



Final Environmental Impact Report

Santa Clara River Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project

SCH No. 2015021079



FINAL ENVIRONMENTAL IMPACT REPORT

for the

SANTA CLARA RIVER LEVEE IMPROVEMENTS DOWNSTREAM OF UNION PACIFIC RAILROAD (SCR-3) PROJECT

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Watershed Protection District**

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June 2016

**State Clearinghouse
No. 2015021079**

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Summary

Introduction

This Environmental Impact Report (EIR) has been prepared to evaluate specific environmental impacts associated with the proposed Santa Clara River Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project, also referred to herein as the proposed Project. The Ventura County Watershed Protection District (VCWPD) is the Lead Agency for the environmental review of this Project.

The Initial Study prepared by VCWPD (February 2015) indicates that the proposed Project may have significant effects relating to air quality, biological resources, scenic resources, hazards (including liquefaction, hazardous waste, and public health), noise and vibration, transportation and circulation, utilities, and flood control and drainage. Because of these potential effects, an EIR is required to fully evaluate the potential adverse environmental impacts that may result from development of the proposed Project.

This EIR has been prepared in accordance with the California Environmental Quality Act of 1970 (CEQA), as amended (Public Resources Code Section 21000 et seq.), and the State CEQA Guidelines for Implementation of CEQA (California Code of Regulations, Title 14, Section 15000 et seq.). This Draft EIR also complies with the County of Ventura's procedures for implementation of CEQA.

The purpose of the EIR is to inform decision makers and the general public of any significant adverse environmental impacts associated with the construction, operations, and maintenance (O&M) of the proposed Project, and to identify feasible mitigation measures and alternatives that may be adopted to reduce or eliminate these impacts. Alternatives to the proposed Project evaluated in this EIR include the No Project Alternative and four design alternatives.

The Draft EIR was released for agency and public review for a 47-day period (December 7, 2015 to January 22, 2016). After completion of the public review period, all comments received on the Draft EIR were reviewed and written responses prepared (see Final EIR Section 7). The Final EIR also includes any necessary revisions to the Draft EIR resulting from the comments received. Additions are shown in underlined text and deletions are shown as ~~strikeout~~ text. This Final EIR will be considered by the Ventura County Board of Supervisors in their review and decision on the proposed Project.

During the public review period, the Draft EIR and appendices were available for review online on the VCWPD's website (www.vclevees.com), at the VCWPD Offices, Ventura County Clerk, and at local libraries (Oxnard Main Public Library, Albert H. Soliz Library, South Branch Oxnard Library, and Colonia Branch Oxnard Library).

Project Location and Setting

The SCR-3 Project is located in unincorporated Ventura County generally along the southern bank of the Santa Clara River, with components of the Project also located within the City of Oxnard, Ventura County, California. Project activities would extend along a portion of the existing Santa Clara River levee system (SCR-3), which is owned and operated by the VCWPD, generally north of and parallel to the

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Bailard Landfill, Coastal Landfill, Ventura Regional Sanitation District (VRSD) Flare, the City of Oxnard River Ridge Golf Course and golf maintenance yard, and Santa Clara Landfill, and then continue northeast parallel to N. Ventura Road, 40 feet northeast of the Union Pacific Rail Road (UPRR) crossing. Flood protection from this point to the Highway 101 crossing would be addressed by The Village Specific Plan development (Tentative Tract No. 5745 development project on the existing Wagon Wheel site) (see Figure 2-1, Project Location).

The Santa Clara River is one of the largest river systems (and the largest free flowing) in southern California. It flows from the headwater at Pacifico Mountain in the San Gabriel Mountains approximately 84 miles to the Pacific Ocean between the Ventura Harbor and McGrath State Beach. Over the last several decades, a series of large flow events on the Santa Clara River have resulted in damage to the Santa Clara River levee system. SCR-3 has been damaged on multiple occasions in association with high flows ranging from 81,400 to 136,000 cubic feet per second (cfs). During the 34-year period beginning 1978 and ending 2012, the VCWPD has expended approximately \$7.5 million in flood damage repair work specifically for the SCR-3 levee system.

The currently effective Federal Emergency Management Agency (FEMA) one percent annual chance (formerly known as 100-year) peak flow for SCR-3 was established at 161,000 cfs in 1985 (Wood Rodgers, 2013). In its existing configuration, SCR-3 does not meet the federally mandated levee certification regulations found in the Code of Federal Regulations (44 CFR §65.10), and therefore is not currently certified. Since 2009 the VCWPD has been actively working to evaluate SCR-3 certification deficiencies and develop an improvement plan to both provide the required flood protection and meet regulatory requirements.

Overview of the Proposed Project

The VCWPD proposes to implement structural improvements to the existing SCR-3 levee to enable it to withstand a one percent annual chance flood event (a.k.a. 100-year flood event) and thereby achieve compliance with FEMA levee certification requirements.

Between the Bailard Landfill located in Oxnard, California, and North Ventura Road (Reaches 1-3), two options are considered under the proposed Project. Option 1A (Full Levee System), which is the preferred option, adds fill material and riprap along approximately 8,875 feet to raise the existing levee, ~~with one tie in to the Bailard Landfill~~. Option 1B (Minimum Levee System), ~~which is the preferred option~~, adds fill material along approximately 3,575 feet of the existing levee, with tie-ins to ~~the Bailard, Coastal, and Santa Clara Landfills~~. The existing River Ridge Golf Course swale would also be filled in under Option 1B.

In Reach 4, a 968-foot long floodwall would be constructed on the river side of North Ventura Road with a visible height of six feet. A flood gate would be installed across N. Ventura Road. A four- to six-foot high floodwall would be constructed on the south side of N. Ventura Road for approximately 888 feet, then transition to a 40-foot-long earthen embankment abutting and perpendicular to the existing Union Pacific Railroad (UPRR) embankment. A similar 40-foot-long earthen embankment would be constructed on UPRR land northeast of the railroad embankment to tie into the flood protection structure to be constructed by The Village development (a.k.a. Wagon Wheel).

Alternatives to the Proposed Project

CEQA (State CEQA Guidelines §15126.6(a)) requires that an EIR consider a reasonable range of alternatives to a proposed project, or to the location of the project, that could feasibly attain most of the basic objectives of the project and avoid or lessen any of the significant effects of the project. Comparative analysis of the impacts of these alternatives is also required. The alternatives to the proposed Project addressed in this EIR are:

- Alternative 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection
- Alternative 2 – Reach 4: River Side Floodwall
- Alternative 3 – Reach 4: River Side/Land Side Floodwall Extending up El Rio Drain
- Alternative 4 – Reach 4: East Slope Lining of the UPRR Embankment
- Alternative 5 – No Project Alternative

These alternatives are described in EIR Chapter 4 (Alternatives), with a comparison of the alternatives provided in Table 4-1 (Comparison of Alternatives to the Proposed Project). Additionally, the CEQA environmentally superior alternative is identified in EIR Section 4.6.

Areas of Known Controversy

State CEQA Guidelines Section 15123(b)(2) requires that an EIR contain a summary of the areas of controversy known to the Lead Agency, including issues raised by agencies and the public. Some issues of concern were expressed during the pre-scoping and scoping process, which are detailed in EIR Table 1-1 (Pre-Scoping Comments Summary) and Table 1-2 (Scoping Comments Summary). However, issues of concern do not necessarily represent areas of controversy, but instead generally indicate topics that may need to be investigated and evaluated. Controversial issues tend to be contentious and subject to disagreement and dispute.

Some members of the public have expressed doubt over the need for the Project and do not seem convinced that there is a significant flood hazard in the area. Some questioned the accuracy of the flood mapping and wondered why the area is considered as flood hazard area when it was not mapped that way in the past. Others have expressed the opinion that building levees and floodwalls is not the correct approach for addressing flooding hazards and that a more comprehensive watershed management approach is needed to reduce flooding along the lower Santa Clara River. The proposed floodwall in Reach 4 has also generated some concern, due to its potential effect on local views and its location relative to homes along N. Ventura Road. Some concern has been expressed that the floodwall would attract graffiti and would act as a barrier to wildlife movement.

Issues to be Resolved

State CEQA Guidelines Section 15123(b)(2) require that an EIR present issues to be resolved by the Lead Agency, including the choice among alternatives and whether or how to mitigate significant effects. Regarding the proposed Project, County decision makers will need to not only decide whether to approve the Project, but will also need to decide which of the proposed options for Reaches 1-3 (Option 1A or Option 1B) should be approved. There are also several alternatives examined in the EIR that may warrant consideration. For example, the proposed Project assumes that The Village development on the Wagon Wheel site will implement appropriate measures to provide flood protection immediately upstream of Reach 4, between the UPRR bridge and Highway 101. If that does not happen, decision

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makers will need to consider approval of either Alternative 3 (Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain) or Alternative 4 (Reach 4: East Slope Lining of the UPRR Embankment). The alignment for the floodwall in Reach 4 is another consideration for decision makers with a choice between having portions of the floodwall on each side of N. Ventura Road to minimize its height, as described for the proposed Project, versus an alignment exclusively on the river side of the road as described for Alternative 2.

Decision makers will also need to decide whether the mitigation measures recommended in this EIR are appropriate and feasible for addressing significant impacts. If so, the measures will need to be adopted as conditions of approval.

The EIR identifies certain significant and unavoidable impacts that cannot be effectively reduced to a less-than-significant level. To approve the Project with such impacts, decision makers will need to adopt a Statement of Overriding Considerations describing the reason(s) for approving the Project despite these impacts.

Summary of Project Impacts

A summary of the direct and indirect environmental impacts associated with implementation of the SCR-3 Project, mitigation measures included to avoid or lessen the severity of potentially significant impacts, and residual impacts, is provided in Table ES-1 (Summary of Project Impacts, Mitigation Measures, and Significance Conclusions), below.

Table ES-1. Summary of Project Impacts, Mitigation Measures, and Significance Conclusions		
Impacts	Mitigation Measures	Significance Conclusion
Air Quality		
Impact AQ-1: Project construction could violate or substantially contribute to existing or projected violations of applicable air quality standards.	AQ-3a: Fugitive Dust Control. AQ-3b: Off-road Equipment Emissions Control. AQ-3c: On-road Equipment Emissions Control.	Class II
Impact AQ-2: Project O&M could violate or substantially contribute to existing or projected violations of applicable air quality standards.	None required.	Class III
Impact AQ-3: Project construction could result in a cumulatively considerable net increase in non-attainment pollutants.	AQ-3a: Fugitive Dust Control. AQ-3b: Off-road Equipment Emissions Control. AQ-3c: On-road Equipment Emissions Control.	Class II
Impact AQ-4: Project O&M could result in a cumulatively considerable net increase in non-attainment pollutants.	None required.	Class III
Impact AQ-5: Project construction and O&M could expose the public to substantial pollutant concentrations.	None required.	Class III
Impact AQ-6: Project construction and O&M could cause localized nuisance odors.	None required.	Class III
Impact AQ-7: Project construction could cause an increase in the incidence of Valley Fever infections.	AQ-3a: Fugitive Dust Control.	Class II
Impact AQ-8: Project O&M could cause an increase in the incidence of Valley Fever infections.	None required.	Class III
Biological Resources		
Impact BIO-1: The Project would result in temporary and permanent losses of native vegetation.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring.	Class II
Impact BIO-2: The Project would cause the loss of foraging habitat for wildlife.	<u>N/A</u> None required.	Class III
Impact BIO-3: The Project would result in disturbance to nesting birds or raptors.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. BIO-3: Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. NV-1a: Movable Construction Noise Barriers.	Class II

Summary

Table ES-1. Summary of Project Impacts, Mitigation Measures, and Significance Conclusions		
Impacts	Mitigation Measures	Significance Conclusion
	NV-1b: Monitor Noise Levels.	
Impact BIO-4: The Project would result in disturbance to wildlife in adjacent habitat.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities BIO-1e: Implement Biological Construction Monitoring. BIO-3: Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. NV-1a: Movable Construction Noise Barriers. NV-1b: Monitor Noise Levels.	Class II
Impact BIO-5: The Project could disturb nesting southwestern willow flycatchers, least Bell's vireos, or their habitat.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. BIO-3: Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. BIO-5: Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat. NV-1a: Movable Construction Noise Barriers. NV-1b: Monitor Noise Levels.	Class II
Impact BIO-6: The Project could result in the loss of sensitive Lancetooth, Timema, and Shoulderband Snails or Monarch Butterfly.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. NV-1a: Movable Construction Noise Barriers. NV-1b: Monitor Noise Levels.	Class II
Impact BIO-7: The Project could result in mortality or injury to southwestern pond turtles or a disruption of nesting habitat.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. BIO-7: Conduct Surveys for Southwestern Pond Turtle and Implement Monitoring, Avoidance, and Minimization Measures.	Class II

Table ES-1. Summary of Project Impacts, Mitigation Measures, and Significance Conclusions		
Impacts	Mitigation Measures	Significance Conclusion
Impact BIO-8: The Project could result in injury or mortality for two-striped garter snakes and south coast garter snake.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices (BMPs). BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. BIO-8: Conduct Surveys for Two-Striped Garter Snakes and Implement Monitoring, Avoidance, and Minimization Measures.	Class II
Impact BIO-9: The Project could result in injury or mortality of amphibian and reptile species designated as California Species of Special Concern and/or Ventura County Locally Important Species.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. BIO-9: Conduct Surveys for Terrestrial Herpetofauna and Implement Monitoring, Avoidance, and Minimization Measures.	Class II
Impact BIO-10: The Project could disturb nesting or migrant California Species of Special Concern, CDFW Special Animals or California Fully Protected bird species.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. BIO-3: Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. BIO-5: Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat. NV-1a: Movable Construction Noise Barriers. NV-1b: Monitor Noise Levels.	Class II
Impact BIO-11: The Project could result in mortality of, and loss of habitat for, special-status bat species.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. BIO-11: Survey for Maternity Colonies or Hibernaculum for Roosting Bats. NV-1a: Movable Construction Noise Barriers. NV-1b: Monitor Noise Levels.	Class II

Summary

Table ES-1. Summary of Project Impacts, Mitigation Measures, and Significance Conclusions		
Impacts	Mitigation Measures	Significance Conclusion
Impact BIO-12: The Project could result in mortality of, and loss of habitat for, special-status mammals.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. NV-1a: Movable Construction Noise Barriers. NV-1b: Monitor Noise Levels.	Class II
Impact BIO-13: The Project could result in mortality of listed or special-status fish.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1e: Implement Biological Construction Monitoring.	Class II
Impact BIO-14: The SCR-3 Project could disturb endangered, threatened, proposed, or other special-status plant species or their habitat.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e: Implement Biological Construction Monitoring. BIO-14: Conduct Pre-construction Surveys for State and federally Threatened, Endangered, Proposed, Petitioned, Candidate, and Special-status plants and Avoid Any Located Occurrences of Listed Plants or Perform Other Conservation Strategy.	Class II
Impact BIO-15: The Project would interfere with established wildlife migratory corridors.	None required.	Class III
Impact BIO-16: The Project result in the loss of jurisdictional waters and/or wetland habitats.	BIO-1a: Implement a Worker Environmental Education Program. BIO-1b: Implement Best Management Practices. BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities BIO-1e: Implement Biological Construction Monitoring.	Class II
Scenic Resources		
Impact SR-1: Construction and O&M activities in the Project area would be visible from public viewing locations.	None required.	Class III
Impact SR-2: Implementation of Reach 4 would alter scenic resources in the Project area by introducing new structures and resulting in the removal of native habitat.	No feasible mitigation is available.	Class I
Impact SR-3: Implementation of the Reach 4 floodwall could result in increased graffiti that would degrade the overall view of the surrounding scenic resources.	SR-1: Graffiti Avoidance.	Class II

Table ES-1. Summary of Project Impacts, Mitigation Measures, and Significance Conclusions		
Impacts	Mitigation Measures	Significance Conclusion
Impact SR-4: Implementation of Reach 4 would obstruct the viewshed of the Santa Clara River in the Project area by introducing new structures and resulting in the removal of native habitat.	No feasible mitigation is available.	Class I
Hazards		
Impact HAZ-1: The Project may be subject to liquefaction-related damage.	None required.	Class III
Impact HAZ-2: Hazardous waste may be encountered at landfill tie-ins and retaining wall footing excavation.	HAZ-2: Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater.	Class II
Impact HAZ-3: Existing gas recovery pipelines in the work areas could result in public health effects to workers and possibly the public if a line is damaged during construction.	HAZ-3: Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines.	Class II
Noise and Vibration		
Impact NV-1: Project construction could result in noise levels that would disturb sensitive noise receptors, particularly near Reach 4.	NV-1a: Movable Construction Noise Barriers. NV-1b: Monitor Noise Levels.	Class I (Reach 4 only)
Impact NV-2: O&M activities would result in increased noise levels affecting sensitive noise receptors.	None required.	Class III
Impact NV-3: Project construction could result in vibration levels that affect nearby buildings.	No mitigation measures are required.	Class III
Impact NV-4: Project construction could result in vibration levels that are annoying to nearby residents.	NV-4: Community Notification.	Class I (Reach 4 only)
Impact NV-5: O&M activities would result in temporary increases in local vibration levels.	None required.	Class III
Transportation and Circulation		
Impact TC-1: Traffic generated during Project construction would affect the ICU values and LOS at the study area intersections.	None required.	Class III
Impact TC-2: Traffic generated during Project construction would affect the volume/capacity ratios and LOS on the study area roadway segments.	TC-2: Restrict Project Traffic from Using Highway 101 at Victoria Avenue during Peak Hours.	Class II
Impact TC-3: Project construction would result in physical disruptions to traffic flow on the roadways adjacent to the construction zones, such as temporary roadway and/or lane closures.	None required.	Class III
Impact TC-4: Project construction would result in temporary traffic impacts at the locations on Ventura Road and Victoria Avenue where the construction vehicles would be entering and exiting these roadways.	None required.	Class III

Summary

Table ES-1. Summary of Project Impacts, Mitigation Measures, and Significance Conclusions		
Impacts	Mitigation Measures	Significance Conclusion
Impact TC-5: O&M of the Project would result in an increase in site-generated traffic volumes.	None required.	Class III
Impact TC-6: Flooding would periodically result in a closure of Ventura Road.	None required.	Class IV
Utilities		
Impact U-1: Construction of the Project could accidentally damage buried utilities resulting in service disruption.	HAZ-3: Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines.	Class II
Flood Control and Drainage		
Impact FC-1: The Project may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements.	None required.	Class III
Cultural Resources		
Potential to encounter subsurface cultural resource remains during construction. (See the Initial Study in Appendix A.)	CUL-1: Unanticipated Discovery of Archaeological or Historic Resources. CUL-2: Unanticipated Discovery of Human Remains.	Class II
Daytime Glare		
Nighttime lighting during construction may affect motorists and residences. (See the Initial Study in Appendix A.)	DG-1: Shield Nighttime Lighting.	Class II
Recreation		
Filling the drainage swale would temporarily disrupt recreation activities at the River Ridge Golf Course (Option 1B only). (See the Initial Study in Appendix A.)	REC-1: Coordination with River Ridge Golf Course to Minimize Disruptions.	Class II

Class I: Significant impact; cannot be mitigated to a level that is not significant. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: Significant impact; can be mitigated to a level that is not significant. A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR/EIS.

Class III: Adverse; less than significant. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: Beneficial impact. A Class IV impact represents a beneficial effect that would result from project implementation.

