential beneficial uses for municipal supply, agricultural supply, groundwater recharge, recreation, wildlife habitat, warm and cold fresh water habitat, migration of aquatic organisms, spawning, reproduction and/or early development of fish, and commercial and sport fishing (City of San Luis Obispo 2014).

Surface water entering watercourses from undeveloped areas usually travels over vegetative cover, and erosion and sedimentation is a slow, gradual process. Urbanized areas typically contain pollutants on the ground surface that are harmful to water quality. These include heavy metals, hydrocarbons, detergents, fertilizers, and pesticides that originate from vehicle use and commercial and residential land use activities. For the most part, these pollutants are associated with sediments that collect on roadways and are flushed into the creek system during construction or by rainfall. Construction activities can also create erosion and cause sediment to be transported off-site by surface water runoff. Therefore, water quality depends mainly on the hydrologic characteristics of the drainage basin, the makeup of the soils in the watershed, and sources of pollution in the watershed.

The RWQCB has indicated that water quality in the creek is generally good, however, nitrogen and pathogen levels periodically exceed the Total Maximum Daily Limits (TMDL) established (RWQCB 2013). The largest contributor to the nitrate issues are agricultural operations upstream and downstream of the City limits and the City's Water Recycling Facility. Water quality monitoring is conducted regularly throughout the watershed, with the nearest location on Stenner Creek upstream of the project area in downtown San Luis Obispo.

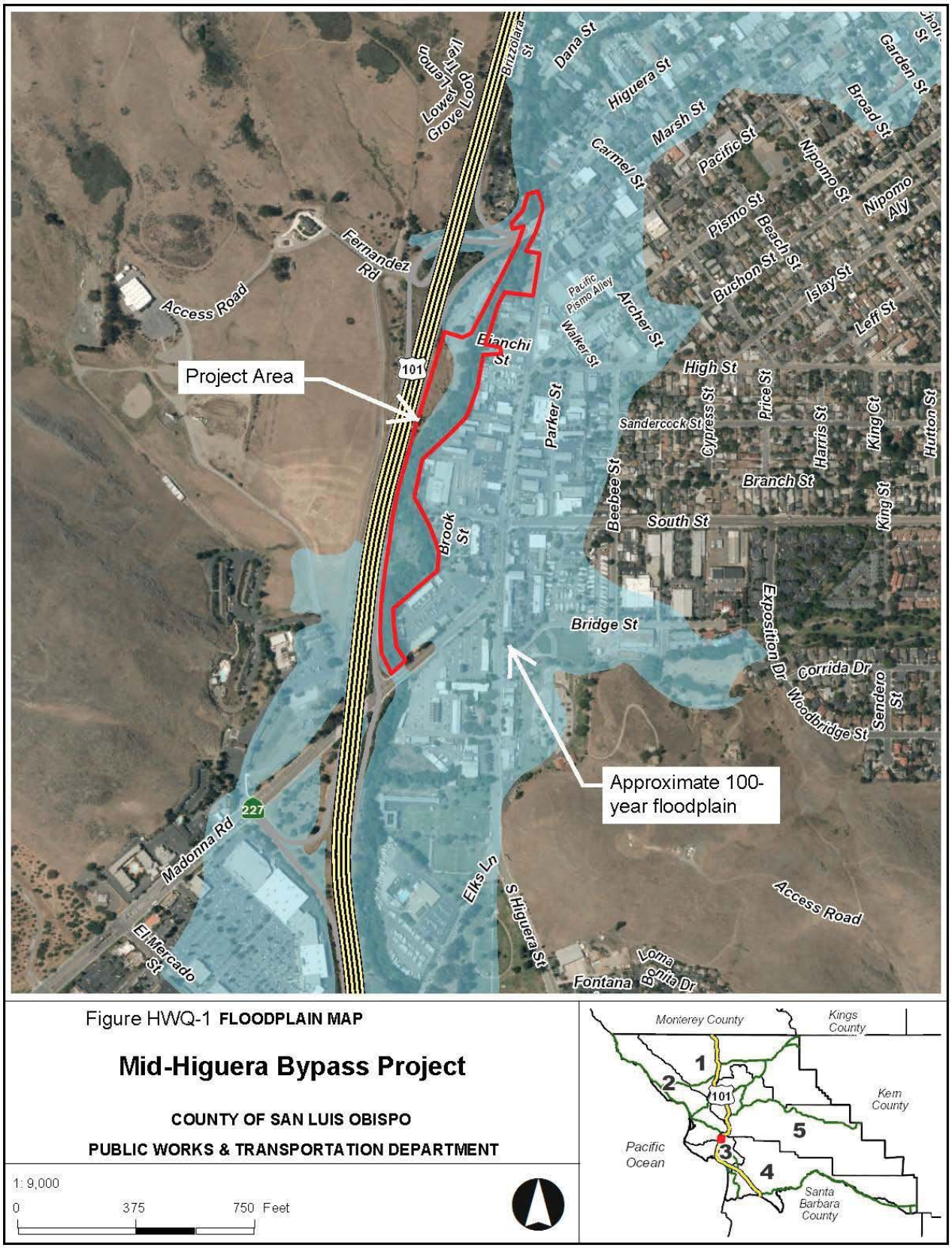


Figure HWQ-1 **FLOODPLAIN MAP**

Mid-Higuera Bypass Project

COUNTY OF SAN LUIS OBISPO

PUBLIC WORKS & TRANSPORTATION DEPARTMENT

4.6.1.3 Regulatory Setting

4.6.1.3.1 Federal Regulations

The Clean Water Act

The Clean Water Act (CWA) of 1972 establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulates quality standards for surface waters. Under the CWA, the EPA has implemented many pollution control standards for the industry along with water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless the EPA authorized a National Pollutant Discharge Elimination System (NPDES) permit.