1. Introduction

1.1 Project Overview

The Ventura County Watershed Protection District (VCWPD) proposes to implement structural improvements to the existing SCR-3 levee to enable it to withstand a one percent annual chance flood event (a.k.a. 100-year flood event) and thereby achieve compliance with Federal Emergency Management Agency (FEMA) levee certification requirements, as identified in 44 Code of Federal Regulations (CFR) Section 65.10.

Between the Bailard Landfill located in Oxnard, California, and North Ventura Road (Reaches 1-3), two options are considered under the proposed Project. Option 1A (Full Levee System), which is the preferred option, adds fill material and riprap along approximately 8,875 feet to raise the existing levee, ~~with one tie in to the Bailard Landfill~~. Option 1B (Minimum Levee System), ~~which is the preferred option~~, adds fill material along approximately 3,575 feet of the existing levee, with tie-ins to the Bailard, Coastal, and Santa Clara Landfills. The existing River Ridge Golf Course swale would also be filled in under Option 1B.

In Reach 4, a 968-foot long floodwall would be constructed on the river side of North Ventura Road with a visible height of six feet. A flood gate would be installed across N. Ventura Road. A four- to six-foot high floodwall would be constructed on the south side of N. Ventura Road for approximately 888 feet, then transition to a 40-foot-long earthen embankment abutting and perpendicular to the existing Union Pacific Railroad (UPRR) embankment. A similar 40-foot-long earthen embankment would be constructed on UPRR land northeast of the railroad embankment to tie into the flood protection structure to be constructed by The Village development (a.k.a. Wagon Wheel).

The Project would provide flood protection to properties in the City of Oxnard along the SCR-3 levee that would otherwise require flood insurance under the National Flood Insurance Program.

1.2 Environmental Review Process

The California Environmental Quality Act (CEQA) requires that an environmental review be conducted for activities directly undertaken by a government agency (State CEQA Guidelines §15002(b)). CEQA applies to all California government agencies at all levels, including local agencies, regional agencies, State agencies, boards, and commissions. An environmental impact report (EIR) is an informational document required by CEQA when substantial evidence exists that a project may have a significant physical effect on the environment. The EIR is intended to provide information to decision makers, agency staff, and the public about (1) the potential environmental impacts of a project, (2) ways in which the significant effects of a project might be minimized or avoided, and (3) alternatives to the project that could reduce or avoid the significant impacts associated with the project.

The VCWPD is the Lead Agency responsible for compliance with CEQA. This EIR has been prepared by the VCWPD in compliance with the State CEQA Guidelines. This EIR will also be used by other agencies

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in their decision-making processes. Responsible Agencies include any public agency other than the Lead Agency that have discretionary approval power over the project. Trustee Agencies are those State agencies that have jurisdiction by law over natural resources held in trust for the people of the State of California. Additionally, Reviewing Agencies include those agencies that do not have discretionary power over the project, but are expected to review the EIR for adequacy and accuracy.

The EIR discloses the environmental impacts expected to result from the construction and operation of the proposed Project and mitigation measures, which if adopted by the VCWPD or other responsible agencies, could avoid or minimize significant environmental effects. In accordance with the State CEQA Guidelines, this EIR also evaluates alternatives (including the No Project Alternative) to the proposed Project that could avoid or minimize the significant environmental effects. Potential alternatives to the proposed Project that were considered by the Lead Agency are described in Chapter 4 of this EIR, and of those a reasonable range of feasible alternatives were selected for analysis. Impacts of the alternatives are compared to the proposed Project, and the Environmentally Superior Alternative is also identified in Chapter 4.

1.2.1 Pre-Scoping Process

The VCWPD held a pre-scoping meeting on June 4, 2014, at the Marriot Residence Inn at the River Ridge Golf Course in Oxnard, California. The purpose of the meeting was to provide the public an opportunity to learn about the SCR-3 Project and the various alternatives under consideration by the VCWPD. The VCWPD presented the alternatives, including a high-level analysis of the attributes of each alternative and potential environmental effects. The cost and financing of the various alternatives was also discussed. The VCWPD solicited comments and input from the public to better identify the public’s concerns regarding the SCR-3 Project, and to help in selecting a design that would best meet the Project objectives while meeting the community’s needs.

Comments were received at the pre-scoping meeting and throughout the 30-day period following the meeting. These comments are summarized in Table 1-1, along with information on where each is addressed within either the Initial Study or this EIR.

Table 1-1. Pre-Scoping Comments Summary		
Resource/Issue Area	Topic/Comment Summary	Where Addressed
Project Objectives, Alternatives	Alternatives should focus only on protecting residences to be consistent with stated Project goals.	EIR Sections 2.4 and 4
Alternatives	Alternatives should consider watershed management solutions (e.g., natural floodplain attenuation, removal of existing vegetation from riverbed to increase flood capacity, upstream stormwater detention, low-impact development techniques).	EIR Section 4
Biological Resources	Project should preserve riparian habitat.	EIR Section 3.2
Biological Resources	Project design should prevent rodent burrows to avoid the need for rodent control.	EIR Section 3.2
Biological Resources, Water Resources, Cultural Resources, Recreation	Analysis should consider impacts on water resources, sensitive wildlife habitat, cultural resources, recreation, and future growth inducement.	EIR Sections 3.2 and 5.3; Initial Study Sections C.2, C.8, and C.35
Scenic Resources	Project should avoid barriers that block views of the Santa Clara River.	EIR Section 3.3
Scenic Resources, Flood Control	Project should avoid use of concrete floodwalls.	EIR Sections 3.3 and 3.8

Resource/Issue Area	Topic/Comment Summary	Where Addressed
Flood Control, Hydraulic Hazards	Hydrology analysis should include modeling of peak flow reduction.	EIR Section 3.8; Initial Study Section C.17
Flood Control, Hydraulic Hazards	Clarify the analysis used in determining the 100-year flood zone.	EIR Section 3.8; Initial Study Section C.17
Law Enforcement	Project should avoid siting floodwalls on the north side of Ventura Road, which is currently a site for illegal activities.	Initial Study Section C.32
Law Enforcement; Scenic Resources	Project should include mitigation to remove future graffiti from proposed floodwalls.	EIR Section 3.3; Initial Study Section C.32
Recreation	Project should be consistent with the Nature Conservancy's Public Access Vision Plan for the Santa Clara River Parkway.	Initial Study Section C.35
Recreation	Project design should accommodate the future Santa Clara River Trail Master Plan.	Initial Study Section C.35
Financing	Concerns regarding the Project's financial burden on homeowners.	Not addressed. CEQA does not consider financial or economic factors except as they relate to project feasibility or physical effects.

1.2.2 Scoping Process

The VCWPD circulated a Notice of Preparation (NOP) and an Initial Study for the Project on February 25, 2015, beginning a 30-day comment period (February 26, 2015, through March 27, 2015). Additionally, a scoping meeting was held on March 4, 2015, at the Marriot Residence Inn at the River Ridge Golf Course in Oxnard, California. The purpose of the meeting was to request assistance from the public in identifying the scope and content of the environmental information that should be addressed in the EIR. The VCWPD presented the proposed Project and the alternatives that had been considered to date and would be discussed in the EIR (see Chapter 4). The results of the Initial Study analysis were also presented, which indicate that the proposed Project may result in adverse impacts to air quality, biological resources, scenic resources, liquefaction, hazardous waste, noise and vibration, public health, transportation and circulation, utilities, and flood control/drainage. These topics are addressed in this EIR in Sections 3.1 through 3.8.

Comments were received at the scoping meeting and throughout the 30-day comment period. These comments are summarized in Table 1-2, along with information on where each is addressed within either the Initial Study or this EIR.

Resource/Issue Area	Topic/Comment Summary	Where Addressed
Project Description	Project Description should identify all staging areas and access routes to construction and staging areas.	EIR Section 2.6
Air Quality	Ventura County APCD requests an analysis of reactive organic compound and nitrogen oxide emissions from all project-related motor vehicles and construction equipment. Also evaluate the potential for a cumulatively considerable net increase of any criteria pollutant.	EIR Section 3.1
Biological Resources	CDFW is concerned with potential impacts on native riparian habitat, sensitive species, and wetland resources. Mitigation is recommended to conserve riparian habitat adjacent to the Project.	EIR Section 3.2
Biological Resources	CDFW requests that the analysis include a complete assessment of flora and fauna within the Project area.	EIR Section 3.2

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Resource/Issue Area	Topic/Comment Summary	Where Addressed
Biological Resources	CDFW is concerned with the use of rodent control methods such as rodenticide.	EIR Section 3.2
Biological Resources	In order for CDFW to issue a Lake and Streambed Alteration Agreement for the Project, the analysis must fully identify impacts to the stream or riparian resources, and include vegetation buffers as appropriate.	EIR Section 3.2
Biological Resources	Project should avoid use of floodwalls that are a barrier to wildlife movement.	EIR Section 3.2
Biological Resources	The analysis should consider indirect impacts to biological resources from lighting and noise, adjacent land uses, and other cumulative projects.	EIR Section 3.2
Scenic Resources, Recreation	Project should incorporate the Santa Clara River Parkway Plan.	EIR Section 3.3; Initial Study Section C.35
Hazards	Analysis should discuss hazards associated with construction.	EIR Section 3.4; Initial Study Sections C.10 through C.20
Hazards	Analysis should include impacts to Project from a natural disaster.	EIR Section 3.4; Initial Study Sections C.10 through C.20
Noise and Vibration	Concern with damage to homes from equipment vibrations during construction.	EIR Section 3.5
Transportation and Circulation	Caltrans requests a traffic study to analyze Project impacts on the northbound/southbound US-101 and on/off ramps at Oxnard Boulevard.	EIR Section 3.6
Transportation and Circulation	Project should include a multi-use path (i.e., bike and pedestrian) within the river corridor to avoid safety risks from vehicles outside of the corridor.	EIR Section 2.5 and 3.6
Water Resources	Project should consider Ventura County General Plan goals for restoring groundwater resources through the use of peak flow detention basins.	Initial Study Section C.2; EIR Section 4
Water Resources	Project should consider State Water Quality Control Board policy for zero trash discharges to river, estuary, and ocean waters.	Initial Study Section C.2
Flood Control, Alternatives	CDFW recommends that the Project reclaim natural floodplain function in areas that are feasible.	EIR Sections 3.8 and 4
Cultural Resources	Concern with Project impacts to cultural resources within floodplain.	Initial Study Section C.8
Hazardous Materials/Waste	Ventura County Environmental Health Division concerned with impacts to adjacent landfills.	EIR Section 3.4; Initial Study Section C.20
Waste Treatment/Disposal	Project is subject to Ventura County Integrated Waste Management Division requirements for recyclable construction materials, dirt/soil, and green materials.	Initial Study Section C.29
Law Enforcement; Scenic Resources	Concern that new floodwalls would facilitate illegal activity in the Santa Clara River area. Mitigation needed to control graffiti.	Initial Study Sections C.6 and C.32
Recreation	The Project should include additional recreational access to the Santa Clara River area.	Initial Study Section C.35
Coastal Access	Concerns regarding environmental justice impacts from limited coastal access.	Not addressed. The Project does not directly or indirectly affect coastal access.

The VCWPD has endeavored to address a broad range of issues, resources, and topics in the EIR, including concerns raised during the pre-scoping and scoping periods. However, not all comments

received are addressed for various reasons. Some comments did not pertain to the Project and, therefore, have not been addressed. Examples include comments on other projects or on actions by government agencies that are not relevant to the proposed Project. Some comments have not been addressed because they were not substantive, meaning that they did not present information that is meaningful to the environmental analysis. Examples of non-substantive comments include comments expressing opposition to or support for the proposed Project, comments expressing disagreement with the engineering design basis or adopted public policies, or comments that are vague or open ended. Such non-substantive comments are not required to be addressed in the EIR.

1.3 Document Organization

This EIR is organized as follows:

Executive Summary. Presents an overview of the proposed Project, its significant effects, measures recommended to reduce impacts, and alternatives.

Section 1.0 (Introduction). Provides an overview of the proposed Project, the environmental review process, and the contents of the EIR.

Section 2.0 (Project Description). Includes a detailed description of the proposed Project, including background on the need for the Project, Project objectives, and permits and approvals that would be required to implement the proposed Project.

Section 3.0 (Environmental Setting and Impact Analysis). Contains a description of the existing conditions in the Project area, as well as a comprehensive assessment of impacts and mitigation measures for the proposed Project for each of the environmental topics determined to be potentially significant in the Initial Study. Each topic is addressed in a separate subsection, as follows:

- 3.1 Air Quality
- 3.2 Biological Resources
- 3.3 Scenic Resources
- 3.4 Hazards (includes liquefaction, hazardous waste, and public health)
- 3.5 Noise and Vibration
- 3.6 Transportation and Circulation
- 3.7 Utilities
- 3.8 Flood Control and Drainage

Section 4.0 (Alternatives). Presents the alternatives considered but eliminated, and those alternatives selected for full analysis in the EIR. Selected alternatives are evaluated and a comparison of alternatives to the proposed Project is provided. The Environmentally Superior Alternative is identified.

Section 5.0 (Other Required CEQA Topics). Those topics that were found, based on the Initial Study analysis, not to require detailed analysis in the EIR because the impacts would not be significant are summarized. Unavoidable significant adverse effects of the proposed Project are also summarized. A discussion of additional CEQA considerations is provided, including growth-inducing impacts, significant irreversible environmental changes, and energy conservation.

Section 6.0 (Organizations/Persons Consulted and EIR Preparers). All persons and organizations contributing to the preparation of the EIR are listed.

Section 7.0 (Comment Letters and Responses). Includes a list of persons, organizations, and public agencies that commented on the Draft EIR; copies of all comments received; and individual responses to each comment.

Section 8.0 (Mitigation Monitoring and Reporting Program). Includes a reporting or monitoring program for implementation of the mitigation measures in the EIR.

Section 9.0 (References). Lists documents used as a basis of information for the EIR.

Section 10.0 (Glossary and Acronyms). Provides a list of commonly used terms and acronyms, including definitions.

Appendices. There are a number of appendices to this EIR, including the following:

- A. Initial Study
- B. Biological Resources Appendices
 - B.1 Least Bell's Vireo Protocol Survey and Territory Mapping, and Southwestern Willow Flycatcher Protocol Survey
 - B.2 Summary of Surveys Conducted in the Study Area
 - B.3 Wildlife Observed in the Study Area
 - B.4 Plant Species Observed in the Study Area
 - B.5 Plant Species Rejected but Considered for Occurrence
 - B.6 Special-status Plant and Wildlife Descriptions
 - B.7 Jurisdictional Delineation
- C. Air Pollutant Emissions Calculations
- D. Noise and Vibration Alternatives Analysis
- E. Santa Clara River (SCR-3) Unsteady Flow Hydraulic Analysis (Revised)
- F. SCR-3 Alternatives Analysis Supplementary Evaluation
- G. Ventura County Watershed Protection District Routine Operations & Maintenance Program – Environmental Best Management Practices and Permit Conditions Summary

1.4 Availability of the Draft EIR

The Draft EIR ~~is subject to a~~ was released for a 475-day public review period starting from the date of the Notice of Availability (December 7, 2015 to January 22, 2016). Copies of the Draft EIR ~~have been~~ were sent to the State Clearinghouse, Responsible Agencies, and agencies that commented on the NOP. Owners of property in the vicinity of the proposed Project, along with interested parties that have requested notice, ~~have been~~ were notified regarding the availability of the Draft EIR.

The Draft EIR ~~can be accessed~~ was available on the VCWPD website at: www.vclevees.com.

Hard copies ~~are~~were also available for review at the following locations:

Ventura County Watershed Protection District
800 South Victoria Avenue
Ventura, CA 93009

Ventura County Clerk & Recorder Office
800 South Victoria Avenue
Ventura, CA 93009

Oxnard Main Public Library
251 South A Street
Oxnard, CA 93030
(805) 385-7500

South Branch Oxnard Library
4300 Saviers Road
Oxnard, CA 93033
(805) 385-8129

Albert H. Soliz Library
2820 Jourdan Street
Oxnard, CA 93036
(805) 485-4515

Colonia Branch Oxnard Library
1500 Camino del Sol #26
Oxnard, CA 93030
(805) 385-8108

Interested individuals, organizations, responsible and trustee agencies ~~are~~were encouraged to provide written comments during the ~~47~~5-day public review period to:

Attention: Angela Bonfiglio Allen
Ventura County Watershed Protection District
800 South Victoria Avenue
Ventura, CA 93009-1600

OR Email: Angela.Bonfiglio@ventura.org

It was requested that Agency responses should include the name of a contact person within the commenting agency.

Please note that aAll comments received ~~become~~became a part of the public record for the Project (See Section 7, Comment Letters and Responses).

1.5 Post-EIR Project Changes

The information about the proposed Project that serves as the basis for the impact analysis in this EIR is derived from preliminary designs developed by the VCWPD and its consultants. While this information is detailed, it does not represent final engineering data, and construction-level plans have not been prepared for the Project. Therefore, if the Project is approved, some changes in Project details are expected after the EIR is finalized and approvals are granted. Such changes might involve minor alignment changes, changes in component details, minor changes in material quantities, and other details that will not be finalized until construction plans are completed. These types of changes are normal and expected for almost any type of project because CEQA analysis is based on preliminary project information rather than final design. Such project changes do not invalidate the analysis in the EIR nor necessarily trigger the need for supplemental environmental analysis. Supplemental analysis is generally only needed when there are substantial changes to a project or the circumstances under which a project will be undertaken that would result in adverse impacts that are substantially more severe than described in the original EIR. (See State CEQA Guidelines §15162).

CEQA recognizes that detailed project information, such as construction plans, is not required for preparation of an EIR. Section 15124 of the State CEQA Guidelines states that an EIR should contain a “general description” of a project’s characteristics and “should not supply extensive detail beyond that

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Introduction

needed for evaluation and review of the environmental impact.” Further, State CEQA Guidelines Section 15004(b) states that an EIR “should be prepared as early as feasible in the planning process to enable environmental considerations to influence project ... design.”

2. Project Description

2.1 Introduction

The purpose of this chapter is to describe the Project in a way that will be meaningful to the public, reviewing agencies, and decision makers. The State CEQA Guidelines Section 15124 requires that a complete project description contain the following information: (1) the precise location and boundaries of the proposed Project shown on a detailed map, as well as on a regional map; (2) a statement of the objectives sought by the proposed Project, including the underlying purpose of the Project; (3) a general description of the Project's technical, economic, and environmental characteristics; and (4) a brief statement of the intended uses of the EIR, including a list of the agencies expected to use the EIR in their decision making, a list of the permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements by federal, State, and local laws, regulations, or policies.

As described in the State CEQA Guidelines Section 15146, the degree of specificity in an EIR should correspond to the degree of specificity defined in the Project description. This Project description section serves as the basis for the environmental analysis contained in this EIR.

2.2 Lead Agency

Ventura County Watershed Protection District
800 South Victoria Avenue
Ventura, California 93009-1610

Contact: Angela Bonfiglio Allen, Environmental Planner
Phone: (805) 477-7175; Fax: (805) 654-3350
Email: Angela.Bonfiglio@ventura.org

2.3 Project Location and Background

2.3.1 Project Location

The Santa Clara River Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project (referred to herein as the Project or SCR-3 Project) is located in unincorporated Ventura County generally along the southern bank of the Santa Clara River, with components of the Project also located within the City of Oxnard, Ventura County, California. Project activities would extend along the existing Santa Clara River levee system (SCR-3), which is owned and operated by the Ventura County Watershed Protection District (VCWPD), generally north of and parallel to the Bailard Landfill, Coastal Landfill, Ventura Regional Sanitation District (VRSD) Flare, the City of Oxnard River Ridge Golf Course and golf maintenance yard, and Santa Clara Landfill, and then continue northeast parallel to N. Ventura Road, 40 feet northeast of the Union Pacific Rail Road (UPRR) crossing. Flood protection from this point to the

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Project Description

Highway 101 crossing would be addressed by The Village Specific Plan development (Tentative Tract No. 5745 development project on the existing Wagon Wheel site) (see Figure 2-1, Project Location).