Federal Emergency Management Agency Flood Zones

The Federal Emergency Management Agency (FEMA) has delineated both special hazard flood areas and risk premium flood zones applicable to individual communities. The Flood Insurance Rate Maps help private citizens and insurance companies locate properties in flood risk areas, aid lending institutions when making loans, and administer floodplain management regulations in order to mitigate flood damage. The majority of the project site is located within the 100-year floodplain, and has at least a 1% annual chance floodplain. The proposed project may alter the existing FEMA flood limit delineations within the project area.

4.6.1.3.2 State Regulations

Under Section 401 of the Clean Water Act, applicants for a federal license or permit such as a Section 404 Permit must obtain certification from the state (RWQCB), or a waiver of certification, that the activity would not adversely affect water quality.

In 2013 the Central Coast Region RWQCB adopted Resolution Number R3-2013-0032 regarding Post-Construction Stormwater Management Requirements intended to focus on discharges that threaten beneficial uses and to require implementation of Best Management Practices to reduce stormwater pollutant discharges to the maximum extent practicable and protect water quality and beneficial uses.

4.6.1.3.3 City of San Luis Obispo Regulations

City of San Luis Obispo Engineering Standards. Per the City's recently prepared Land Use and Circulation Element Programmatic Environmental Impact Report, current Engineering Standards for the City include the following requirements:

- All new development or redevelopment shall comply with the criteria and standards set forth in the Waterways Management Plan – Drainage Design Manual, applicable area specific plans, and the Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region, adopted by the Central Coast Regional Water Quality Control Board. Where requirements conflict, the stricter shall apply.
- Stormwater Control Plan, and Operation and Maintenance Plan are required prior to final approvals.
- Projects with pollution generating activities and sources must be designed to implement operation or source control measures consistent with recommendations from the California Stormwater Quality Association Handbook for New Development and Redevelopment or equivalent, including: a) Accidental spills or leaks, b) Interior floor

drains, c) Parking / storage areas and maintenance, d) Indoor and structural pest control, e) Landscape / outdoor pesticide use, f) Pools, spas, ponds, decorative fountains and other water features, g) Restaurants, grocery stores, and other food service operations, h) Refuse areas, i) Industrial processes, j) Outdoor storage of equipment or materials, k) Vehicle and equipment cleaning, repair, and maintenance, l) Fuel dispensing areas, m) Loading docks, n) Fire sprinkler test water, o) Drain or wash water from boiler drain lines, condensate drain lines, rooftop equipment, drainage sumps, and other sources, p) Unauthorized non-stormwater discharges, and q) Building and grounds maintenance

- Design should prevent water from contacting work areas, prevent pollutants from coming in contact with surfaces used by stormwater runoff, or where contact is unavoidable, and treat stormwater to remove pollutants.
- Operations and maintenance activities required to achieve Source Control are to be included in the Operation and Maintenance Plan submitted for approvals and recorded with the property as required by ordinance.

4.6.1.3.4 Waterway Management Program

The WMP, which was developed in 2003 and includes the Stream Maintenance and Management Program (SMMP) and the Drainage Design Manual (DDM) are used by the City and County of San Luis Obispo (collectively “Zone 9”) to design flood control, water quality, and habitat enhancement projects within the San Luis Obispo Creek watershed. These documents outline both policies and specific measures that guide the design, operation and maintenance of these improvements. Specifically, recommended bypass channel design is described and shown in Section 5.3.2 and in Figure 5-4 of the DDM. The proposed project is consistent with those descriptions and others related to treatment of exotic species and enhancement of aquatic resources habitat by installing large root wads, for example.

4.6.2 Significance Criteria

Criteria for evaluating the significance of hydrology and water quality impacts included in the CEQA Guidelines, Appendix G, are directed toward identifying substantial changes in drainage patterns, drainage volumes, or violations of water quality standards. Impacts would be considered significant if the proposed project would result in any of the following:

1. Potentially degrade surface or groundwater quality below standards established by the Regional Water Quality Control Board;
2. Substantially interfere with groundwater recharge;
3. Substantially alter the existing drainage pattern of the area such that substantial erosion or sedimentation occurs;
4. Substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff in a manner which results in flooding;
5. Create or contribute runoff which would exceed the capacity of stormwater drainage systems; or
6. Substantially add additional sources of polluted runoff to a water body.

4.6.3 Impacts and Mitigation Measures

The proposed project will involve the operation of heavy machinery within and adjacent to the creek channel, require dewatering in multiple locations throughout the project area, and require substantial grubbing and other vegetation removal. These activities could introduce pollutants such as petroleum products into surface or groundwater directly or indirectly, and expose soils to erosion, impacting water quality. Due to the nature of the project, it is not expected to (1) degrade surface water quality below RWQCB standards; (2) affect groundwater recharge; (3) increase the amount of rate of surface runoff, or (4) contribute runoff that would exceed the capacity of stormwater drainage systems; therefore, these criteria are not discussed further.

There is potential for the project to alter drainage patterns, and/or substantially add pollutants to San Luis Obispo Creek. These potential impacts are described below.

4.6.3.1 Substantially alter the existing drainage pattern of the area such that substantial erosion or sedimentation occurs.

Development adjacent to or near surface waters is subject to specific design and construction conditions in order to ensure the project's stormwater is adequately contained and directed without adversely affecting downstream locations. Typically, an impact would occur if the proposed project directed construction runoff or stormwater to areas where downstream capacity could be exceeded. Because the proposed project would increase stormwater capacity of the creek, the assessment focuses instead on impacts to water quality which could result from the use of heavy machinery in and near the creek, grading, vegetation removal, and the construction of new structures.

Construction activities would significantly impact water quality due to the exposure of large areas of soil to erosive forces, the need to dewater during construction, and due to the presence of fuel, oil, and other pollutants on site for construction purposes. Because of the work proposed within the channel of the creek and the size of the area of disturbance, implementation of the project will be contingent upon the receipt of permits from the United States Army Corps of Engineers, Regional Water Quality Control Board, and the California Department of Fish and Wildlife. Prior to the issuance of those permits, the regulatory agencies will require a number of project-specific plans to address potential water quality/hydrology impacts. These plans are described in Chapter 2.0 Project Description and include, but are not limited to: Diversion and Dewatering Plan, Stormwater Pollution Prevention Plan (SWPPP), Sedimentation and Erosion Control Plan (ESCP), Spill Prevention Control and Contingency Plan (SPCC), and a Habitat Mitigation and Monitoring Plan (HMMP). In addition a Caltrans encroachment permit is required, and Caltrans will have an opportunity to confirm the proposed erosion control plan is adequate to protect Highway 101.

Implementation of these plans, along with the WMP measures, which are applied to all projects within the City limits, would reduce impacts to a *less than significant level*. No additional mitigation measures are required.

4.6.3.2 Substantially add additional sources of polluted runoff to a water body.

Under existing conditions, during flooding events flood waters will overtop the creek channel upstream of the Marsh Street Bridge and flow "down" South Higuera Street, eventually re-entering the channel between Marsh Street and Madonna Road through the storm drains or as sheet flow through properties between South Higuera Street and the creek. The flood waters carry debris from upstream as well as pollutants from the surface streets they run across (e.g. Marsh Street, South Higuera Street, Pacific Street).

The proposed Flow Return would be constructed to provide a specific point where flood waters could return to the creek channel, potentially reducing flooding further to the south. Under existing conditions, flood waters already cross the property and re-enter San Luis Obispo Creek; however, the Flow Return would potentially concentrate these flows and the associated pollutants.

HWQ-Impact 1 The Flow Return would potentially concentrate polluted flood water and discharge it to the creek system with no treatment.

HWQ-mm-1 *Prior to construction, to minimize the potential for concentrating pollutants at the Flow Return where flood waters would re-enter San Luis Obispo Creek, this component shall be designed to maximize the potential for passive stormwater treatment.*

Residual Impact. Implementation of measure HWQ-mm-1 would reduce potential impacts to *less than significant*. No additional measures are required. Given that there is currently no treatment of these flood waters and the flooding problems along Mid-Higuera, the Flow Return, along HWQ-mm-1, would potentially have a beneficial impact to flooding and water quality. Based on preliminary analysis, this mitigation measure would not increase impacts to jurisdictional areas, biological resources, or cultural resources.

4.6.4 Cumulative Impacts

Typical flooding, hydrology, and water quality impacts resulting from development are related to an increase in impervious surfaces, increased discharge of stormwater or sediment into a drainage system, or development within a floodplain which may reduce the floodplain capacity and affect upstream or downstream land uses. These impacts may contribute cumulatively along with other projects to result in significant impacts. However, the proposed project is a construction project designed to increase flood control capacity. No impervious surfaces are proposed.

Projects that potentially have a direct effect on San Luis Obispo Creek are generally highly regulated. The projects described above would all require permits from resource agencies including the CDFW, USACE, and the RWQCB. These agencies ensure that impacts to water quality and habitat are limited. The proposed project is also subject to regulations by all of these agencies and therefore would not contribute cumulative impacts to water quality or alterations of the local hydrologic conditions. Cumulative impacts to Hydrology and Water Quality are *less than significant*. No mitigation beyond that already discussed in this EIR is required.

4.7 Noise

This section describes the existing environment, the potential noise impacts from construction of the proposed project, and necessary mitigation measures. As described in the initial study in Appendix A, the project would not generate noise after construction (i.e. operational noise). This section is based primarily on the *Noise Impact Assessment for the Proposed Mid-Higuera Bypass Project* (Ambient, 2016). A copy of that report is available for review at the District.

4.7.1 Existing Conditions

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels. When community noise interferes with human activities or contributes to stress, public annoyance with the noise source increases. The acceptability of noise and the threat to public well-being are the basis for land use planning policies preventing exposure to excessive community noise levels.