The existing rock rip rap-faced levee extends from the northeast corner of the Bailard Landfill upstream approximately 10,725 feet to the UPRR bridge, about 750 feet west of Highway 101 and the west end of the existing Santa Clara River levee system located upstream of Highway 101 (SCR-1). From the UPRR bridge downstream (southwestward) approximately 813 feet, the existing levee is located along the land side of N. Ventura Road. The remainder of the levee is located on the river side of N. Ventura Road, with 200 feet of overlap between the land and river side levees. In this overlap area, the road elevation is high enough to match the adjacent levee heights, thus providing complete protection at the time it was constructed in 1966. There are currently no existing levees in the approximately 750 feet between the UPRR bridge and the SCR-1 levee, which represents a break in the line of flood protection provided to the City of Oxnard. This area is generally referred to by the VCWPD as the “gap.”

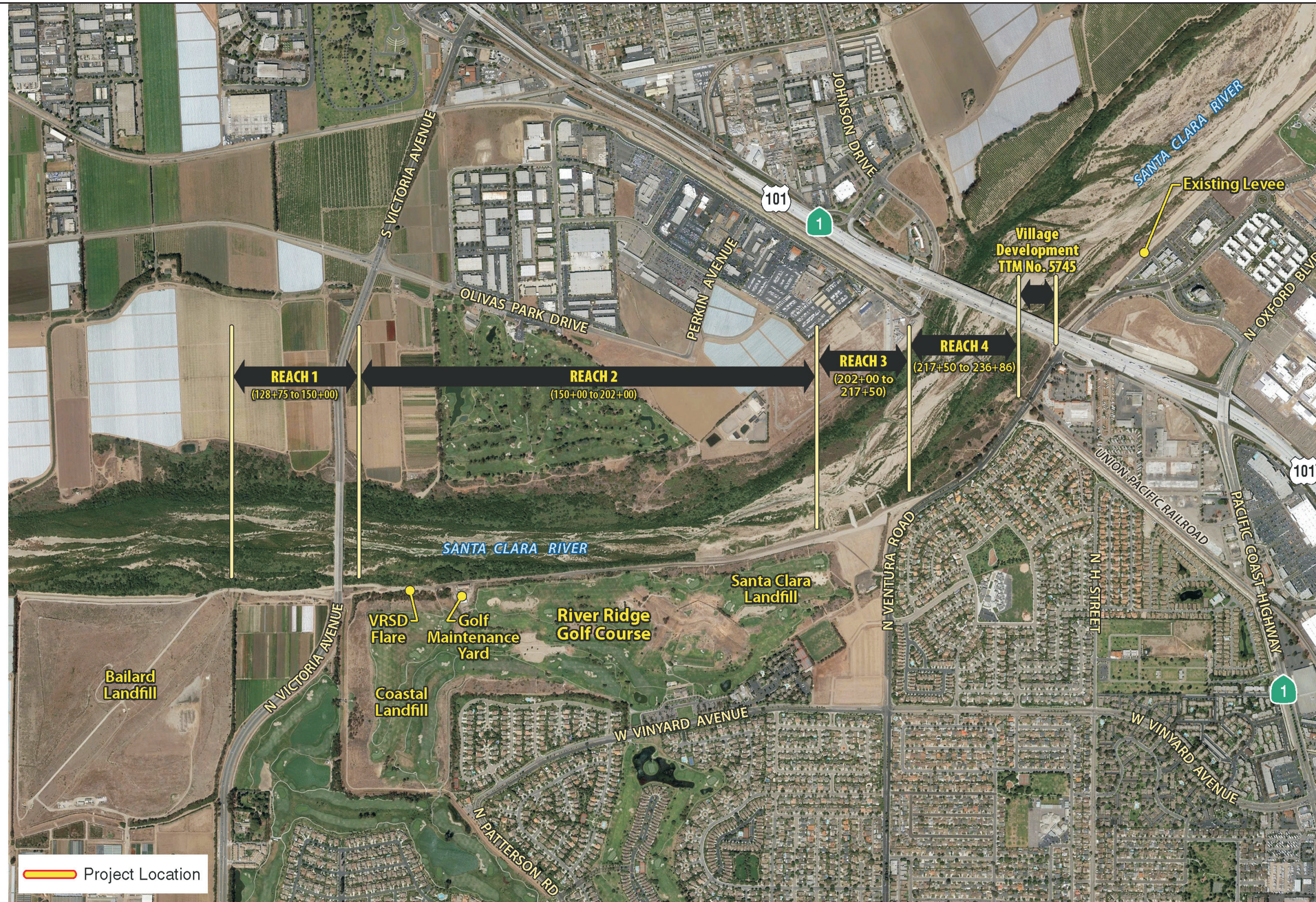
For purposes of analysis, the VCWPD has divided SCR-3 into four reaches. Reach 1 extends from the northeast corner of the Bailard Landfill upstream to the Coastal Landfill (just east of Victoria Avenue) (Station 128+75 to 150+00). Reach 2 extends along the Coastal Landfill to a point just west of N. Ventura Road, at the east edge of the Santa Clara Landfill (Station 150+00 to 202+00). Reach 3 extends from Reach 2 to the point where N. Ventura Road turns easterly and parallel to the Santa Clara River, approximately 2,600 feet west of Highway 101 (Station 202+00 to 217+50). Reach 4 of the SCR-3 Project would extend to approximately 40 feet northeast of the UPRR embankment, which corresponds to the southern limit of the proposed Village development (Station 217+50 to 236+86). Closure of a “gap” in flood protection that exists from the south end of The Village development to the Highway 101 crossing would be addressed by The Village development (Wagon Wheel site), for which the City of Oxnard would act as lead agency.

An existing crushed miscellaneous base (CMB) maintenance road follows the river side of the Bailard Landfill from Station 107+00 to the upstream end of the landfill (Station 130+00). The road rises from an elevation of approximately 42 feet to 50 feet along the landfill. The existing levee (Reach 1) from this point (Station 130+00) to a point 400 feet west of Victoria Road has a top width of approximately 60 feet, where the maintenance road is located on the top of the levee. At this point, the levee top width narrows to 20 feet and “ties” into the approach embankment to the Victoria Avenue Bridge. Between Station 142+00 and 152+00 there is a paved access road that passes under the bridge. The levee top remains at elevations of 50-52 feet except in the vicinity of Victoria Avenue (Station 142+00 to 152+00) where it ramps up to match Victoria Avenue at an elevation of 60 feet.

There are no significant levees within Reach 2. The maintenance road follows the base of the Coastal Landfill/River Ridge Golf Course/Santa Clara Landfill (landfill) for the entire reach. There are two low sections of the River Ridge Golf Course landfill where the maintenance road acts as a levee (approximately Station 160+00 to 163+00 and 179+00 to 184+00).

In Reach 3 there is a low (2-4 feet high) levee upstream of the River Ridge Golf Course high ground that extends upstream to N. Ventura Road (approximately Station 207+00 to 217+50). This levee supports a continuation of the maintenance road until it joins a flat area adjacent to N. Ventura Road, where the maintenance road bends away from the Santa Clara River.

As noted above, a levee was constructed in Reach 4 on the river side and land side of N. Ventura Road to the UPRR, and connected by a high point in the road itself. Upstream of the UPRR, no levee or floodwall connects to the SCR-1 levee system, thus representing a “gap” in flood protection.



Source: MBI, 2015.



Figure 2-1
Project Location

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2.3.2 Project Background

2.3.2.1 Project Area History

The Santa Clara River is one of the largest river systems (and the largest free flowing) in southern California. It flows from the headwater at Pacifico Mountain in the San Gabriel Mountains approximately 84 miles to the Pacific Ocean between the Ventura Harbor and McGrath State Beach. Over the last several decades, a series of large flow events on the Santa Clara River have resulted in damage to the Santa Clara River levee system. SCR-3 has been damaged on multiple occasions in association with high flows ranging from 81,400 to 136,000 cubic feet per second (cfs). During the 34-year period beginning 1978 and ending 2012, the VCWPD has expended approximately \$7.5 million in flood damage repair work specifically for the SCR-3 levee system.

The VCWPD has implemented various measures over the years to protect the existing levee bank and levee toe from erosion and scour, specifically in the area of the SCR-3 bend (see Figure 2-1). For example, VCWPD constructed two 2-ton rock groins in 1982 and constructed six additional 2-ton groins in 1992. Approximately 80 percent of five groins were damaged by 1998 flood flows (84,000 cfs peak), with additional damage in 2005 (136,000 cfs peak). In 2006, the VCWPD constructed three “emergency” groins under expedited conditions to prevent further bank erosion and protect the decommissioned landfill located beneath the River Ridge Golf Course. To further prevent erosion of the southern bank of the Santa Clara River, in 2009 the VCWPD proposed as part of the Santa Clara River Bendway Weir Field Project the addition of four bendway weirs west of the existing 2006 groins, and approximately 1,300 linear feet of rock riprap slope protection along the SCR-3 bend, among other riverbank improvements. The majority of these improvements were installed in 2011 with final project completion in March 2012 (Padre, 2012).

The currently effective FEMA one percent annual chance (formerly known as 100-year) peak flow for SCR-3 was established at 161,000 cfs in 1985 (Wood Rodgers, 2013). The Santa Clara River Watershed Study, jointly carried out by VCWPD, USACE, and Los Angeles County, updated watershed hydrology and increased the one percent annual chance peak flow for the Santa Clara River at Highway 101 to 226,000 cfs (VCWPD, 2006). This updated hydrology is considered the best available information and would be used for future FEMA remapping.

In its existing configuration, SCR-3 does not meet the Federally-mandated levee certification regulations found in the Code of Federal Regulations (44 CFR §65.10), and therefore SCR-3 is not currently certified (see discussion below under “FEMA Flood Hazard Mapping”). Since 2009 the VCWPD has been actively working to evaluate SCR-3 certification deficiencies and develop an improvement plan to both provide the required flood protection and meet regulatory requirements (see “Engineering Evaluation of the SCR-3 Levee System” discussion below).

The SCR-3 Project, as proposed by the VCWPD, includes various modifications and improvements of SCR-3 to provide adequate protection from a one percent annual chance (one percent) flood event for approximately 3,800 structures in North Oxnard (Tetra Tech, 2014 – Economic Appendix). These improvements would eliminate the National Flood Insurance Program (NFIP) regulatory requirement for property owners with federally-backed mortgages in this area to purchase flood insurance. Details of the proposed Project are provided below in Section 2.5.

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2.3.2.2 FEMA Flood Hazard Mapping

FEMA has estimated the boundaries of 100-year floodplains, or Flood Hazard Areas, which are shown on Flood Insurance Rate Maps (also known as FIRMs) produced under the NFIP. Each Flood Insurance Rate Map identifies the predicted area of land anticipated to be inundated during a 100-year storm event, or the storm with a one percent chance of occurring each year. The NFIP, implemented by the Congress of the United States in 1968 through the National Flood Insurance Act of 1968, enables participating communities to purchase flood insurance (FEMA, 2011). As a condition of participation in the NFIP, communities must adopt regulations for floodplain development intended to reduce flood damage for new development through such measures as flood proofing, elevation on fill, or floodplain avoidance.

FEMA manages flood risk on the national level, and has initiated a five-year plan to update the nation's flood hazard maps. FEMA requires levee owners, such as the VCWPD, to certify that their levees meet the design criteria of 44 CFR §65.10, titled "Mapping of Areas Protected by Levee Systems", which provides the minimum design necessary to show "evidence that adequate design and operation and maintenance systems are in place to provide reasonable assurance that protection from the base flood exists."

Downstream of the UPRR, the existing SCR-3 levee system is composed of four reaches. Along the proposed Village development between the UPRR and the Highway 101 Bridge, there is currently a 750-foot-long "gap" in flood protection. The remaining four downstream reaches (Reaches 1-4) were built by different agencies over many years, with different sections completed at different times for different purposes. As such, the existing SCR-3 has neither a unifying design nor a specific design capacity to protect properties in the City of Oxnard during high-flow events. In its current configuration, SCR-3 does not meet the Federally-mandated levee certification regulations found in 44 CFR §65.10. Specifically, SCR-3 is incapable of withstanding the one percent flood event along the entirety of Reach 1, at the existing drainage swale located within the River Ridge Golf Course at the mid-point of Reach 2 (otherwise the majority of Reach 2 is sufficient), and along the entirety of Reaches 3 and 4. Figure 2-2 (NEW) provides the current, best available floodplain information showing the extent of flooding for the one percent annual chance flood (blue shading), at least until FEMA issues an updated map in the future. Figure 2-2 does not depict the current effective FEMA floodplain. In 2009, the VCWPD began a detailed evaluation of the SCR-3 certification deficiencies and development of an improvement plan to meet regulatory requirements.

In order for the proposed Project to be certified by FEMA in accordance with 44 CFR §65.10, evidence must be submitted to demonstrate that the system meets current design, construction, maintenance, and operation standards to provide protection from the one percent flood event. If a levee system cannot be certified as providing protection from the one percent flood event, FEMA will not accredit the levee system; levee systems that were previously shown as providing the sufficient level of flood protection on a NFIP Flood Insurance Rate Map will be de-accredited and the landward areas of these levee systems will be re-mapped as high-risk areas, referred to as Special Flood Hazard Areas (SFHA). Flood insurance purchase would be mandatory for owners with federally-backed mortgages within the SFHA. A levee that FEMA has previously accredited with providing sufficient flood protection and for which FEMA is awaiting data and/or documentation to demonstrate the levee's compliance with 44 CFR §65.10 may be recognized by FEMA as a "Provisionally Accredited Levee" or "PAL." This program was developed to allow agencies time to acquire/assemble documentation showing that the levee fully complies with 44 CFR §65.10, and allows agencies two years to submit the required documentation.

Based on active communication between VCWPD and FEMA between 2007 and 2009, the gap in levee protection between Reach 3 and the SCR-1 levee rendered the SCR-3 levee system ineligible for designation as a PAL. In 2009, the VCWPD began a detailed evaluation of the SCR-3 certification deficiencies and development of an improvement plan to meet regulatory requirements. Therefore, beginning in August 2009, the VCWPD partnered with Wood Rodgers, Inc. (Wood Rodgers) to identify existing levee deficiencies in SCR-3 Reaches 1-3, develop strategies to correct those deficiencies in compliance with 44 CFR §65.10, and evaluate alternative solutions to “closing the gap” in flood protection in Reach 4 (see “Engineering Evaluation of the SCR-3 Levee System” discussion below). Evidence that a levee had been constructed in Reach 4 in 1966 was discovered in 2014, and until that time the “gap” was thought to extend from Reach 3 to Highway 101. After thoroughly investigating a number of alternatives over a four-year period, the engineering evaluation study was completed in March 2013. On November 15, 2011, the District received Ventura County Board of Supervisors approval to apply for grant funding for the SCR-3 levee system and eight other levee rehabilitation projects from the Local Levee Assistance Program (LLAP) administered by the California Department of Water Resources (DWR). By agreement signed February 14, 2013, the District accepted a Local Levee Critical Repair Grant in the amount of \$5.4 million to be applied toward planning, design, and construction of the SCR-3 Project.

The current effective FEMA digital FIRMs (DFIRMs) for the Santa Clara River in the vicinity of SCR-3 were issued January 20, 2010, but revised the next day by Letter of Map Revision (LOMR) to revert to the previously effective map based on 1985 data and analyses (VCWPD, 2014). The reason for this was to move forward with release of new digital maps for Ventura County as a whole, while delaying updates to the areas along SCR-3 until after completion of a revised Santa Clara River Flood Insurance Study (FIS), which is still in progress. The lands adjacent to SCR-3 and the gap between SCR-3 and SCR-1 are currently designated as moderate risk areas, or Zone X (shaded), and property owners are not required to purchase flood insurance at this time (FEMA, 2009). Without implementation of SCR-3 levee improvements and closure of the gap, it is expected that property owners with federally backed mortgages would need to purchase flood insurance if located within Zone A on the future map revision.

In order for SCR-3 to be recognized by FEMA as compliant with the flooding regulations described above, the VCWPD will submit to FEMA a Conditional Letter of Map Revision (CLOMR) which will provide a preliminary request for revision of the effective NFIP map, along with evidence of adequate design and operation and maintenance systems that can provide protection from the base flood. The VCWPD intends to submit the 50-percent design plans for the SCR-3 Project in support of the CLOMR. Upon approval and implementation of the proposed Project, the VCWPD would then submit to FEMA a LOMR, which will reflect the official request for revision of the effective NFIP map. The LOMRs are issued in place of the physical revision and republication of the NFIP map. If possible, VCWPD intends to submit the CLOMR and LOMR in conjunction with the City of Oxnard and The Village Specific Plan development (Tentative Tract No. 5745 – if a floodwall is proposed) as well as the City of Ventura’s Olivas Park Drive and Levee project to ensure simultaneous FEMA review and approval. If The Village development is constructed on building pads elevated above 78.5 feet North American Vertical Datum (NAVD), then a CLOMR and LOMR may not be required for that development.

2.3.2.3 Engineering Evaluation of the SCR-3 Levee System

On behalf of the VCWPD, Wood Rodgers performed an evaluation of the SCR-3 levee system, which was documented in the “Santa Clara River (SCR-3) Levee Reaches 1-4 Evaluation and Design Report” (Wood Rodgers, 2013). A one percent annual chance peak flow of 226,000 cfs (VCWPD, 2006) in the Santa Clara

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River at Highway 101 was used for the evaluation of the existing levee system. A design flow in the Santa Clara River of 250,000 cfs, which is approximately ten percent greater than the best available estimate of the one percent annual chance peak flow (consistent with estimates of future flows after further development of the watershed), was used in the evaluation and as a basis for design improvements to SCR-3. The additional ten percent is factored in to address the inherent uncertainty of estimating 100-year peak flows, thereby building a reasonable measure of resiliency into the Project design. Climate change (potential for fewer but more extreme storms), sea level rise, and possible minor changes within the watershed are all examples of uncertainty.

The results of the Wood Rodgers evaluation concluded that the existing levee in Reaches 1-3 does not have sufficient freeboard to convey the estimated 100-year peak flows in the Santa Clara River and therefore will require construction improvements. The evaluation indicated that Reach 1 and the lower portions of Reach 2 (Stations 152+00 to 170+00 – current starting point of Station 150+00 differs from Wood Rodgers definition) meet bank protection requirements, but embankment protection is deficient along the middle and upper portions of Reach 2 (Station 170+00 to 202+00 – ending point of Station 202+00 differs from Wood Rodgers definition). Construction and implementation of the Bendway Weir Project has since remediated these deficiencies along the upper portion of Reach 2 (Station 190+00 to 202+00). For Reach 3, the evaluation indicated that the existing embankment protection within the lower portion (Station 202+00 to 216+00), coupled with the weirs constructed in 2006, are sufficient to meet the requirements of 44 CFR §65.10. However, within the upper portion of Reach 3 (Station 216+00 to 221+00 – Note: End point for Reach 3 was later adjusted to 217+50 as a result of the design of Reach 4) embankment protection is deficient. Additionally, based on the analysis of the existing interior drainage system, Wood Rodgers determined that while the interior drainage system was mostly sufficient for FEMA certification, some improvements are required including the addition of proper positive closure devices (automatic gates) at several of the outfalls (storm drain or pipe openings) located along Reaches 1-4. At the time of the Wood Rodgers study, it was concluded that there were no levees or floodwalls in Reach 4, but since then the VCWPD has located 1966 design drawings documenting the construction of a levee on the river side and land side of what is now N. Ventura Road to the UPRR, and connected by a high point in the road itself. As in Reaches 1-3, the Reach 4 levee is currently insufficient to protect against the one percent annual chance flood. Upstream of the UPRR, no levee or floodwall connects to the SCR-1 levee system, thus representing a “gap” in flood protection. In the Wood Rodgers report, Reach 4 was defined as extending from the upstream end of Reach 3 to the Highway 101 Bridge. This Project defines Reach 4 as extending from the upstream end of Reach 3 to the northeast edge of the UPRR property, with the segment from UPRR to the Highway 101 Bridge being the “gap” in flood protection to be addressed separately by The Village development at the Wagon Wheel site.

Wood Rodgers also examined the continuity of protection along Reaches 1-3 by determining whether the levee was above or below the 100-year water surface elevation. The analysis identified that the water surface exceeded the height of the levee just upstream of Victoria Avenue (Reach 1), at each end and in the middle of Reach 2, at the upstream end of Reach 3, and in Reach 4. The absence of any flood protection in the “gap” also indicates lack of continuity.

Following the Wood Rodgers evaluation, in October 2013 the VCWPD commissioned RBF Consulting (RBF, now Michael Baker International) to carry the Project from 30 percent to 100 percent design. RBF completed a detailed review of the previous work completed by Wood Rodgers and prepared numerous additional technical studies in support of the SCR-3 design, including detailed hydraulics, scour calculations, geotechnical investigations, review of FEMA certification requirements, and a type

selection report for the floodwall design. As a result of these studies, the recommended improvements to SCR-3 were revised. Specifically, the geotechnical investigations performed by Kleinfelder on behalf of RBF provided new information on the existing bank protection in Reach 2. The previous Wood Rodgers evaluation had indicated that the existing riprap in the middle portion of Reach 2 (Station 170+00 to 190+00) may be inadequate. This determination was based on the available information at the time. The subsequent geotechnical testing revealed that the toe down depths and riprap gradation are similar to other sections in Reach 2 and appear to be adequate (RBF, 2014). Therefore, improvements to the existing embankment protection in Reach 2 are no longer required to meet the certification requirements and have been removed from the scope of the proposed Project improvements. A complete description of the proposed improvements as a result of the design assessment completed by RBF and in consultation with the VCWPD is provided in Section 2.5.

2.3.3 Project Site Assessor’s Parcel Numbers, Zoning, and General Plan Land Use Designations

The proposed Project would occur on parcels along the existing SCR-3 levee owned by the VCWPD, on lands within unincorporated Ventura County and in the City of Oxnard along the Santa Clara River. N. Ventura Road would be affected by Reach 4 of the proposed Project. Adjacent parcels, or portions thereof, owned by the City of Oxnard and the County of Ventura (VRSD) would also potentially be affected in Reaches 1-3. These properties are identified by the Assessor Parcel Numbers (APNs) listed in Table 2-1.

APN	Owner	Size (Acres)
138-0-190-280	Ventura County Watershed Protection District	25.9
138-0-190-300	Ventura County Watershed Protection District	25.9
138-0-190-290	Ventura Regional Sanitation District	75.9
138-0-190-335	Ventura County Watershed Protection District	6.1
138-0-190-345	Ventura Regional Sanitation District	2.4
138-0-190-155	Ventura Regional Sanitation District	26.4
138-0-190-315	Ventura County Watershed Protection District	6.9
138-0-190-325	Ventura Regional Sanitation District	2.7
138-0-190-230	Ventura Regional Sanitation District	69.3
179-0-070-080	Ventura County Watershed Protection District	9.3
179-0-070-255	City of Oxnard	162.9
179-0-050-050	Montalvo Municipal Improvement District	26.3
179-0-050-105	Ventura County Watershed Protection District	33.4
179-0-070-265	City of Oxnard	9.5
139-0-010-365	Borchard M Christine et al	0.4
139-0-010-305	Ventura County Watershed Protection District	54.4
139-0-010-480	Southern Pacific Transportation Company	4.7
139-0-010-275	Kaufman and Broad Land Co.	0.1
139-0-010-470	Southern Pacific Transportation Company	0.4
139-0-010-460	Southern Pacific Transportation Company	0.5
139-0-010-285	Ventura County Watershed Protection District	0.4

As noted above, SCR-3 is located on unincorporated County of Ventura lands adjacent to the City of Oxnard, and parallels the Bailard Landfill, Coastal Landfill, River Ridge Golf Course, Santa Clara Landfill, and N. Ventura Road. Levee improvements would have the potential to impact these parcels of land as

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Project Description

well as N. Ventura Road. Therefore, the proposed Project is subject to the management direction of the City of Oxnard General Plan and the Ventura County General Plan. Each plan contains goals, policies, and programs that are used to evaluate proposed projects within the City and County. The General Plan programs are a coordinated set of measures to be implemented by City and County staff and other public agencies to carry out the goals and policies. Per the Ventura County General Plan, the proposed Project site, with the exception of those elements on and south of N. Ventura Road (City of Oxnard), is zoned as Open Space (Ventura County, 2010). The Project site is not located within any County Area Plan (Ventura County, 2008). The Reach 4 floodwall would cross N. Ventura Road at the high point in the road (Station 227+00), which is when the Project would be within the City of Oxnard. The six-foot flood gate and the portion of the floodwall on the south side of N. Ventura Road would be located within or adjacent to the City's roadway until the floodwall ends just northeast of the UPRR embankment. The most relevant goals and policies of the applicable General Plans are listed below. The proposed Project does not conflict with implementation of the General Plan programs, and the proposed Project is considered to be consistent with all of the General Plan goals and policies.

Ventura County General Plan (Ventura County, 2015)

- Hazards Goals, Section 2.1.1
 - (2) Protect public health, safety and general welfare from identified hazards and potential disasters.
 - (3) Shield public and private property and *essential facilities* from identified hazards and potential disasters.
 - (4) Minimize loss of life, injury, damage to structures, and economic and social dislocations resulting from identified hazards and potential disasters.

City of Oxnard General Plan (City of Oxnard, 2011)

- Infrastructure and Community Services Goals and Policies, Section 4

ICS-13: Stormwater Drainage – Adequately sized storm drain systems and discharge treatment, certified levees, and implementation of appropriate National Pollutant Discharge Elimination System (NPDES) permits and regulations.

ICS-13.1: 100-year Floodplain – Discourage development, major infill, and structural improvements (except for flood control purposes) within the 100-year floodplain as regulated by FEMA. Recreational activities that do not conflict with habitat uses may be permitted within the floodplain.

ICS-13.5: FEMA-Certified Levees – Work expeditiously with County, State, and Federal agencies and the private sector to achieve full certification of Santa Clara River Levees that impact Oxnard and the Planning Area.

ICS-15: Landfill Compatibility – Manage development adjacent to closed landfill areas that mitigate health and safety hazards.

ICS-15.3: Development Near Bailard Landfill – Ensure that development within 1,000 feet of the Bailard Landfill site undergoes appropriate environmental review to ensure that proposed land uses do not impinge on the post-construction activities of the landfill. Input from the Ventura Regional Sanitation District shall be included in the review process.

ICS-19: Law Enforcement – Adequate and effective law enforcement and the incorporation of crime prevention features in developments.

ICS-19.5: Incorporating Security Design Principles – Encourage crime prevention and defensible space through design principals such as those employed through the National Crime Prevention Through Environmental Design program, Neighborhood Watch Program, and/or other appropriate methods to enhance public safety.

ICS-20: Fire Protection – Protect the public through effective fire protection services and the incorporation of fire safety features in new development.

ICS-20.10: Adequate Emergency Access and Routes – Require that new development provide access for emergency vehicles, particularly firefighting equipment, and evacuation routes, as appropriate.

- Safety & Hazards Goals and Policies, Section 6

SH-3: New Development Mitigations – New development required to take necessary precautions prior to any construction to mitigate hazards and protect the health and safety of the inhabitants.

SH-4: Emergency Preparedness – Emergency preparedness through the provision of adequate fire and police protection, infrastructure, emergency supply stockpiling, public education, Emergency Operations Center planning and procedures, and outreach programs.

2.4 Statement of Project Objectives

As noted above, the existing SCR-3 levee system is composed of four reaches built by different agencies over many years, with different sections completed at different times for different purposes, and the section between the UPRR and the Highway 101 Bridge has a 750-foot-long “gap” in flood protection. As such, SCR-3 has neither a unifying design nor a specific design capacity to protect properties in the City of Oxnard during high flow events. Over 3,800 structures and roadways located in the northern portion of the City of Oxnard are currently subject to flooding due to existing deficiencies in the SCR-3 levee system. The objectives of the proposed Project are described below.

- Construct new, upgrade existing, and maintain the SCR-3 structures to provide continuous flood protection to properties in the City of Oxnard that would otherwise require flood insurance under the NFIP and do so in a cost-effective manner prior to FEMA revision of adjacent FIRMs.
- Achieve compliance with FEMA levee certification requirements as identified in 44 CFR §65.10 through implementation of structural improvements to the SCR-3 levee system capable of withstanding a one percent annual chance flood event.
- Design flood protection structures that accommodate a future bikeway along N. Ventura Road in support of the City of Oxnard Santa Clara River Trail Master Plan.

Project Benefits. The primary recipients of benefits of the proposed Project include residents of the City of Oxnard that are currently located within the inundation area on the landward side of SCR-3 (not yet represented on the effective FEMA DFIRMs). People who own property within this area would also benefit from the flood hazard protection that would be introduced with the proposed Project. According to the land use inventory and economic analysis prepared for the Santa Clara River Levee, over 3,800 structures are within the floodplain protected by SCR-3, where damages from the one percent annual chance flood event have been estimated at approximately \$345,534,000 (Tetra Tech, 2014). By improving SCR-3 to provide flood protection to the City of Oxnard for the one percent annual flood event, the VCWPD would be able to submit to FEMA a LOMR for the Project area and achieve FEMA levee certification in compliance with 44 CFR §65.10. The regulatory requirement for property owners in the northern area of the City of Oxnard with federally-backed mortgages to purchase flood insurance would be eliminated.

2.5 Description of Project Characteristics

The proposed Project consists of implementing improvements to SCR-3 between the northeast end of the Bailard Landfill and the proposed Village development generally following the southern bank of the Santa Clara River near the City of Oxnard, California. Project improvements would occur along an approximately 2.0-mile (10,775-foot) stretch of the SCR-3 levee system (includes the southern portion of the “gap”). As noted above, for purposes of analysis, the VCWPD has divided the SCR-3 levee system into four reaches, as follows:

- Reach 1 – Extends approximately 2,125 feet from the northeast corner of the Bailard Landfill upstream to the Coastal Landfill (just east of Victoria Avenue) (Station 128+75 to 150+00).
- Reach 2 - Extends approximately 5,200 feet along the Coastal Landfill to a point just west of N. Ventura Road (Station 150+00 to 202+00).
- Reach 3 – Extends approximately 1,550 feet from Reach 2 to the point where N. Ventura Road turns easterly and is parallel to the Santa Clara River, approximately 2,600 feet west of Highway 101 (Station 202+00 to 217+50).
- Reach 4 – Extends approximately 1,936 feet from Reach 3 (Station 217+50) upstream to the northeast side of the UPRR crossing (Station 217+50 to Station 236+86). The approximately 750-foot gap between the UPRR and the Highway 101 Bridge will be addressed by The Village development.

2.5.1 Levee Reaches 1-3

Within Reaches 1-3, VCWPD is considering two design options, both of which would fully protect residential and commercial properties at risk during a one percent annual chance flood event. The first option (Option 1A) provides a continuous raised earthen levee, reducing the need for landfill tie-ins, and provides the highest level of flood protection. The second option (Option 1B), ~~which provides for an estimated saving of approximately \$2 million,~~ takes advantage of the existing high ground located along stretches of the existing levee, essentially eliminating levee improvements in Reach 2 in place of filling the existing City of Oxnard River Ridge Golf Course swale (i.e., low-lying or depressed and often wet stretch of land on a golf course). VCWPD intends to submit a CLOMR for Option 1A. ~~Option 1A would also be carried forward for full impact analysis due to uncertainty over FEMA approval of the greater number of landfill tie-ins associated with Option 1B, as well as the additional previously unforeseen cost and schedule delays associated with Option 1B.~~ Each of these options is described in more detail below.

2.5.1.1 Option 1A – Full Levee System (Preferred)

Within Reaches 1-3 Option 1A would provide for a continuous raised earthen levee on top of the existing levee for the full limits of the Project improvements (Station 128+75 to 217+50, approximately 8,875 feet), while minimizing tie-ins to the existing landfills, as shown in Figure 2-32. To raise the levee, approximately 28,500 cubic yards (CY) of the existing levee material would be excavated to prepare the foundation, along with removal of general debris, vegetation (see discussion below), and abandoned facilities within the construction limits. It is anticipated that excavated soils would be reused on site, whereas other materials would be managed in accordance with Ventura County Ordinance #4421, which requires submittal of a recycling plan (Form B) prior to beginning construction; compliance with the plan during construction; and submittal of a Form C report, and receipts upon conclusion of work documenting that at least 60 percent of materials generated by the Project were recycled and reused. Approximately 36,000 CY of new fill material, up to 5,000 CY of rock riprap of varying size (1/4- to 1-

ton) to fill any gaps in existing bank protection within the vegetation thinning area (see Section 2.5.3), and approximately 3,000 CY of rock riprap (1/4 to 1/2-ton rocks in Reaches 1-2 and up to 1 ton in Reach 3) would be placed to raise and protect the existing levee.

~~One landfill tie-in to the Bailard Landfill would be required.~~ A floodwall (concrete retaining wall), approximately 390-feet long along the levee roadway, would also be required to continue the levee adjacent to the City of Oxnard River Ridge Golf Course maintenance yard. The floodwall would be installed in lieu of raising the earthen levee in this segment, as a taller earthen levee would bury a portion of the maintenance yard, but would provide comparable flood protection. Additionally, gas monitoring or collection system lines associated with the landfills, which are currently located along the landside of the levee, would be relocated in those areas where the landside fills are being constructed in close proximity.

Within Reaches 1-3, the design of the raised levee would include a 15-foot wide CMB maintenance road along the top of the levee. The restored maintenance road would extend approximately 8,700 feet from the northeast corner of the Bailard Landfill to N. Ventura Road. Access to the levee and associated maintenance road would remain restricted following completion of the proposed Project, as is the case under existing conditions. Five-foot chain link fencing (approximately 1,800 feet) and three “swing” gates would be added to maintain security. However, public access may be permitted after the City of Oxnard completes its Santa Clara River Trail (SCRT).

Sheet pile would be installed along approximately 400 feet of Reach 3 from Station 214+00 to 217+50 and would tie into the Reach 4 improvements. The sheet pile would be installed to depths ranging up to about 50 feet below ground to provide scour protection, thereby eliminating the need for additional bendway weirs in the area.

This design will provide for full flood protection along Reaches 1-3, including protecting the VRSD flare, City of Oxnard River Ridge Golf Course maintenance yard, and existing closed landfills located immediately adjacent to SCR-3.

2.5.1.2 Option 1B – Minimum Levee System (Preferred)

Option 1B reduces the extent of levee improvements. It includes an earthen raised levee within Reach 1 between Stations 128+75 and 150+00 (approximately 2,125 feet) that ties into the existing closed ~~Bailard and~~ Coastal Landfills as high ground, as well as raising the levee within Reach 3 between Stations 203+00 and 217+50 (approximately 1,450 feet), with a tie-in at the downstream end to the Santa Clara Landfill, as shown in Figure 2-43. Up to 3,000 CY of rock riprap of varying size (1/4- to 1-ton) may be placed to fill any gaps in existing bank protection within the vegetation thinning area on the upper river side levee face (see Section 2.5.3). To raise the levee, approximately 6,090 CY of the existing levee material would be excavated to prepare the foundation. Approximately 13,000 CY of new fill material and 2,040 CY of rock riprap (1/4- to 1/2-ton rocks in Reaches 1-2 and up to 1 ton in Reach 3) would be placed to raise and protect the existing levee. As noted above for Option 1A, excavated soils would be reused on site, whereas other materials (e.g., general debris, vegetation, and abandoned facilities) would be managed in accordance with Ventura County Ordinance #4421 to the extent practicable. Additionally, gas monitoring or collection system lines associated with the landfills would be relocated in those areas where the landside fills are being constructed in close proximity.

No improvements to the existing levee would occur in Reach 2, such that no flood protection would be provided to the VRSD flare or the City of Oxnard River Ridge Golf Course maintenance yard. Instead, the existing golf course drainage swale, located at the mid-point of Reach 2, would be filled in to close

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a potential path for floodwater to escape from the Santa Clara River and reach residential areas located south of the golf course. A pipe would be installed beneath the fill to convey flows that currently pass through the swale to the river; a flap gate would be installed over the end of the pipe to prevent river flows from entering it during floods. Filling the golf course swale would essentially eliminate Reach 2 (Station 150+00 to 203+00, or approximately 5,300 feet) as a levee system, and avoid the construction requirements to improve the levee to meet FEMA criteria. Approximately 15,900 CY of fill material would be imported to fill the golf course swale. Areas of the golf course impacted by project construction, such as landscaping, irrigation, and drainage (other than the swale itself which would be permanently altered), would be restored to pre-project conditions. As construction activities associated with filling the swale would disrupt play on the 8th hole of the Vineyard Course, the golf course green located immediately east of the swale would be temporarily relocated for several weeks during construction.

Within Reaches 1 and 3, the design of the raised levee portions would include a 15-foot wide CMB maintenance road along the top of the levee totaling approximately 3,500 feet in length. Access to the levee and associated maintenance road would remain restricted following completion of the proposed Project, as is the case under existing conditions. Five-foot chain link fencing (approximately 1,800 feet) and three “swing” gates would be added to maintain security. However, public access may be permitted after the City of Oxnard completes its SCRT. The entire CMB access road would remain in its existing condition (non-asphalted) and thus may require further modification by the City of Oxnard during its future development of the SCRT.

As with Option 1A, sheet pile would be installed along approximately 400 feet of Reach 3 from Station 214+00 to 217+50 and would tie into the Reach 4 improvements.

This design provides for full flood protection along Reaches 1-3 for the residential and commercial properties at risk during the one percent annual chance flow event. It does not, however, protect the existing VRSD flare and City of Oxnard River Ridge Golf Course maintenance yard in Reach 2, or provide additional river bank protection for the existing closed landfills. The existing Reach 2 levee access road would also not be raised above the 100-year water surface elevation. As such, additional inspections and other actions would be required for long-term maintenance and operations of this design. A comprehensive operations and maintenance plan would be required to monitor the levee bank and provide corrective measures if significant bank failures were to occur.