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are also considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

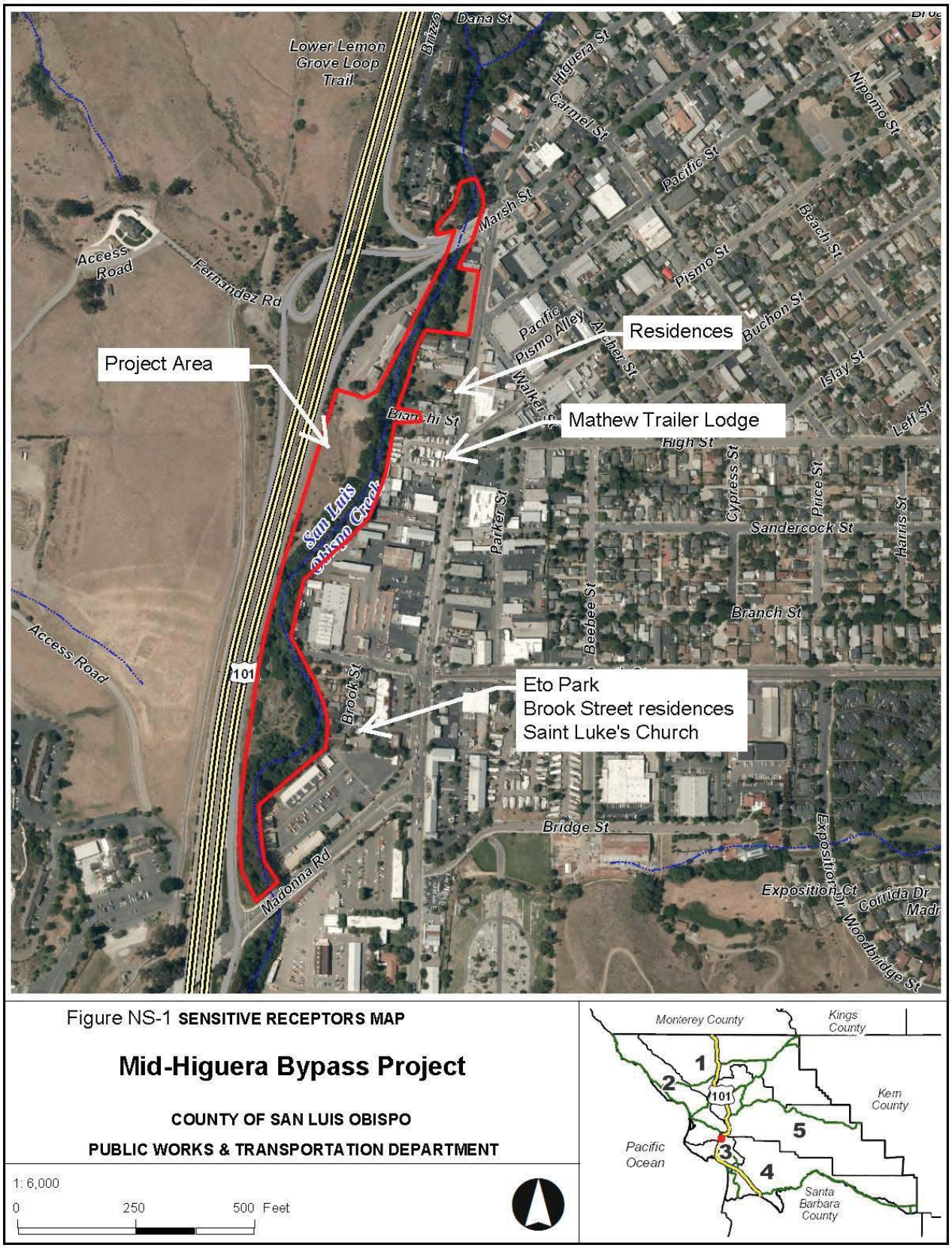
The project site is located within and adjacent to San Luis Obispo Creek between the Marsh Street Bridge and Madonna Road Bridge. The proposed construction area is bordered on the west by Highway 101 and on the east by Higuera Street and existing development. The topography in the area is generally flat, with little topographic variation, with the exception of a small knoll between Highway 101 and the northern half of the South Street Bypass.

The adjacent existing development consists largely of a mix of light industrial, commercial, and residential land uses. The nearest noise-sensitive land uses include residential dwellings, the nearest of which are located adjacent to and east of San Luis Obispo Creek along Brook Street, south of South Street. St. Luke Missionary Baptist Church and Eto Park are also located along Brook Street, south of South Street. In addition, Mathews Trailer Lodge is located adjacent to and east of San Luis Obispo Creek, south of Bianchi Lane. These areas are shown on Figure NS-1.

4.7.2 Regulatory Setting

4.7.2.1 City of San Luis Obispo General Plan

The existing General Plan Noise Element establishes operational standards for siting of new land uses; however, it contains no policies or programs that address the identification and mitigation of temporary construction noise generated by land development projects on existing sensitive receptors.


Project Area
Residences
Mathew Trailer Lodge
Eto Park
Brook Street residences
Saint Luke's Church
Lower Lemon Grove Loop Trail
Access Road
Fernandez Rd
Dana St
Marsh St
Pacific St
Pismo St
Beach St
Buchon St
Islay St
Leff St
High St
Cypress St
Price St
Harris St
Sandercock St
Branch St
Parker St
Beebee St
Brook St
Bridge St
Madonna Rd
Access Road
101
Higuera St
Carmel St
Nipomo St
Pacific Pismo Alley
Walker
Bianchi St
San Luis Obispo Creek
Exposition Ct
Corrida Dr
Woodbridge St
Figure NS-1 SENSITIVE RECEPTORS MAP
Mid-Higuera Bypass Project
COUNTY OF SAN LUIS OBISPO
PUBLIC WORKS & TRANSPORTATION DEPARTMENT
1: 6,000
0
250
500 Feet
Monterey County
Kings County
Kern County
Pacific Ocean
Santa Barbara County
1
2
3
4
5
101

4.7.2.2 City of San Luis Obispo Municipal Code

The City's Noise Control Ordinance, contained in Municipal Code, Chapter 9.12. Section 9.12.050, limits construction and demolition activities that would result in a noise disturbance to nearby land uses to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday. Noise-generating construction and demolition activities are prohibited on Sundays and holidays. The ordinance further states that, where technically and economically feasible, construction activities shall not exceed specified standards. For areas consisting of mixed residential and commercial uses, maximum construction-generated noise levels should be limited to 85 dBA during the daytime hours (7:00 a.m. to 7:00 p.m.) During the nighttime hours, maximum construction-generated noise levels should be limited to 70 dBA. The City's noise ordinance also establishes noise standards for long-term noise exposure.

dBA is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. For perspective, a gas lawn mower produces approximately 95 dBA when the user is 3 feet away. Ambient noise levels in commercial areas are approximately 65 dBA, and in rural areas in the evening the dBA could be expected to be approximately 25 dBA.

4.7.3 Significance Criteria

Criteria for evaluating the significance of potential noise impacts are included in the CEQA Guidelines, Appendix G. Impacts would be considered significant if the proposed project would result in any of the following:

1. 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;
2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels; or
6. 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.

Ground-borne vibration levels would be considered to have a potentially significant impact if resultant vibration levels at the nearest structures would exceed 0.3 in/sec ppv (peak particle velocity) for structural damage and 0.2 in/sec ppv for annoyance to building occupants, based on Caltrans-recommended thresholds.

The proposed project would not result in increased exposure of sensitive land uses to aircraft noise, nor would the proposed project interfere with airport operations. As a result, evaluation of long-term exposure to aircraft noise is not discussed further in this report.

4.7.4 Impacts and Mitigation Measures

4.7.4.1 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

The existing General Plan Noise Element establishes operational standards for siting of new land uses; however, it contains no policies or programs that address the identification and mitigation of temporary construction noise generated by land development projects on existing sensitive receptors. Implementation of the proposed project would not result in the creation of new land uses, nor would the project result in the installation of new transportation or non-transportation noise sources. As a result, the proposed project would not conflict with noise standards established in the City's General Plan. This impact would be *less than significant.*

4.7.4.2 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project

The proposed project would not result in the installation of any stationary equipment or long-term operational activities that would generate noise. In addition, for those existing land uses located nearest Highway 101, the excavation of the new channels and construction of terraces and benches would not result in changes to the existing topography that would affect existing noise shielding characteristics of the site. Furthermore, although the proposed project would result in the removal of some existing vegetation, significant changes in traffic noise exposure at land uses located nearest Highway 101 would not occur. This impact is considered *less than significant*.

4.7.4.3 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g., land clearing, grading, excavation, and paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges are generally similar for all construction phases, the initial site preparation phase tends to involve the most heavy-duty equipment having a higher noise-generation potential. Noise levels associated with individual construction equipment likely required for construction of the proposed project were provided in Table NS-1.

In accordance with the City's noise control ordinance, construction-generated noise levels would be considered significant if maximum noise levels would exceed 85 dBA during the daytime hours (e.g., 7:00 a.m. to 7:00 p.m.) or 60 dBA during the nighttime hours (e.g., 7:00 p.m. to 7:00 a.m.) Construction activities that would result in significant increases in potential sleep disturbance or activity interference at nearby noise-sensitive land uses would also be considered to have a potentially significant impact.

Noise levels generated by some of the loudest construction equipment likely to be active on the proposed project are shown in Table NS-1.

Table NS-1

Typical Construction Equipment Noise Levels

Equipment	dBA at 50 feet
Air Compressor	78
Backhoe	78
Dozer	82
Forklift	85
Grader	85
Truck	77

Based on the noise levels identified in Table NS-1, intermittent noise levels at noise-sensitive land uses located within approximately 50 feet of the construction site would be approximately 85 dBA or less. Depending on the activities conducted and equipment used, average-hourly noise levels at these nearest uses would range from approximately 73 dBA to 82 dBA 50 feet. Haul trucks required for the delivery of construction materials would also result in short-term detectable increases in traffic noise levels along nearby roadways.

Construction-generated noise levels associated with construction of the proposed project components would not be anticipated to exceed the City's instantaneous daytime noise standard of 85 dBA. However, in the event that construction activities were to occur during the nighttime hours, resultant noise levels at the property line of the nearest residences would exceed the City's noise standards of 60 dBA Lmax. In addition, construction activities occurring during the more noise-sensitive nighttime hours could result in increased levels of annoyance and potential sleep disruption to occupants of nearby residential dwelling units. Furthermore, construction activities occurring in the vicinity of St. Luke Missionary Baptist Church could interfere with onsite services. Onsite services typically occur on Sundays, as well as, on Monday and Wednesday nights (Ambient 2016).