2.5.2 Levee Reach 4

Within Reach 4, VCWPD is proposing a new floodwall along N. Ventura Road to improve the existing SCR-3 levee segment constructed in 1966. In conjunction with improvements to be constructed in support of The Village development, the floodwall would provide flood protection for properties downstream of the UPRR and southeast of the Santa Clara River. Flood protection between the UPRR and Highway 101 (the Wagon Wheel site) would be provided as part of The Village Specific Plan development (Tentative Tract No. 5745 – Not part of the SCR-3 Project), with the City of Oxnard acting as lead agency for that component. This may take the shape of simply elevating all building pads above 78.5 feet NAVD prior to construction, or a combination involving elevated building pads with a floodwall to achieve protection of sufficient height (78.5 feet NAVD). Currently, Phase 1 of The Village development, which is located near Oxnard Boulevard, is under construction. One affordable housing apartment complex has been built, and construction of additional buildings is expected to continue. Each phase would be required to comply with the City’s floodplain management ordinance. If the

developer proposes a floodwall, both SCR-3 and The Village flood protection designs may be submitted simultaneously to FEMA for accreditation in accordance with the NFIP requirements. Accreditation associated with The Village development may not be necessary if flood improvements at the site were to consist entirely of building pads elevated above 78.5 feet NAVD.

The proposed Project in Reach 4 would include construction of a floodwall on the river side of N. Ventura Road for approximately 968 feet, as shown in Figure 2-54. The floodwall would have a visible height of approximately six feet, and would include a concrete foundation with a masonry wall. The floodwall would be located approximately 17.5 feet from the existing roadway pavement of N. Ventura Road. This distance would accommodate the future bikeway (16-foot wide), planned as part of the SCRT Master Plan (see list of cumulative projects provided in introduction to Section C), and a curb and gutter along the roadway. Where curb and gutter already exist, the floodwall would be offset by 16 feet. On the river side of the floodwall, a 15-foot-wide soil cement maintenance access road would be installed at the base of the floodwall to permit regular facility inspections. Sheet pile would be placed on the river side of the access road at depths of up to about 50 feet below ground to protect the floodwall from scour. In some locations along the westerly end of the floodwall, where the road would be at a higher elevation than the adjacent land, a short slope would be constructed on the river side of the access road. Additionally, loose rock riprap would be placed on the slope to protect it from erosion.

The floodwall would then cross N. Ventura Road at the high point in the road (Station 227+00). A six-foot-high flood gate would be installed at this roadway crossing. The flood gate is proposed to be a FloodBreak Automatic Floodgate system (or equal). The system would include a steel floating panel that hinges into a recess in the pavement along N. Ventura Road. In its normal position, the gate would be flat and act as the roadway surface. It can be used in automatic and manual operation. In the automatic mode, when flood waters rise and approach the flood gate, the gate floats and rotates upward. As the water rises, the gate continues to rise until it reaches the full height. The hydrostatic pressure of the flood water activates the self-sealing rubber flange against the concrete abutments, which would be installed on both sides of N. Ventura Road to provide the closure with the gate. In manual mode, the gate is manually raised to the desired position. Construction of the gate requires modifications to N. Ventura Road and installation of the concrete abutments on each side of the gate. The concrete abutments would be tied directly into the adjacent proposed floodwalls.

The installation of the flood gate in N. Ventura Road requires the relocation of numerous utilities under the roadway impacted by the gate. These utilities include existing gas, water, and sewer lines, as well as storm drains. In general, the utilities would be lowered to provide adequate room for installation of the flood gate. If the gate is used in the automatic mode, interconnected signals would be installed to close the street prior to the gate starting to rise. Once the flood waters recede, the gate would be lowered and the street re-opened. Following a flood event exceeding a discharge of 175,000 cfs, it is anticipated that approximately one week could be required to clean any sediment and debris deposited on the roadway as a result of the flood event.

The floodwall would continue along the top of the existing slope on the south side (land side) of N. Ventura Road for approximately 888 feet, then transition to a 40-foot-long earthen embankment abutting and perpendicular to the south UPRR embankment. A similar 40-foot-long earthen embankment would be constructed on UPRR land northeast of the railroad embankment to tie into the flood protection structure to be constructed by The Village development. The floodwall would vary in height from six feet (at the flood gate) and fairly quickly transition down to four feet ~~near~~until the El Rio Drain. The floodwall itself would be a masonry wall (no sheet pile). Placement of the floodwall along the south

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side of N. Ventura Road would impact the landscaping and concrete path that currently exists in this area; therefore, it has been estimated that approximately 14,000 square feet of landscaping and 8,400 square feet of concrete trail improvements would need to be restored to essentially maintain the character and function of the landscaping and path following construction.

At the El Rio Drain crossing, to accommodate the new floodwall, the existing outlet structure would be reconstructed, and a flap gate added to the channel section that discharges directly under N. Ventura Road. The maintenance access bridge over the El Rio Drain would not be modified (protected in place). Northeast and southwest of the UPRR embankment, approximately 600 CY of fill material would be added to complete the SCR-3 improvements. This fill material essentially provides the upstream abutment or terminus of the concrete floodwall at the existing railroad embankment. The fill is required to avoid impacting the railroad infrastructure and to provide sufficient distance from the active railroad for the floodwall construction.

To prepare the site for installation of the floodwall, approximately 0.9 acre of existing vegetation along the Santa Clara River (northwest side of N. Ventura Road) and 0.3 acre of landscaping (southeast side of N. Ventura Road) would be cleared along the alignment, four high-pressure gas valves would be relocated, and approximately 1,700 CY of riprap would be removed and replaced within the western limits of the floodwall area and along the land side floodwall. Upon completion of the floodwall, approximately 200 feet of five-foot chain link fencing and a swing gate would be added at the tie-in to Reach 3 to restrict access to SCR-3. Public access would be restricted until the City of Oxnard installs its SCRT.

2.5.3 Vegetation Removal

Vegetation would be removed to prepare the Project site for the proposed improvements. Within Reaches 1-3, approximately 7.0 acres of clearing and grubbing is anticipated for Option 1A (Full Levee System), and approximately 6.3 acres for Option 1B (Minimum Levee System). Clearing and grubbing would be performed on a combination of vegetated areas (e.g., golf course landscaping) and non-vegetated areas with interfering materials (e.g., concrete debris, abandoned pipes, trash).

To improve levee inspection and maintenance, some vegetation along the existing SCR-3 levee (Reaches 1-3) would be removed based on the requirements of the DWR Levee Vegetation Policy, which provides for the integration of woody vegetation for existing levees. Trees within 20 feet of the top of the levee, on the waterside slope, would be trimmed up five feet above ground and thinned enough for visibility and access. Brush, weeds, or other vegetation (ground cover) up to a height of 5 feet blocking visibility and access would be trimmed, thinned, mowed, dragged, or otherwise removed from the same area within 20 feet of the top of levee. Anticipated removal methods include hand cutting with a chainsaw, loppers, and weed whip and then placing cut material in a loader bucket to transfer to a truck for removal. Within Reaches 1-3, it is estimated that approximately 2.8 acres of vegetation thinning would occur under Option 1A (Full Levee System), which under Option 1B (Minimum Levee System) would be reduced to approximately 1.1 acres. The vegetation thinning area on the upper river-side levee face differs from the clearing and grubbing area described in the previous paragraph. The condition of existing rock riprap bank protection within the vegetation thinning area would be evaluated once visibility is improved, and additional rock riprap would be placed to fill any observed gaps.

Within Reach 4, vegetation removal activities would be more limited in scope, and would be done specifically to allow for installation of the floodwall. Approximately 0.9 acre of clearing and grubbing is anticipated along the Santa Clara River (northwest side of N. Ventura Road) and 0.3 acre of landscaping would be cleared on the southeast side of N. Ventura Road along the floodwall alignment.

2.5.4 Interior Drainage System

In order to comply with Title 44 CFR §65.10 (b)(2), all openings (e.g., storm drain outlets) along SCR-3 must be provided with closure devices that are structural parts of the system during operation and designed according to sound engineering practices. The closure requirement precludes the use of sand bags or other temporary devices that must be put in place prior to a flood event. Based on generally accepted practices, modifications may include the addition of automatic flap or duckbill gates on small existing openings up to 48-inch diameter and installation of both an automatic flap or duckbill gate and a manual slide-type gate on larger existing openings. Within Reaches 1-4, there are nine existing gravity drain outlets (openings) that outfall into the Santa Clara River, as shown in Figure 2-65 and detailed in Table 2-2.

As part of the proposed Project, new or replacement flap gates and slide gates would be installed on all openings along Reaches 1-4 to meet FEMA certification requirements. In addition, along the floodwall in Reach 4, a new reinforced concrete drain would be installed along with a flap gate. These closure devices will prevent possible backflow into the interior drainage watershed during high flood conditions within the Santa Clara River.

Table 2-2. Existing Levee Openings and Closure Devices			
Station	Type of Opening	Opening Size	Closure Device
Reach 1			
131+80	Pipe	48" RCP	Flap Gate
134+30	Pipe	24" RCP	<i>None</i>
144+95	Box Culvert	6' x 6' RCB	Flap and Slide Gates
Reach 2			
181+05	Pipe	66" RCP	<i>None</i>
Reach 3			
207+10	3 Pipes	2 - 72" and 1 - 66" RCP	Flap Gates
213+50	Pipe	24" CMP	Flap Gate
Reach 4			
227+55	Double Box Culvert	2 - 6' x 7' RCB	<i>None</i>
233+70	Box Culvert	8' x 2' RCB	<i>None</i>
235+55	Pipe	24" RCP	Flap Gate

Source: Wood Rodgers, 2013 (Table 6). *Table does not include small golf course slope drains.

Acronyms: RCP=Reinforced Concrete Pipe; RCB=Reinforced Concrete Box; CMP=Corrugated Metal Pipe

2.6 Construction

2.6.1 Construction Schedule

Construction of the proposed Project is anticipated to occur over a 27-month period, beginning in fall or winter 2016. Construction would occur sequentially, starting within Reaches 1-3 (Phase 1) followed by Reach 4 (Phase 2), as funding is secured, with concurrent work occurring as necessary to meet schedule demands. Construction activities would occur between 7:00 a.m. and 7:00 p.m., Monday through Friday. No construction is expected on weekends or holidays. No daytime lighting would be

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required during construction of the Project, including at the staging area(s); however, nighttime lighting would be required if the contractor chooses to work after sunset until 7:00 p.m. during the fall and winter.

Tables 2-3 through 2-5 (following Figures 2-32 to 2-65) present an accelerated construction schedule for Reaches 1-3 Option 1A (Table 2-3) and Option 1B (Table 2-4) and Reach 4 (Table 2-5), by work task for the proposed Project. These tables reflect a worst-case scenario for potential impacts to air quality and traffic.

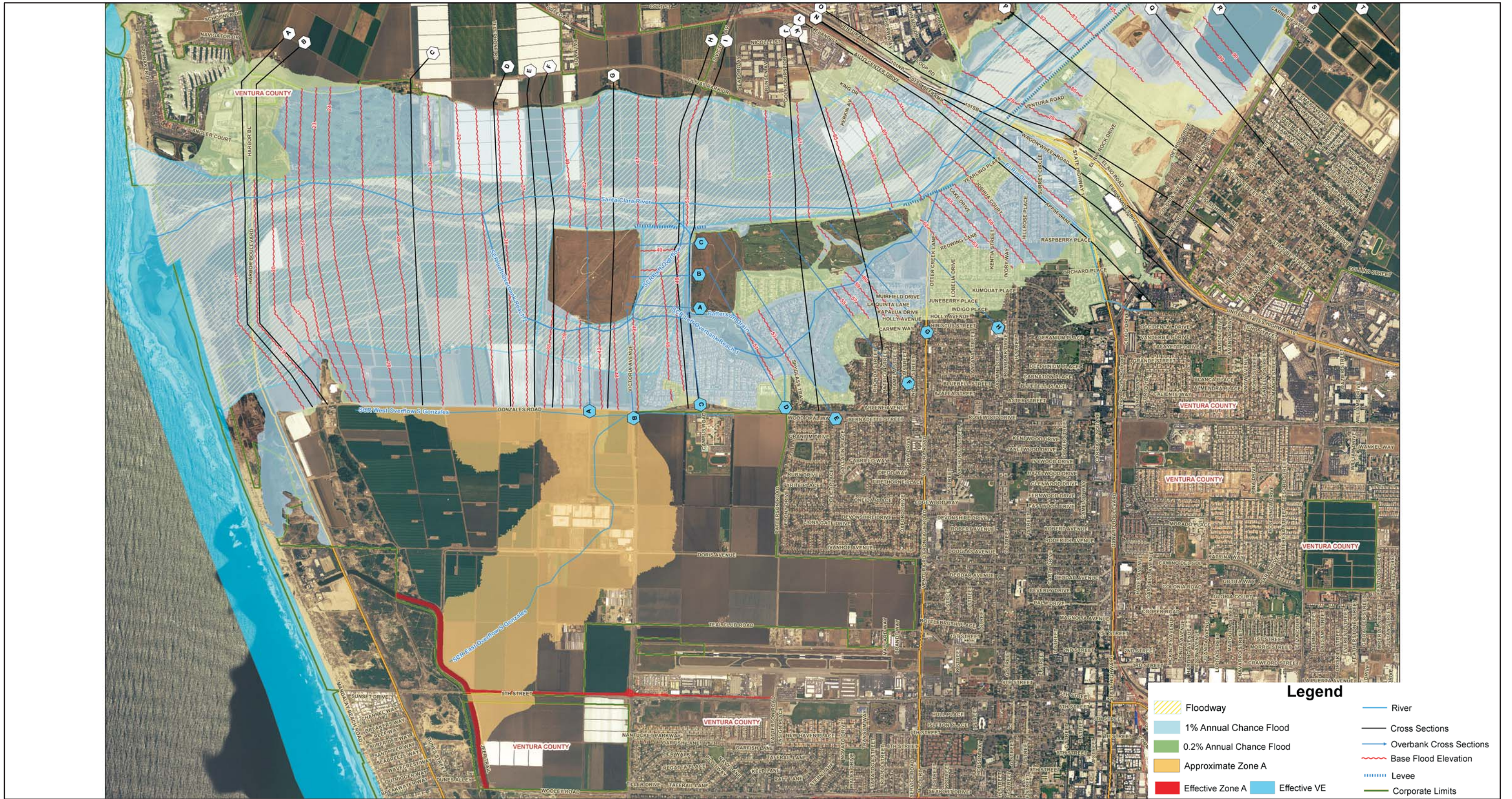
2.6.2 Staging Areas

Four areas have been identified by the VCWPD for staging of construction vehicles, equipment, and materials. The first staging area would be a 0.4-acre site (APN 138-0-190-345) located just west of Victoria Avenue adjacent to the levee, north of the agricultural fields, near the western end of SCR-3 levee Reach 1 (see Figures 2-32 and 2-43). An additional 0.6-acre staging area (APN 138-0-190-315) is located on the east side of Victoria Avenue next to the Coastal Landfill. Access to these staging areas would occur off of Victoria Avenue utilizing the existing dirt road located less than 100 feet south of the Victoria Avenue Bridge crossing of the Santa Clara River. This road currently provides access to the agricultural lands located between the Bailard Landfill and Victoria Avenue as well as to SCR-3, and is a controlled access point (i.e., locked gate). The third staging area is a currently undeveloped, graded 2.4-acre site (APN 179-0-070-265) located immediately east of the City of Oxnard River Ridge Golf Course/Santa Clara Landfill near the eastern end of SCR-3 levee Reach 3 (see Figures 2-32 and 2-43). Access to this staging area would occur off of N. Ventura Road utilizing an existing dirt road located approximately 0.7 miles west of the Highway 101 overpass. This road currently provides access to SCR-3 and is also a controlled access point. The fourth staging area is a 0.1-acre site near the El Rio Drain, just southwest of the UPRR railroad bridge (see Figure 2-54). Access to this site would be from northeast-bound N. Ventura Road.

2.6.3 Materials and Waste

Construction of the proposed Project would require compacted earthen fill, riprap, concrete, and CMB, among other materials. Tables 2-6 and 2-7 provide estimates of the types and quantities of materials associated with construction of the Project. Most or all of the excavated materials would be reused on site as levee fill. Asphalt and concrete rubble would be recycled. Clear and grub green wastes generated during construction would be hauled to the nearest green waste recycling facility.

An on-site raw material excavation and re-use/export plan will be implemented for each work task. Solid waste generated during construction of the Project would be managed in accordance with Ventura County 4421, which requires submittal of a recycling plan (Form B) prior to beginning construction, compliance with the plan during construction, and submittal of a Form C report and receipts upon conclusion of work documenting that at least 60 percent of materials generated by the project were recycled and reused. The VCWPD will incorporate the requirements of this ordinance into the Project's contract specifications requirements. Earthen fill and riprap materials required for the Project will likely be obtained from local sources in Ventura County within approximately 30 miles of the Project site. Other materials such as concrete and fencing would be obtained from vendors within a 30-mile radius of the proposed Project site.

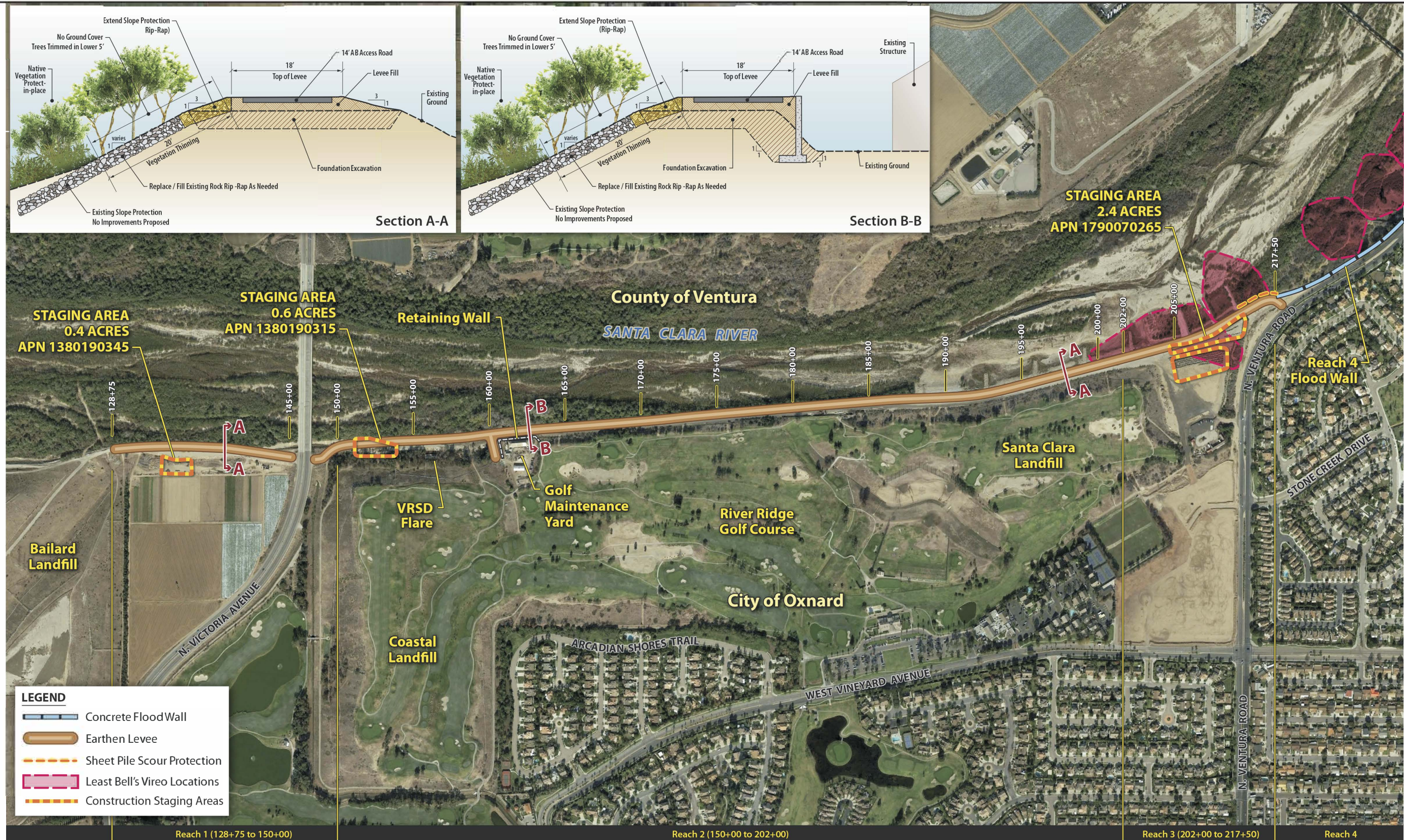


Source: FEMA, 2009.