NS-Impact 1 Night-time or weekend construction would potentially significantly impact sensitive receptors in the project area.

NS-mm 1 To reduce potential noise impacts, the following measures shall be implemented during construction:

- *Noise-generating construction activities shall be limited to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday.*
- *Noise-generating construction activities shall be prohibited on Sundays and holidays.*
- *Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations.*
- *Equipment engine shrouds shall be closed during equipment operation.*
- *Lay-down yards and semi-stationary equipment such as pumps or generators shall be located at the furthest practical distance from noise-sensitive land uses.*

Residual Impact. Implementation of this measure would reduce short-term noise impacts to a *less than significant* level. No additional measures are required.

4.7.5 Cumulative Impacts

Because the project would not produce any operational; noise, potential cumulative impacts are solely limited to short-term construction noise levels. There are no additional major construction projects included in the cumulative development scenario. Therefore, the project would not contribute to any cumulative noise impacts. Potential cumulative impacts are *less than significant*. No additional measures are required.

5.0 Other CEQA-mandated Sections

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires Environmental Impact Reports to include the following topics:

1. significant environmental effects of the proposed project;
2. significant environmental effects which cannot be avoided if the proposed project is implemented;
3. significant irreversible environmental changes which would be involved in the proposed project should it be implemented;
4. growth-inducing impact of the proposed project;
5. the mitigation measures proposed to minimize the significant effects; and
6. alternatives to the proposed project.

In addition, CEQA Guidelines requires Lead Agencies to consider the energy impacts of proposed projects, with an emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. Appendix F of the CEQA Guidelines suggests that conserving energy would include (1) decreasing overall per capita energy consumption; (2) decreasing reliance on natural gas and oil; and (3) increasing reliance on renewable energy sources. This chapter of the EIR considers these “other topics”.

5.1 Section 15126 Topics

Topics 1, 2, and 5 are included in Chapter 4 of this EIR. Topics 3 and 4 are considered below. Topic 6 is considered in Chapter 6.

5.1.1 Significant Irreversible Environmental Changes Which Would Be Involved in the Proposed Project Should It Be Implemented

Section 15126.2(c) of the CEQA Guidelines states that use of nonrenewable resources during the initial and continued phases of a proposed project may be irreversible if a large commitment of these resources makes their removal, indirect removal, or non-use thereafter unlikely. Non-renewable resources, such as natural gas, petroleum products, asphalt, petrochemical construction materials, steel, copper and other metals, and sand and gravel are considered to be commodities which are available in a finite supply. The processes that created these resources occur over a long period of time. Therefore, the replacement of these resources wouldn’t occur over the life of the project. To varying degrees, the aforementioned materials are all readily available and some materials, such as asphalt, sand and gravel, are abundant. Other commodities, such as metals, natural gas, and petroleum products, are also readily available, but they are finite in supply given the length of time required by the natural process to create them. The demand for all such resources is expected to increase regardless of whether or not the project is developed. Increases in population will directly result in the need for resources.

Resources necessary for implementation of the proposed project include gravel and rock for the bypass channel transition areas. The majority of the resources would be used during short-term project construction. The long-term commitment of resources associated with maintenance of the project is limited.

5.1.2 Growth-Inducing Impacts

CEQA Guidelines Section 15126.2 (d) state that in the preparation of an EIR, growth inducing impacts that need to be addressed are ones that "…foster economic or population growth, or the construction of additional housing…remove obstacles to population growth…encourage and facilitate other activities that could significantly affect the environment either individually or cumulatively". An example given is the expansion of a wastewater treatment plant allowing for increased construction in service areas. Based on this direction the proposed project was evaluated in order to determine if any part of the project demonstrates the potential for growth inducing impacts. Development in the area is currently constrained by the flood potential, required creek setbacks, existing development which includes a mobile home park and a large lumber/hardware supply yard.

The project would reduce the recurrence interval for flooding along the section of Higuera Street between Marsh Street and Madonna Road. This improvement could potentially be considered as reducing an obstacle to growth as it would make it more attractive to intensify development along the Higuera Street corridor. However, potential growth-inducing impacts are *less than significant* because:

1. the majority of the parcels adjacent to the project corridor are already developed;
2. each parcel would still be located within the 100-year flood plain even with implementation of the project;
3. development proposed in the future would be subject to City-mandated creek setbacks which didn't exist when the parcels were first developed; and
4. the only relatively large and vacant parcels within the project corridor will be used for the bypass channels and the Flow Return, and therefore would not be developed.

5.2 Appendix F: Energy Conservation

The energy used for the project is primarily related to the initial construction activities. Construction vehicles would use non-renewable resources such as diesel fuel and other petroleum products during construction. Once the project is constructed, "operation" of the project would be limited to periodic (i.e. every 5-10 years, possibly) sediment management in the bypass channels. This would involve periodically removing sediment from the channels in the event that it did accumulate.