Figure 2-2 (NEW)

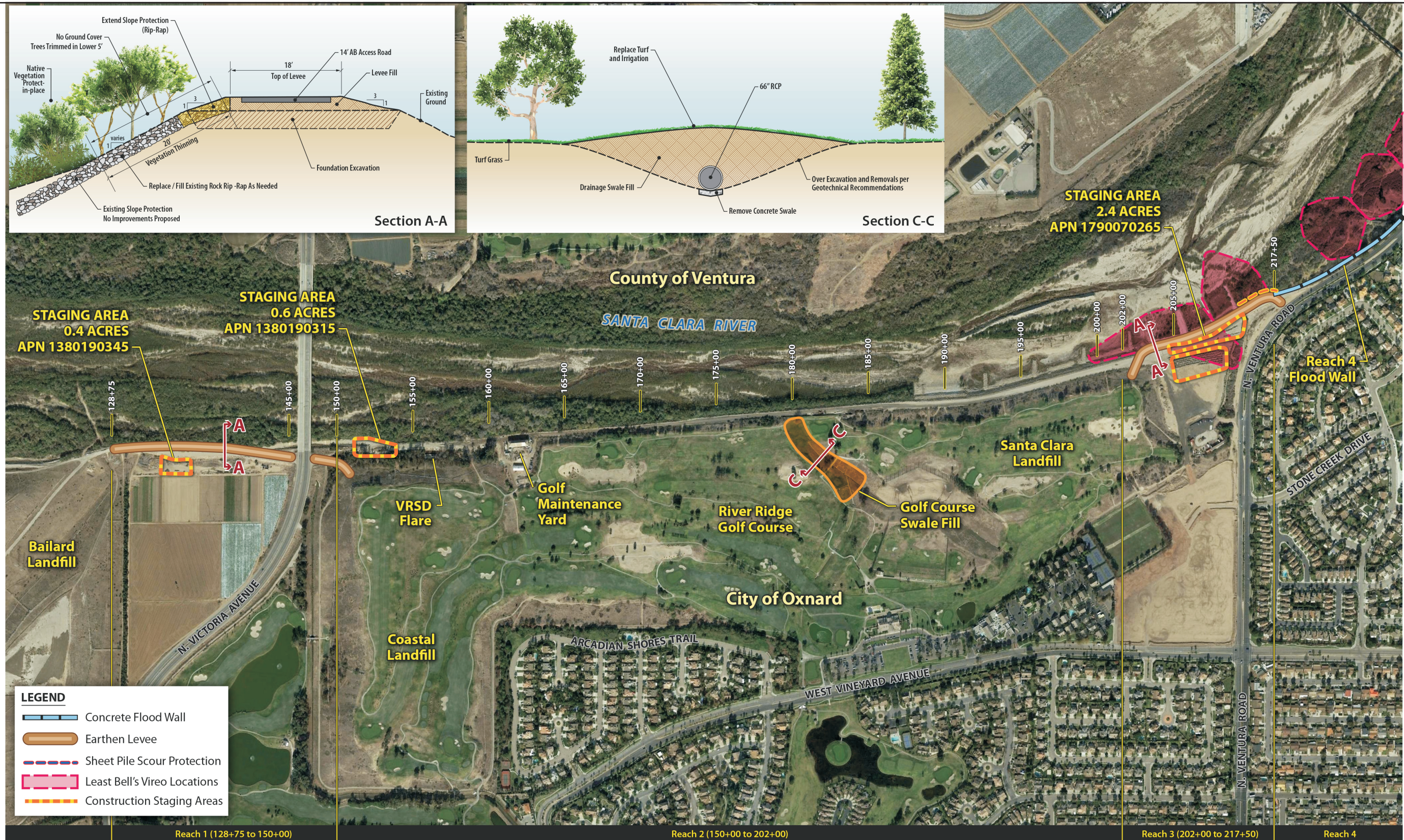
Extent of Flooding for the One Percent Annual Chance Flood



Source: MBI, 2016.



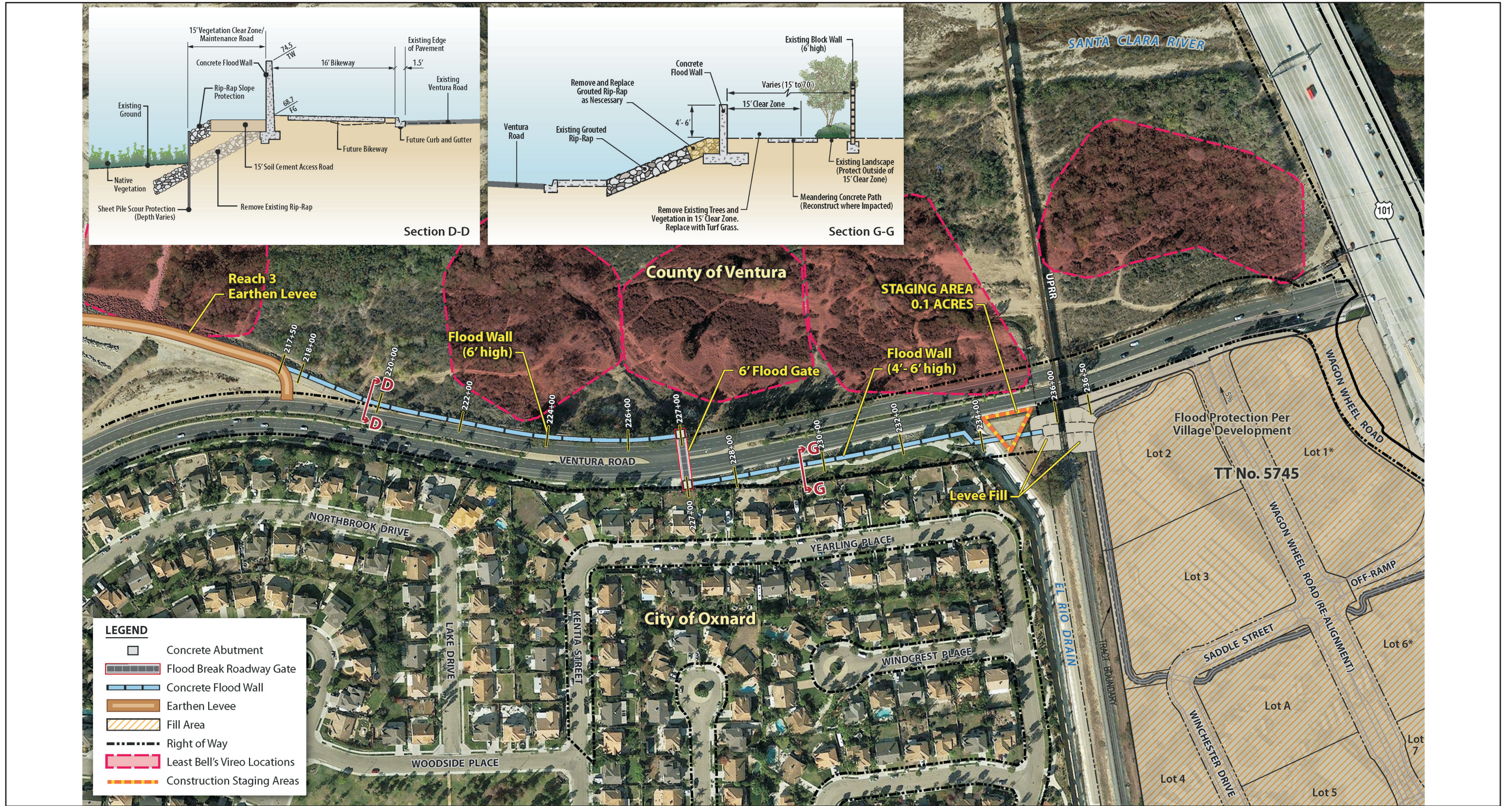
Figure 2-3 (REVISED)
Reaches 1-3: Option 1A Structural Improvements



Source: MBI, 2016.



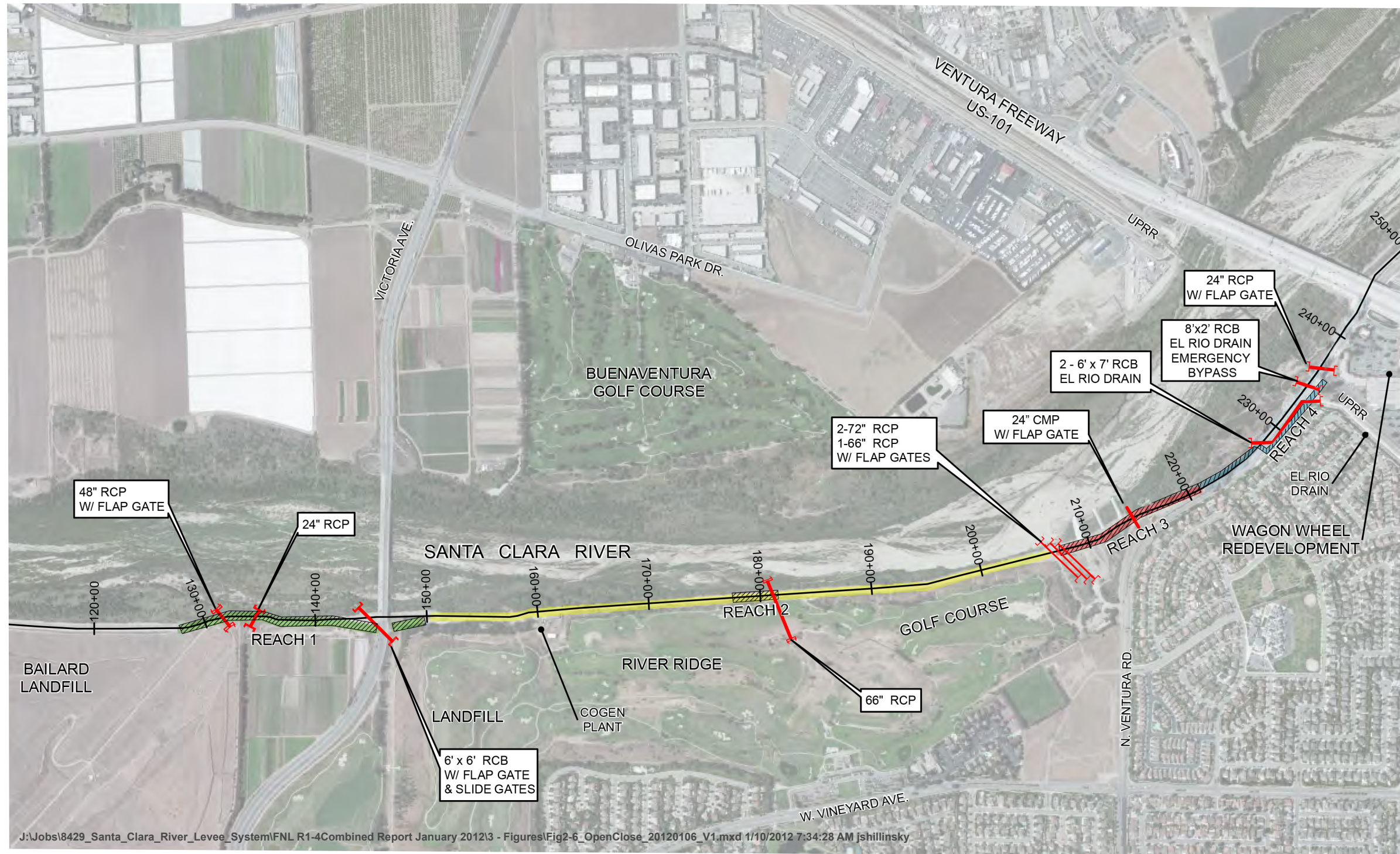
Figure 2-4 (REVISED)
Reaches 1-3: Option 1B Structural Improvements



Source: RBF, 2015

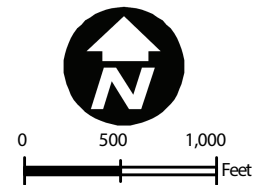


Figure 2-5
Reach 4. Structural Improvements



J:\Jobs\8429_Santa_Clara_River_Levee_System\FNL R1-4Combined Report January 2012\3 - Figures\Fig2-6_OpenClose_20120106_V1.mxd 1/10/2012 7:34:28 AM jshillinsky

Source: RBF, 2014.



- █ Reach 1
- █ Reach 2
- █ Reach 3
- █ Reach 4
- Existing Levee
- Existing Opening & Closure Devices

Figure 2-6

Existing Levee Openings and Closure Devices, Reach 1-4

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ID	Task Name	Duration	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7				Month 8			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1	Mobilization	4 weeks	█	█	█	█																												
2	Clearing and Grubbing	2 weeks					█	█																										
3	Demolition & Removals	2 weeks					█	█																										
4	Diversion and Control of Water	Not Needed																																
5	Traffic Control	2 weeks					█	█																										
6	Foundation Excavation	4 weeks							█	█	█	█																						
7	Levee Embankment Fill	12 weeks									█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█								
8	Landfill Tie-in	1 week																					█											
9	Rock Riprap	8 weeks																	█	█	█	█	█	█	█	█	█	█	█	█				
10	Concrete Retaining Wall	3 weeks									█	█	█																					
11	Structural Excavation & Backfill (for Item 10)	2 weeks													█	█																		
12	Flap Gate – 24", 66"	1 week																									█							
13	Slide Gate -24", 48", 66" & 72"	2 weeks																									█	█						
14	CMB Access Road	4 weeks																					█	█	█	█								
15	6' Chain Link Fence	1 week																													█			
16	Chain Link Gate	2 days																															█	
17	Hydroseeding	1 day																																█
18	Vegetation Thinning	1 week			█																													

Notes: CMB = crushed miscellaneous base

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ID	Task Name	Duration	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7				Month 8				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
1	Mobilization	4 weeks	■	■	■	■																													
2	Clearing and Grubbing	2 weeks					■	■																											
3	Demolition & Removals	2 weeks					■	■																											
4	Diversion and Control of Water	1 week										■												■											
5	Traffic Control	2 weeks					■	■																											
6	Foundation Excavation	2 weeks							■	■																									
7	Levee Embankment Fill	8 weeks									■	■	■	■	■	■	■	■																	
8	Landfill Tie-in	2 weeks															■	■																	
9	Rock Riprap	7 weeks														■	■	■	■	■	■	■	■	■											
10	Golf Course Fill	9 weeks													■	■	■	■	■	■	■	■	■	■											
11	66-in RCP	2 weeks														■	■																		
12	Flap Gate – 24", 66"	1 week																						■											
13	Slide Gate -24", 48", 66" & 72"	2 weeks																							■	■									
14	Concrete Headwall (for 66-in RCP)	1 week																						■											
15	CMB Access Road	2 weeks																						■	■										
16	6' Chain Link Fence	1 week																														■			
17	Chain Link Gate	2 days																														■			
18	Hydroseeding	1 day																														■			
19	Vegetation Thinning	1 week						■																											

Notes: CMB = crushed miscellaneous base; RCP= reinforced concrete pipe

Table 2-5. Construction Schedule – Reach 4 (Phase 2H)

ID	Task Name	Duration	Month 9				Month 10				Month 11				Month 12				Month 13				Month 14				Month 15				Month 16				Month 17				Month 18				Month 19				Month 20			
			33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	Mobilization	4 weeks	■	■	■	■																																												
2	Clearing and Grubbing	2 weeks					■	■																																										
3	Demolition & Removals	2 week					■	■																																										
4	Diversion & Control of Water	1 week					■																																											
5	Traffic Control	2 weeks				■	■																																											
6	Floodwall Foundation Excavation	4 weeks													■	■	■	■																																
7	River Side Floodwall	14 weeks													■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■																				
8	Land Side Floodwall	10 weeks																									■	■	■	■	■	■	■	■	■	■	■	■												
9	Sheet Pile Wall and Scour Protection	11 weeks									■	■	■	■	■	■	■	■																																
10	UPRR Embankment Fill	2 weeks																																					■	■										
11	El Rio Drain Channel Modification	3 weeks																																									■	■	■					
12	Rock Riprap Removal & Replacement	2 weeks																																									■	■						
13	6' Chain Link Fence	4 days																																												■				
14	Chain Link Gate	2 days																																												■				
15	RC Drain Channel & Flap Gate	2 days																																												■				
16	HP Gas Valve Relocations	1 week																																												■				
17	Landscaping	1 week																																												■				
18	Concrete Trail	2 weeks																																																
19	CMB Access Road	1 week																																																
20	Soil Cement Access Road	2 weeks																																																
21a	Utility Relocations	1 week																																																

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ID	Task Name	Duration	Month 9				Month 10				Month 11				Month 12				Month 13				Month 14				Month 15				Month 16				Month 17				Month 18				Month 19				Month 20			
			33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
21b	Concrete Abutments	2 weeks																																																
21c	Flood Break Gate Installation	1 week																																																
21d	Street Modifications	2 weeks																																																

Notes: CMB= crushed miscellaneous base; HP = high-pressure; RC = reinforced concrete; UPRR = Union Pacific Railroad

Water for soil compaction and dust suppression during construction would be supplied by the City of Oxnard, via a water meter placed on a local fire hydrant closest to the location of active construction at any given time. A water tank truck would be used to transport water to the Project site. It is estimated that approximately 1/16 inch of water coverage per acre of exposed work area per day would be required to provide dust control on the entire length of SCR-3 (a maximum of approximately 10 acres if all four reaches are constructed simultaneously, and Option 1A is selected rather than Option 1B in Reaches 1-3). As mentioned above, concrete would be obtained from a vendor located within 30 miles of the Project; therefore, a water source for concrete manufacturing is not anticipated to be necessary. Portable toilets would be provided at the construction staging areas throughout the construction period.

2.6.4 Vehicles and Equipment

The types and quantities of construction vehicles and equipment associated with the proposed Project are described in Tables 2-6 and 2-7. During the construction period, one operator would be required for each piece of equipment specified in Tables 2-6 and 2-7 and one overall construction foreman. It is anticipated that there would be up to five heavy equipment operators on site per day, with a peak of 15 other workers (e.g., laborers) per day. Additionally, there would be one construction inspector on site daily, and one biological monitor on site periodically.

Construction vehicles and equipment would be re-fueled onsite within the staging areas, designated work area on the levee, or on the landside of the levee. It is unlikely that on-site fuel storage would occur under the Project; however, the selected construction contractor may choose to do so at one of the staging areas.