There are currently no feasible alternatives to the use of heavy diesel-powered equipment for the construction activities. The project will be required to comply with the mitigation measures in the Air Quality/Greenhouse Gas section of this SEIR. Those measures encourage fuel conservation as a method of reducing emissions. Further, due to its location within urban San Luis Obispo, it is expected that the length of the trips made by construction personnel, the heavy equipment, and trucks hauling spoils offsite would be relatively short when compared to projects which occur in more rural areas. Because the operation of the project is limited, there are no feasible energy conservation measures to be implemented.

6.0 Alternatives Analysis

6.1 Introduction

Section 15126.6 (a) of CEQA, requires an EIR to:

"describe a reasonable range of alternatives to a project, or to the location of a project, which could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."

The primary objectives of the project are to increase the flood-carrying capacity (up to a 25-year storm in some locations) of San Luis Obispo Creek from Marsh Street to Madonna Road, while enhancing and protecting water quality as well as special-status species habitat within the project area.

Significant effects of the project are primarily construction-related and short-term. No significant and unavoidable (Class I) impacts were identified. This chapter includes a qualitative assessment of various alternatives, which are summarized in Table 6.1.

6.2 Alternative Evaluation

The EIR/EIS prepared for the WMP includes a robust discussion of watershed-wide alternatives to the program components included in the WMP, and specific alternatives to the Mid-Higuera Bypass project. Alternatives that were considered but determined to be infeasible by the Zone 9 Advisory Committee during the WMP process included:

1. Buried Bypass Culvert – This alternative includes constructing a buried bypass culvert around downtown that would run under Pacific Street or down Meadow Creek.
2. Floodwalls – Includes the construction of floodwalls along the east bank of San Luis Obispo Creek from approximately Nipomo Street to Madonna Road
3. Significant Channel Enlargement – Involves significantly widening the channel of SLO Creek between Marsh and Madonna Road to provide 50-year flood capacity.
4. Flood Detention Basins – Requires construction of flood detention basins in upper Stenner Creek, and upper San Luis Obispo Creek above Reservoir Canyon Road

The EIR/EIS concluded that stream management and maintenance was a key component for management of the watershed and therefore that component was removed from consideration. For more information on these and all of the alternatives previously considered, refer to the WMP EIR/EIS.

Despite the fact that the EIR/EIS considered a reasonable range of alternatives to the Mid-Higuera Bypass project specifically, the SEIR includes an additional discussion of alternatives in an attempt to reduce the severity of the short-term construction-related impacts identified. These alternatives include:

1. Land Purchase/Business Relocation - Purchasing the properties along Higuera Street most vulnerable to flooding, thereby reducing the flood risk;

2. Marsh Street Bridge Replacement - Reconstructing the Marsh Street Bridge and Highway 101 interchange;
3. No Project Alternative – This alternative is required by CEQA, and in this case would include periodic maintenance of the creek reach, including the vegetation and sediment management that is already periodically performed by the County; and
4. Phased Project – Phasing construction over multiple years to reduce short-term construction-related impacts to noise, air quality and traffic, as well as to minimize disturbance to biological resources within the creek channel in any single year.

6.3 Land Purchase/Business Relocation

This alternative would mitigate the flooding impacts by reducing the number of structures, businesses, and residents that could be exposed to flooding. The City would purchase the properties and demolish structures, recreating a “floodplain” adjacent to Higuera Street. This alternative is likely economically infeasible due to the exorbitant costs related to purchasing the properties in question. Further, it would reduce the area available for commercial use in the City of San Luis Obispo, potentially increasing the demand for greenfield commercial development on the edges of town. For that reason, this alternative is inconsistent with the City’s General Plan policies. Due to its financial infeasibility and inconsistencies with the General Plan and Mid-Higuera Enhancement Plan, this alternative is not considered further.

6.4 Marsh Street Bridge Replacement

The Marsh Street Bridge over San Luis Creek includes the intersection of Marsh Street with the Highway 101 onramp and off-ramp. The bridge has been identified as a major constriction for San Luis Obispo Creek, and its current design allows for the development of large sandbars at its upstream end. Due to the street configuration in this area, this alternative would likely involve the reconstruction of the on and off-ramps, as well as adjacent portions of Marsh Street and Higuera Street. In addition to construction costs this alternative would require the purchase of private property adjacent to the roads. Further, the level of review and coordination with Caltrans would require engineering and environmental studies that could take 10 years or more to accomplish given that the project isn’t “programmed” into any current transportation planning documents. Due to these issues, it can be reasonably determined that this alternative is speculative and infeasible.

6.5 No Project Alternative

The No Project Alternative would include the City performing periodic maintenance of the vegetation and sediment that accumulates within the channel – particularly that which collects within the Marsh Street bridge barrels. Depending on the extent of the maintenance activities and the hydrologic conditions, which vary from year, this alternative would provide additional flood protection for short periods (generally less than 5 years based on recent City experience).

Due to the limited width of the channel and the constrictions at the Marsh Street Bridge and Bianchi Lane Bridge, under this alternative only modest, temporary increases in flood capacity could be achieved. This alternative would reduce short-term construction-related impacts to biological resources, air quality, and noise. This alternative would not meet the project objectives nor result in long-term beneficial impacts to biological resources - reduction of invasive species and improved habitat features for aquatic species - that are anticipated under the proposed project.

6.5.1 Phased Project Alternative

An alternative that would potentially reduce the short-term construction impacts resulting from the project is the Phased Project Alternative. This alternative would split the project into three phases of roughly equal length. For example, Phase 1 would include the project components from Madonna Road upstream to the downstream end of the Bianchi Bypass. Phase 2 would include the Bianchi Bypass and Bridge. Phase 3 would include the Pinch Point, Flow Return and Marsh Street Bridge components. Each of these phases would covers approximately a 1,000 foot-long stretch of the creek. A 3-phase project would potentially result in the following impact reductions:

- Annual emissions from construction activities would potentially reduce by approximately one-third in any given year; however, cumulatively emissions would equal those resulting from a single phase project.
- Assuming South Phase truck traffic would use the Madonna Road/Highway 101 ramps and the North Phase truck traffic would use the Marsh Street/Highway 101 ramps for the northern half of the project, short-term noise and traffic impacts would potentially be limited to one portion of Higuera Street per year.
- Tree removal would be reduced in any given year, and revegetation of disturbed areas could begin before the entire project area is disturbed. In other words, revegetation started after the conclusion of Phase 1 would already have two years of growth by the time that Phase 3 was completed and ready to be revegetated.
- The length of the creek segments to be dewatered would be reduced by one-third in any given year, potentially reducing short-term, direct impacts to aquatic species and water quality.

In regards to biological resources, the potential of this alternative to reduce impacts are limited because while the alternative may reduce the total area of disturbance in a single year, the construction within one phase could still affect the other corridor. For example, with this alternative there would be multiple years of staging; some overlap in the phases to allow for the finished grading, dewatering and revegetation efforts; and the Bianchi Lane Bridge may provide access to the South phase even though it is part of the North Phase project. In that sense, resources in one phase that are not static and may be sensitive to adjacent disturbance, such as nesting birds and aquatic wildlife, may be impacted by construction in both phases.

6.6 Environmentally Superior Alternative

As proposed, the project would not result in any significant and unavoidable impacts; therefore, any alternative that is environmentally superior would be one that potentially avoids impacts or substantially lessen those impacts which would be less than significant with mitigation (Class II). As described above and shown in Table 6.1, the Phased project would potentially spread the impacts over a longer period and therefore reduce the severity of the impacts in any given year. However, due to the relatively short length of the corridor and proximity of the operations to the creek channel, in regards to biological resources, it may be better for the impacts to be focused in as short a period as possible. The benefits of staging the project over three years do not appear to present a superior alternative to the proposed project. Therefore, the proposed project with all mitigations applied may be the environmentally superior alternative, or at least the environmentally equivalent alternative.

Table 6.1 Alternatives Analysis

Resource Area	Alternatives Comparison			
	Proposed Project	**No Project**	**Marsh St Bridge Replacement**	**Phased Project**
Aesthetic Resources	Class II	Class III – no change from existing conditions	Class II – assumes new interchange would require aesthetic resources mitigation/design per Caltrans and City	Class II – No change from proposed project
Air Quality	Class II	Class III – less than significant impacts from small sediment removal projects	Class I/II – alternative requires significant levels of demolition, grading, concrete and asphalt work. Project would result in emissions rates greater than the proposed project.	Class II – reduced annual construction emissions, but similar cumulative emissions to the proposed project
Biological Resources	Class II	Class II – mitigation is typically required by permitting agencies for sediment removal projects	Class II – biological resource mitigation required for impacts to the creek below the Marsh Street Bridge.	Class II – No overall change to impacts, although the impact to the creek corridor may be less intensive in any given year
Cultural Resources	Class II	Class III – disturbance is generally limited to sediments in the channel and the creek banks where resources are unlikely to exist	Class II – no known pre-historic resources; historic resources known in the area; impacts similar to proposed project	Class II – No change from proposed project
Hazards/ Hazardous Materials	Class II	Class II – subsurface hazardous materials would not be encountered; however, contaminated soils within the project corridor would remain and potentially leach into the creek.	Class II – potential hazardous materials exist subsurface due to long-term use of the area; impacts similar to the proposed project	Class II – No change from proposed project
Hydrology/Water Quality	Class II	Class III –flooding continues at current rates	Class II – potential impacts similar to the proposed project – erosion control, revegetation, etc plans required	Class II – No overall change to impacts, although the potential for erosion and sedimentation impacts to the creek corridor would be less intensive in any given year
Noise	Class II	Class III – no change from current conditions; minor construction-related noise related to sediment removal projects	Class I-II – Due to the level of construction required and possible detours onto local roads, noise impacts would be greater than the proposed project.	Class II – No change from proposed project
Feasibility	Feasible	Feasible	Infeasible within next 10 years due to programming timelines, studies, funding mechanisms	Feasible
Meets Project Objectives?	Yes	No	Partially - will not improve habitat throughout the corridor	Yes

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7.0 References and Preparers

7.1.1 References

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7.1.2 EIR Preparers

The primary author of this EIR was Keith Miller, Environmental Resource Specialist with the County of San Luis Obispo Department of Public Works (Public Works). EIR issue area assessments were based primarily on background technical resources reports prepared by sub-consultants including SWCA Environmental Consultants and Padre Associates, and other Public Works staff, included Kate Ballantyne, Environmental Division Manager, as well as Eric Weir and Katie Drexhage, Environmental Resource Specialists.