Construction would require a minimal amount of electricity for minor form work, an electric saw, a grinder for work on the floodwall, and lighting for a construction management trailer. Electricity would be obtained from a local source.

Task Option 1A/1B	Material	Duration Option 1A/1B	Equipment	Material Quantities	
				Option 1A	Option 1B
	Reaches 1-3			Option 1A	Option 1B
1	Mobilization	4 weeks	Delivery Truck, Crew Truck, Trailer	None	None
2	Clearing and Grubbing	2 weeks	Chainsaw, Wood Chipper, Backhoe, Dump Truck	7.0 acres	6.3 acres
3	Demolition & Removals	2 weeks	Backhoe, Dump Truck	Unknown	Unknown
4	Diversion and Control of Water	None/1 week	Excavator, Dump Truck, Backhoe, Loader	N/A	250-foot diversion pipe, berm
5	Traffic Control	2 weeks	Delivery Truck, Truck, Crew Truck	Unknown	Unknown
6	Foundation Excavation	4 / 2 weeks	Grader, Scraper (2), Compactor, Water Truck	Cut/Fill = 28,500 CY	6,090 CY
7	Levee Embankment Fill	12 / 8 weeks	Excavator, Dump Truck, Grader, Compactor, Water Truck	Import Fill = 36,000 CY	13,000 CY
8	Landfill Tie-In	1 / 2 weeks	Dump Truck, Loader, Excavator, Compactor	1 tie-in	3 tie-ins

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Task Option 1A/1B	Material	Duration Option 1A/1B	Equipment	Material Quantities	
9	Rock Riprap	8 / 7 weeks	Dump Truck, Loader, Excavator	8,000 CY	5,040 CY
10 (1A)	Concrete Retaining Wall	3 weeks	Concrete Truck, Concrete Pump, Concrete Vibrator, Truck (to supply steel/forms/lumber), Forklift, Compactor, Portable Generator, Water Truck	390 feet (200 CY)	N/A
10 (1B)	Golf Course Fill	9 weeks	Dump Truck, Loader, Excavator, Backhoe, Compactor, Water Truck	N/A	15,900 CY
11 (1A)	Structural Excavation & Backfill	2 weeks	Excavator, Dump Truck, Compactor, Backhoe, Water Truck	500 CY	N/A
11 (1B)	66-inch RC Pipe	2 weeks	Excavator, Compactor, Backhoe, Delivery Truck, Water Truck	N/A	350 feet
12	Flap Gate – 24", 66"	1 week	Crew Truck, Excavator, Backhoe	Each 1-24", 2-66"	Each, 1-24", 2-66"
13	Slide Gate – 24", 48", 66", & 72"	2 weeks	Crew Truck, Excavator, Backhoe	2-24", 2-48", 2-66", 2-72"	2-24", 2-48", 2-66", 2-72"
14 (1B)	Concrete Headwall (66-inch RC Pipe)	1 week	Backhoe, Concrete Truck, Compactor, Delivery Truck, Vibrator	N/A	1 each
14/15	CMB Access Road (12' wide x 6" thick)	4 / 2 weeks	Backhoe, Dump Truck, Compactor, Grader, Water Truck	8,700 feet (1,950 CY)	3,500 feet (780 CY)
15/16	6' Chain Link Fence	1 week	Crew Truck, Delivery Truck, Bobcat, Concrete Truck	1,800 feet	1,800 feet
16/17	Chain Link Gate	2 days	Crew Truck, Welder/Generator, Bobcat	3 gates	3 gates
17/18	Hydroseeding (slopes)	1 day	Hydro-Mulching Truck	3 acres	1.0 acre
18/19	Vegetation Thinning	1 week	Chainsaw, Dump Truck, Backhoe	2.8 acres	1.1 acres

Notes: CMB = crushed miscellaneous base; CY = cubic yards; N/A = Not Applicable; RC = reinforced concrete

Task	Material	Duration	Equipment	Material Quantities
1	Mobilization	4 weeks	Delivery Truck, Crew Truck, Trailer	None
2	Clearing and Grubbing	2 weeks	Chainsaw, Wood Chipper, Backhoe, Dump Truck	1.5 acres (includes 1.2 acres of vegetation removal)
3	Demolition & Removals	2 week	Backhoe, Dump Truck	Unknown
4	Diversion & Control of Water	1 week	Excavator, Dump Truck, Backhoe, Loader	200-foot diversion pipe, berm
5	Traffic Control	2 weeks	Delivery Truck, Truck, Crew Truck	Unknown
6	Floodwall Foundation Excavation	4 weeks	Excavator, Loader, Dump Truck, Water Truck	4,500 CY
7	River Side Floodwall (reinforced concrete)	14 weeks	Concrete Truck, Truck (supply steel/forms), Pump Truck, Loader, Backhoe, Water Truck, Crew Truck, Vibrator, Portable Generator	968 feet 1,430 CY concrete

Task	Material	Duration	Equipment	Material Quantities
8	Land Side Floodwall (reinforced concrete)	10 weeks	Concrete Truck, Truck (supply steel/forms), Pump Truck, Loader, Backhoe, Water Truck, Crew Truck, Vibrator, Portable Generator	888 feet 1,100 CY concrete
9	Sheet Pile Wall and Scour Protection	11 weeks	Crane, Delivery Truck, Crane with Vibratory Pile Driver (includes Generator/Power Pack)	1,268 feet (10 sheets/day; 2.5' wide)
10	UPRR Embankment Fill	2 weeks	Delivery Truck, Backhoe, Water Truck, Track Dozer, Compactor Roller	600 CY
11	El Rio Drain Channel Modification	3 weeks	Concrete Truck, Water Truck, Excavator, Backhoe	Unknown
12	Rock Riprap Removal & Replacement	2 weeks	Delivery Truck, Backhoe, Excavator, Water Truck, Concrete Truck	1,700 CY
13	6' Chain Link Fence	4 days	Crew Truck, Delivery Truck, Bobcat, Concrete Truck	200 feet
14	Chain Link Gate	2 days	Crew Truck, Welder/Generator, Delivery Truck, Bobcat	1 gate
15	RC Drain Channel & Flap Gate	2 days	Crew Truck, Excavator, Backhoe, Delivery Truck	1
16	HP Gas Valve Relocations	1 week	Crew Truck, Backhoe, Delivery Truck	4
17	Landscaping	1 week	Backhoe, Water Truck, Delivery Truck, Crew Truck	14,000 sq feet
18	Concrete Trail	2 weeks	Concrete Truck, Excavator, Pump Truck, Backhoe	8,400 sq feet 160 CY (concrete)
19	CMB Access Road (12' wide x 6" thick)	1 week	Backhoe, Dump Truck, Compactor, Grader, Water Truck	300 feet 70 CY (rock)
20	Soil Cement Access Road	2 weeks	Grader, Delivery Truck, Excavator with Auger Attachment, Water Truck, Compactor	1,000 feet 1,670 CY (concrete)
21	Flood Break Gate System			1 system
21a	Utility Relocations	1 week	Backhoe, Crew Truck, Materials Truck	500 feet
21b	Concrete Abutments	2 weeks	Concrete Truck, Truck (supply steel/forms), Pump Truck, Loader, Backhoe, Water Truck	2 each
21c	Flood Break Gate Installation	1 week	10-wheel Flatbed Truck, Crane, Crew Truck	1 each
21d	Street Modifications	2 weeks	Paver Truck, Concrete Truck, Dump Truck, Backhoe, Grader	1,300 sq yards

Notes: CMB= crushed miscellaneous base; CY = cubic yards; HP = high-pressure; RC = reinforced concrete; UPRR = Union Pacific Railroad

2.6.5 Access and Parking

Construction access would be provided at both ends of the existing SCR-3 levee. From Victoria Avenue, access to the west end of SCR-3 (Reach 1) would occur in a similar fashion as accessing the western staging area. Vehicles would turn off of Victoria Avenue utilizing the existing dirt road located less than 100 feet south of the Victoria Avenue Bridge crossing of the Santa Clara River. This road currently provides access to the agricultural lands located between the Bailard Landfill and Victoria Avenue as well as to SCR-3, and is a controlled access point (i.e., locked gate). Vehicles would then travel under Victoria Avenue on an existing dirt road to access the levee from the west. Approximately 14 to 15 feet

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of clearance is available under this road crossing for vehicles and equipment. Alternately, the maintenance road east of the Victoria Avenue Bridge can be accessed via a gate on the east shoulder of Victoria Avenue to avoid the restricted clearance beneath the bridge.

From N. Ventura Road, access to the east end of SCR-3 (Reach 3) and access to Reach 4 are both available off of the northwest side of N. Ventura Road approximately 0.5 mile from the Highway 101 overpass. Access to the existing SCR-3 levee is an established controlled or gated access point with an existing CMB maintenance road running in a westerly direction. Access to the east end of Reach 3 may also occur through the eastern staging area located off of N. Ventura Road via an existing CMB maintenance road located approximately 0.7 miles west of the Highway 101 overpass (see “Staging Areas” above and Figures 2-32 and 2-43). Access to the east end of the river side floodwall in Reach 4 would occur from N. Ventura Road, with a ramp down to the river side of the proposed floodwall (east end), where the new 15-foot-wide soil cement access road would be located. A turnaround would be provided at the west end of the access road. Access to Reach 4 would also occur directly from N. Ventura Road. These access points would be used for importing equipment and materials to the site.

One pair of lanes on either north- or south-bound N. Ventura Road would be closed to public traffic temporarily (lanes immediately adjacent to the proposed river side and land side floodwalls) to permit safe construction access. For example, both south-bound lanes would be closed during construction of the river side floodwall and the flood gate across these lanes, and the existing two north-bound lanes converted to one north-bound and one south-bound lane. In this case, bicycle traffic would be directed to the south shoulder, and pedestrian traffic to the south sidewalk. This method would be reversed for construction of the land side floodwall and flood gate across the north-bound lanes. Access would be restricted for about six months on each side of the road.

Parking during construction would occur at the construction staging areas, along the length of the existing levee access road throughout Reaches 1-3, as well as at the City of Oxnard River Ridge Golf Course maintenance yard (Reach 2).

Public access to the active construction work area along SCR-3, including Reaches 1-4, shall be prohibited in order to maintain public safety.

2.6.6 Environmental Commitments

This section describes the environmental commitments that would be implemented as part of the proposed Project. The environmental commitments discussed below would decrease the severity of any short-term or temporary Project-related construction impacts on resources. The environmental commitments described in this section are not legally binding and do not constitute a mitigation requirement.

2.6.6.1 Air Quality

AQ-1: Best Management Practices (BMPs) would be applied to disturbed soil to protect against erosion and fugitive dust. Standard practices include water application during earthwork, application of a surface tackifier such as quar or polyacrylamide, temporary vegetation, rolled erosion control products (e.g., straw matting or coconut fiber), and weather-triggered work stoppages (during high winds or extreme storm events). Any of these or a combination thereof may be used to ensure compliance with regulations to reduce or eliminate erosion and fugitive dust emissions.

2.6.6.2 Fire Hazards

FR-1: Construction contracts shall provide standard measures for fire safety in compliance with the applicable sections of the California Uniform Fire Code and adopted Ventura County Fire Protection ordinances, standards and regulations. Measures may include, but not be limited to, the following:

- Materials that are susceptible to spontaneous ignition, such as oily rags, would be stored in appropriate containers and safeguards would be taken to minimize the risk of exposing combustible materials to unintended sources of ignition;
- Smoking would be prohibited except in approved areas;
- Leaking equipment would be immediately repaired and/or taken out of service, and leaked materials cleaned up;
- Fire protection equipment, including fire extinguishers, would be kept on site and inspected/maintained in accordance with applicable manufacturer recommendations;
- Readily accessible emergency telephone facilities would be provided to all work crews to immediately report fire ignition to “911” emergency response services;
- Internal-combustion-powered construction equipment would be located so that exhausts do not discharge against combustible material, equipment would not be refueled while in operation, and fuel for equipment would be stored in appropriate areas (if the contractor opts to store fuel on site); and
- Combustible debris, rubbish and waste material would be removed and/or appropriately stored at the end of each workday and would not be disposed of by burning.

2.6.6.3 Water Resources

WR-1: Work on existing drainage facilities would be completed outside of the rainy season, or measures will be taken to maintain the flood carrying capacity if work occurs during the rainy season.

WR-2: All BMPs associated with the SWPPP may include but are not limited to the following: General Site Design Control Measures (Conserve Natural Areas / Protect Slopes and Channels / Control Peak Stormwater Runoff Discharge Rates / Minimize Impervious Area); Site-Specific Source Control Measures (Storm Drain Message and Signage / Outdoor Material Storage Area Design / Outdoor Trash Storage Area Design / Fueling Area Design); and Treatment Control Measures (Grass Strip Filter / Grass Swale Filter / Detention Basin / Porous Landscape Detention / Infiltration Trench).

2.6.6.4 Public Health and Safety

PS-1: The contractor shall employ appropriate signaling and signage to accommodate interruptions in existing traffic flows. These measures shall be defined in the Traffic Control Plan.

PS-2: Prior to implementation of the project, relevant fire, police, and other emergency service agencies of the proposed work areas shall be notified of potential congestion, and traffic management methods to be used to ensure access at all times.

PS-3: On-site re-fueling of construction equipment would be accomplished at least 10050 feet away from flowing water and with the use of liners. Best Management Practices (BMPs) would be used and include such actions as having hazardous waste clean-up equipment and spill kits staged on site, using the appropriate size and gauge drip pans and absorbent diapers. Spill kits shall be in close proximity to the fuel truck in case of fuel or other fluid spills. All equipment would be checked for leaks prior to operation and repaired as necessary.

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PS-4: Fluids released because of spills, equipment failure (broken hose, punctured tank) or refueling would be immediately controlled, contained, and cleaned-up per Federal, State, and local regulations. All contaminated materials would be disposed of promptly and properly to prevent contamination of the site. Someone would be present to monitor refueling activities to ensure that spillage from overfilling, nozzle removal, or other action does not occur.

2.6.6.5 Traffic and Transportation

T-1: Haul routes shall be designed to minimize distances to the work site and avoid heavily congested areas or large residential communities to the maximum extent feasible.

T-2: The contractor shall submit a Traffic Control Plan to the County of Ventura and/or the City of Oxnard for review and approval at least 30 days prior to the onset of construction. The Traffic Control Plan shall demonstrate practices and safety precautions designed to minimize temporary traffic impacts, including but not limited to the signage requirements required per environmental commitment PS-1.

T-3: If damage to roads occurs, the contractor shall coordinate repairs with the affected public agencies to ensure that any impacts to area roads are adequately repaired. Roads disturbed by trucks or equipment shall be properly restored to ensure long-term protection of road surfaces. Such repairs shall occur as part of the active construction period.

T-4: The contractor shall obtain all applicable permits and clearances from appropriate agencies for transporting and hauling equipment and debris.

2.7 Operations and Maintenance

Operation and maintenance (O&M) of the proposed Project would include routine inspections and repair, as needed over the lifetime of the Project (50 years). It is anticipated that the intensity of post-construction operations and maintenance activities would increase from pre-construction (existing) conditions. With implementation of the Project, additional vegetation thinning activities would occur along the top 20 feet of the levee in Reaches 1-3 to maintain visibility and access. Maintenance activities would also occur along Reach 4, where an entirely new type of facility (floodwall) would be constructed atop the existing levee as part of the Project. No daytime or nighttime lighting would be required during operation of the Project. Operational and maintenance activities associated with the proposed Project are described below.

- *Facilities Maintenance and Reconstruction.* Facilities deteriorate over time and may require repair or reconstruction, particularly after a winter with high flood flows. Maintenance activities will occur throughout the year on an as-needed basis, such as gate and fence repair, and repair of bank protection damaged from flood flows, including grouted and ungrouted riprap. In general, the same type of bank protection is used for the repair or replacement, and the length of bank protection is similar to the original condition. The amount of earthwork depends on the length of the bank protection to repair and depth of the erosion (VCWPD, 2008).
- *Access Roads.* Compacted gravel surface roads require periodic resurfacing due to normal deterioration from use and from erosion. Resurfacing roads generally occurs in the winter when there is better crew availability but can occur any time of the year. Base aggregate is placed on the road and compacted with heavy equipment (VCWPD, 2008).
- *Vegetation Maintenance.* As described in Section 2.5.3, the Project includes vegetation removal activities that meet the requirements of the DWR Levee Vegetation Policy. Trees within 20 feet of the

top of the levee, on the waterside slope, shall be trimmed up five feet above ground and thinned enough for visibility and access; brush, weeds, or other vegetation (ground cover) over up to a height of 5 feet blocking visibility and access shall be removed. During operation and maintenance of the Project, maintenance of the vegetation will include periodic herbicide application. No operational changes pertaining to brush clearance would occur along the portions of Reach 3 containing the weir field and emergency groins (approximately Stations 189+58 to 215+00) as a result of implementing the proposed Project. Vegetation management along the remainder of Reaches 1-3 and Reach 4 does not currently occur, and would be increased as a result of Project implementation.

- *Rodent Control.* Burrowing activities of California ground squirrels (*Spermophilus beecheyi*) and, to a lesser extent, pocket gophers (*Thomomys bottae*) can cause structural damage to flood control facilities. The California Division of Safety of Dams has a zero tolerance policy for ground squirrel and other rodent infestations at critical facilities where failure would affect public safety. The VCWPD has an ongoing rodent control program for critical facilities. Under this program, VCWPD maintains anticoagulant bait stations throughout the year. Depending on the density of the ground squirrel population, bait stations are checked every 14 to 30 days (VCWPD, 2008).
- *Storm Related Emergency Activities.* During the winter season, VCWPD personnel are continually monitoring flow conditions in channels and inspecting facilities for identification of problem areas. Work conducted during storm events is usually not routine maintenance, but instead, is considered emergency activity. The nature, scope, and extent of emergency actions cannot be predicted but could range from minor actions (clearing a storm drain outlet) to major (repair of eroded bank threatening a road or structure under flood conditions) (VCWPD, 2008).
- *Scour Surveys.* During the life of the Project, long-term continued sediment deposition in the river may alter the flood protection in the future, and annual scour surveys are recommended to monitor the condition of sediment deposition adjacent to the levee.
- *Settlement Surveys.* During the life of the Project, ground settlement below and adjacent to levees and floodwalls may occur. Quarterly surveys along the entire Project length will be conducted during the first year after construction, annually for the following five years, and no less than every ten years thereafter to ensure the levees continue to function as designed. In addition, visual inspections will be conducted immediately after local disasters such as floods and earthquakes. Corrective measures will be implemented as needed to return the levee to its designed status.
- *Flap Gate Inspections.* The flap gates must be regularly inspected and cleared of debris such as vegetation and refuse that may get trapped in the gate, particularly during low flow events. Periodic inspection and cleaning should be scheduled when the water flowing through the flap gate carries sediment, trash, and/or debris.
- *Graffiti Removal.* Graffiti on the floodwall would be removed as a part of regular maintenance. The VCWPD promptly removes graffiti with obscene comments or scenes; less offensive graffiti, such as tags, are removed as the VCWPD's budget allows. The VCWPD also implements a Graffiti Abatement Program, which works with volunteers to locate and remove graffiti from property owned by VCWPD (VCWPD, 2013). Under this program, the Graffiti Abatement Coordinator works with non-profit organizations and neighbors to address graffiti throughout the County by forming neighborhood graffiti patrols; working with the respective city's law enforcement; and recruitment and training of volunteers to assist with graffiti reporting and removal in their own neighborhoods (VCWPD, 2013).

The VCWPD implements best management practices (BMPs) during routine maintenance activities such as those described above. Following is a summary list of existing BMPs which are typically used during routine maintenance activities.

- The minimum size/type of equipment is employed to complete the activity to minimize potential impacts;

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- The minimum strength required to achieve the goal for each chemical product is used and staff follows specific pesticide protocols;
- Gates, fences, and “no trespassing” signs are kept in working order to discourage dumping and vandalism;
- Silt fencing, k-rail, sandbag barriers, and straw wattles are routinely installed and maintained during work to prevent soil from leaving work areas and entering streams or channels;
- Silt fencing or other barriers are placed around temporary soil stockpile sites to contain material;
- Soil stockpiles are maintained free of non-native vegetation;
- Water diversions are routinely used to prevent soil and concrete from entering surface waters adjacent to maintenance work areas;
- Plastic-lined sandbag concrete wash out pits stationed in uplands are required for each site where concrete pouring occurs;
- Pipe and pump station flushing activities are conducted with a vacuum system to avoid release of materials into channels or surface waters;
- Rumble strips, street sweepers, and wattles over storm drain inlets are employed to prevent soil from entering streets and storm drains; and
- Local fire abatement requirements are met by conducting annual brush clearance in District right of way adjacent to residential areas (VCWPD, 2008).

2.8 Agency Use of this Document

SCR-3 is operated and maintained by the VCWPD, which is a branch of the Ventura County Public Works Agency. The VCWPD is the CEQA Lead Agency for the proposed Project. The Ventura County Board of Supervisors (Board) will use this EIR to aid in the decision-making process for the Project. If the Final EIR shows that the proposed Project would have significant and unavoidable (not mitigable) impacts, but the Board still approves the Project, then the Board’s decision must include a “Statement of Overriding Considerations,” which explains the reasons for approval.

If approved, the VCWPD would work in coordination with the City of Oxnard and FEMA to implement the proposed Project. The VCWPD would finalize the design and construct the proposed levee improvements.

Provided below is the contact information for the lead and participating agencies.

Ventura County Watershed Protection District
800 South Victoria Avenue
Ventura, California 93009-1610

City of Oxnard
City Hall
305 West Third Street - Third Floor
Oxnard, CA 93030

2.9 Permits and Approvals

Based on the results of the jurisdictional delineation, the following agency approvals/permits may be required:

- U.S. Army Corps of Engineers, Section 404 Permit (Clean Water Act);
- California Department of Fish and Wildlife, Section 1600 Streambed Alteration Agreement (California Fish and Game Code);

- Los Angeles Regional Water Quality Control Board, Section 401 Water Quality Certification (Clean Water Act); and
- ~~Endangered Species Act authorization, U.S. Fish and Wildlife Service and possibly the National Marine Fisheries Service.~~

State and Federal Endangered Species Act Consultation. The U.S. Army Corps of Engineers would consult with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Federal Endangered Species Act to determine if the Project would result in take of any endangered species. The VCWPD would coordinate with the CDFW to assess if a 2081 Permit is required to comply with the State Endangered Species Act.

Ventura County Environmental Health Division. The Ventura County Environmental Health Division is responsible for ensuring conformance with State laws and County ordinances pertaining to the protection of public health, including programs related to food protection, hazardous materials, hazardous waste, individual sewage disposal systems, land use, medical waste, ocean water quality monitoring, recreational health, solid waste, underground fuel tanks, and vector control.

Prior to the start of construction, the VCWPD would contact the Ventura County Environmental Health Division to establish if any type of permit or approval is required, and would acquire the permit if needed. It is anticipated that a permit may be required for landfill tie-ins (Option 1B only) and modification of appurtenant facilities such as gas collection pipelines and gas or groundwater monitoring wells (Options 1A and 1B).

City of Oxnard. Approval may be required from the City of Oxnard for Project activities in N. Ventura Road. Prior to the start of construction, the VCWPD would coordinate with the City of Oxnard to determine if a permit is required, and would acquire the permit if needed.

UPRR Encroachment Permit. An encroachment permit would be required from UPRR to implement the Reach 4 improvements, which include placement of embankment fill to complete the SCR-3 levee.

Ventura Regional Sanitation District (VRSD) and City of Oxnard. As a result of the levee tie-ins to the Coastal and Santa Clara Landfills (Option 1B), an amendment to the Landfill Post-Closure Plan would be required if Option 1B is approved.

Ventura County Air Pollution Control District (APCD). The Ventura County APCD Permit to Operate for the landfills may need to be modified to implement Option 1B, as required pursuant to Rule 10, "Permits Required", and Rule 33, "Part 70 Permits". The landfills would need to submit an application to modify the permit.

3.0 Environmental Setting and Impact Analysis

Introduction

The sections in this chapter present information on existing environmental conditions in the Project area for each technical issue area not scoped out as part of the Initial Study analysis (see Section 5.1, Effects Not Found to be Significant) and also describes environmental impacts that would result from the implementation of the proposed Project described in Chapter 2 (Project Description). These analyses consider the potential direct, indirect, and cumulative impacts of the proposed Project, including short-term impacts during construction and long-term impacts during Project operation and maintenance (O&M). The sections in this chapter also identify mitigation measures to reduce or avoid significant adverse impacts and describe any adverse impacts that cannot be avoided by the implementation of mitigation measures. The scope of the impact analysis is commensurate with the level of detail for the proposed Project provided in Chapter 2 and the availability and/or quality of data necessary to assess impacts.

Analytical Assumptions

The impact analysis was conducted with the following general assumptions:

- The laws, regulations, and policies applicable to Ventura County in authorizing approvals for levee facilities would be applied consistently.
- All applicable laws, regulations, and standards of the State of California would be applied consistently.
- The VCWPD will obtain all required permits and approvals from other agencies and comply with all legally applicable terms and conditions associated with those permits and approvals.
- The proposed Project would be constructed, operated, and maintained as described in Chapter 2 (Project Description).
- Short-term impacts are those expected to occur during the construction phase that do not have lingering effects for an extended period after construction is completed. Long-term impacts are those that would occur during O&M or that persist for an extended period after completion of construction.

Types of Effects

The potential impacts from those actions that would have direct, indirect, and cumulative effects were considered for each resource. The terms “effect” and “impact” as used in this document are synonymous and could be beneficial or detrimental.

Direct effects are caused by the Project and occur at the same time and place as the Project; indirect effects are caused by the Project and occur later in time or further in distance, but are still reasonably foreseeable. Cumulative impacts are those effects resulting from the incremental impacts of the Project when combined with other past, present, and reasonably foreseeable future actions (regardless of which agency or person undertakes such actions). Cumulative impacts could result from individually insignificant but collectively significant actions taking place over a period of time. Short-term impacts occur only for a short time after implementation of an action; for example, construction noise impacts

from construction activities would be considered short-term in nature. By contrast, long-term effects occur for an extended period after implementation of a project; for example, operational noise during facility operations would be a long-term impact, as it would last for as long as the facility is in operation.

Mitigation Measures Included in the Analysis

CEQA requires that a significance determination be made for each adverse impact identified in an EIR. Significance criteria are identified for each environmental resource area. The significance criteria serve as a benchmark for determining if a project would result in significant adverse environmental impacts when evaluated against the baseline or existing environmental conditions. Impacts are assessed relative to each impact criterion to determine whether the project would have no impact, a less-than-significant impact, less-than-significant impact with mitigation, or a significant impact. Impacts are quantified to the extent possible. In addition, the determination of an impact's significance is derived from standards set by regulatory agencies; knowledge of the effects of similar past projects; professional judgment; and plans and policies adopted by governmental agencies.

CEQA requires that feasible mitigation measures be identified to reduce or avoid significant impacts.

The State CEQA Guidelines Section 15370 define mitigation as:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action;
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

For significant impacts identified in the following resource sections, mitigation measures have been developed to reduce the significant impacts to the extent feasible. If impacts remain significant after all feasible mitigation is considered (i.e., continue to exceed the threshold of significance identified in the impact criteria), the analysis concludes that the impact is significant and unavoidable.

CEQA Significance Conclusions

For the purposes of CEQA compliance, a determination has been made regarding the significance of each adverse impact identified for the proposed Project and alternatives. The CEQA Lead Agency is responsible for determining whether an impact is significant and is required to adopt feasible mitigation measures to minimize or avoid each significant impact. A series of criteria, identified in the "Criteria for Determining Impact Significance" section for each resource/issue area, are used to help the CEQA Lead Agency gauge the significance of each impact.

In order to provide a systematic evaluation of potential environmental impacts, a classification system has been applied to the impacts of the proposed Project and alternatives. These classifications indicate whether an identified impact is significant and whether mitigation measures can reduce the severity of the impact to a level that is not significant. The following classifications were uniformly applied to each adverse impact:

- **Class I: Significant impact; cannot be mitigated to a level that is not significant.** Class I impacts are significant adverse effects that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
- **Class II: Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR/EIS.
- **Class III: Adverse; less than significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
- **Class IV: Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.

In cases where there is a potential for a certain type of impact, but no such impact would occur for the proposed Project or an alternative, the reasons for no occurrence of an impact are described and a designation of “no impact” is assigned.

A significant impact is defined by CEQA as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project” (State CEQA Guidelines §15382). Although guidance provided by CEQA is used to help determine the significance of impacts, the determination of impact significance is based on the criteria outlined in the *Ventura County Initial Study Assessment Guidelines* (Ventura County, 2011) and the independent judgment of the CEQA Lead Agency. The establishment of any criteria used to evaluate the significance of impacts is also the responsibility of the CEQA Lead Agency. Some impact categories in this document lend themselves to scientific or mathematical analysis and, therefore, to quantification, while others are more qualitative. Some resource topics, such as Air Quality, have significance thresholds that are established by agencies with regulatory authority for that resource and have been determined by the CEQA Lead Agency to be applicable to the analysis.

Environmental Issues Addressed

A Notice of Preparation (NOP) and Initial Study were prepared for the proposed Project and filed with the State Clearinghouse on February 25, 2015, and are incorporated by reference as part of this EIR. The NOP and Initial Study are included as Appendix A to this EIR. Based on the findings of the Initial Study, as listed in the NOP, the VCWPD, as Lead Agency, determined that an EIR was warranted for the proposed Project. Agency and public input received during the NOP comment period (February 26, 2015 through March 27, 2015) and at the public scoping meeting held on March 4, 2015, were used in determining the scope of the evaluation for the EIR. The environmental issues considered in this EIR and their corresponding section numbers are listed below:

- 3.1 Air Quality
- 3.2 Biological Resources
- 3.3 Scenic Resources
- 3.4 Hazards (includes Liquefaction, Hazardous Waste, and Public Health)
- 3.5 Noise and Vibration
- 3.6 Transportation and Circulation
- 3.7 Utilities
- 3.8 Flood Control and Drainage

3.

Environmental Setting and Impact Analysis

Sections 3.1 through 3.8 provide a detailed discussion of the environmental setting, applicable project design features, impacts associated with the proposed Project, cumulative impacts, and mitigation measures designed to reduce significant impacts.

Organization of Environmental Analysis

To assist the reader in comparing information about the various environmental issues, each section contains the following information:

- Environmental Setting
 - Existing Conditions
 - Applicable Regulations, Plans, and Standards
- Environmental Impacts and Mitigation Measures
 - Criteria for Determining Impact Significance
 - Direct and Indirect Impacts (and Mitigation Measures)
 - Cumulative Impacts
 - Impact Significance Summary

Cumulative Projects

Under the State CEQA Guidelines Section 15130(a)(1), “a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts.” An EIR must discuss cumulative impacts if the incremental effect of a project, combined with the effects of other projects is “cumulatively considerable” (State CEQA Guidelines §15130(a)). The discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact” (State CEQA Guidelines §15130(b)). As stated in CEQA, “a project may have a significant effect on the environment if the possible effects of a project are individually limited but cumulatively considerable” (13 PRC §21083(b)).

State CEQA Guidelines Section 15130(b)(1) requires “[e]ither a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect.”

This EIR utilizes the list approach. Specific projects proposed or currently under development were identified in the Initial Study. This list has been reviewed and revised to present the most current information available at the time this EIR is released. Table 3-1, below, provides a summary of the projects located within a three-mile radius of the proposed levee improvements, and Figure 3-1 maps these cumulative projects. The following projects from Table 3-1 are located closest to the proposed Project alignment. Due to proximity to the proposed Project and the potential for coinciding construction times, these projects would have the greatest potential for contributing to cumulative impacts.

The Village (a.k.a. Wagon Wheel Development Project). The Village is a 63-acre property that will be developed under the City of Oxnard's Village Specific Plan that was adopted in January 2009. The development is proposed to include 120 housing units (1, 2 & 3 bedrooms), a recreation/meeting room, a tot lot (a park for small children), and landscaped pedestrian pathways. Proposed Reach 4 improvements would provide flood protection downstream of the UPRR bridge, but would not provide flood protection between the northeast boundary of the UPRR bridge property and Highway 101. Flood protection improvements for The Village Specific Plan will be constructed as part of that development (Tentative Tract No. 5745 – Not part of the SCR-3 Project), and may take the shape of simply elevating all building pads above 78.5 feet North American Vertical Datum (NAVD) prior to construction or a combination involving elevated building pads with a floodwall to achieve protection of sufficient height (79.5 feet NAVD, accommodating the floodwall requirement for one foot of freeboard). Currently, Phase 1 of The Village development, which is located near Oxnard Boulevard, is under construction. One affordable housing apartment complex has been built, and construction of additional buildings is expected to continue. Each phase would be required to comply with the City's floodplain management ordinance. Construction near the proposed Project site would occur under Phase 3 of the development, which would not begin until the improvements under the proposed Project are underway (City of Oxnard, 2014).

Bailard Landfill Gas Field Project. The Ventura Regional Sanitation District (VRSD) is proposing a new gas pipeline on the north side of the Bailard Landfill. The alignment and schedule for this project is still conceptual at this point. The VCWPD will work closely with the VRSD to ensure no conflicts with the proposed Project.

Ventura/Vineyard Homes (also known as ~~Devco~~the Casden Properties). The Ventura/Vineyard Homes project consists of ~~152 residential dwelling units~~ 126 two-story clustered homes and 75 single-family dwellings. The project site is approximately 1,000 feet south of the proposed Project site. This project has been approved by the City of Oxnard; however, the City is currently in negotiations with a new developer, so there are no immediate plans for construction (City of Oxnard, 2014).

Olivas Drive Extension. The proposed Olivas Park Drive extension would connect Johnson Drive near Highway 101 to the existing terminus of Olivas Park Drive at Perkin Avenue within the City of Ventura. This project would also include the construction of a levee/floodwall located along the southern and eastern boundaries of the project site. This project is located approximately 1,500 feet north of the proposed Project site. Per EIR Mitigation Measure HWQ-3(b), "Adequate flood protection shall be provided for both the project area and potentially affected areas along the south side of the Santa Clara River in the City of Oxnard prior to project area construction other than the extension of Olivas Park Drive. Construction of the north [Olivas Park Drive] and south [SCR-3] levees shall be coordinated to the extent feasible to ensure that neither the project site nor any developed areas in Oxnard would experience an increase in surface water elevation of more than one foot during a 100-year flood event." As such, it is anticipated the levee/floodwall construction would coincide with the construction of Reach 4.

Santa Clara River Levee (SCR-1). The SCR-1 Project is 4.72 miles long and is located along the southeast bank of the Santa Clara River between Highway 101 and Saticoy within the City of Ventura. SCR-1 has been breached during high flows. As such, design alternatives for the SCR-1 levee are being evaluated to mitigate the damage during the high flows, and will be permitted by the U.S. Army Corps of Engineers (USACE), which originally completed construction of SCR-1 in April 1961. This project is currently in the

3.

Environmental Setting and Impact Analysis

early planning stages, and will later undergo an environmental review process. The SCR-1 levee improvements are not anticipated to be constructed for approximately ten years at the earliest.

Santa Clara River Bridge Mitigation Planting Project. Planting will occur along both sides of the Highway 101 bridge. The Reach 4 flood wall would cross N. Ventura Road approximately 1,500 feet west of the 101 Highway bridge. There are two phases of the planting project. Under Phase I, various activities beginning with site preparation and ending with maintenance and monitoring would occur from December 2013 to December 2019. Under Phase II, various activities beginning with site preparation and ending with maintenance and monitoring would occur from December 2015 to December 2022 (VCTC, 2013).

Santa Clara River Trail Master Plan. The Santa Clara River Trail (SCRT) Master Plan evaluates a 4.87-mile multi-use trail along the southern bank of the Santa Clara River and a connection trail from the Santa Clara River at Victoria Avenue to Gonzales Road for a bikeway connection to the Pacific Ocean, and a spur connection to E. Vineyard Avenue at Central Avenue (City of Oxnard, 2012).

Table 3-1. Cumulative Projects Located within Three Miles of the SCR-3 Project			
Project ID and Type	Project Name	Location	Description and Status
CITY OF OXNARD			
14-140-08 Residential	The Village (Wagon Wheel Development Project)	886 Wagon Wheel Rd.	Construction of 219 market rate apartments (1, 2 & 3 bedrooms), recreation/meeting room, tot lot, landscaped Paseos, and 16,303 square feet of commercial. Status: <u>Approved</u> – <u>Plan Check</u> Proposed
06-540-01 Residential	Ventura/Vineyard Homes (<u>Devco Casden Properties</u>)	1801 W. Vineyard Ave.	Proposed project to construct 152 residential dwelling units Status: <u>Approved</u> – <u>Plan Check</u>
14-550-01	Oxnard Shores Mobile Home Park Expansion	5540 Fifth St.	Modification of existing condition of approval to allow for the development of three new mobile home sites. Status: <u>Approved</u>
14-200-05	Garcia Property	144 & 146 S. Hayes Ave.	Construction of a new single-family home with a detached garage and an application to merge two lots into one. Status: <u>Approved</u>
10-200-13 Residential	RiverPark: Tempo Apartments	SE corner Moonlight Park Ave. & Forest Park Blvd.	235 apartments (three-story buildings) with garages and recreation facilities. Status: <u>Under Construction</u>
10-200-11 Residential	RiverPark: Sonata Apartments	Riverpark Blvd. (NW corner of Riverpark Blvd. & Danvers Rivers Dr.)	53 apartments (3-story buildings) with garages and recreation facilities. Status: <u>Under Construction</u> <u>Plan Check</u>
06-200-16 Residential	Morning View RiverPark District H-4	Tiber River Way (South of Tiber Way at N. Oxnard Blvd.)	113 detached single-family homes. Status: <u>Under Construction</u>
06-200-16 Residential	Veranda RiverPark District H-3	Owens River Dr. (NE corner of Owens River Dr. & Albion Dr.)	95 detached single-family homes. Status: <u>Under Construction</u> <u>Plan Check</u>
06-200-16 Residential	The Axis (Sienna) RiverPark District H-5	Tiber River Way (north of Tiber River Way at N. Oxnard Blvd.)	91 detached single-family homes. Status: <u>Under Construction</u>
06-200-01 Residential	Shorewalk RiverPark District H-2	Nile River Dr. (Oxnard Blvd., north of Nile River Dr.)	69 single-family detached homes. Status: <u>Under Construction</u> <u>Plan Check</u>

Table 3-1. Cumulative Projects Located within Three Miles of the SCR-3 Project			
Project ID and Type	Project Name	Location	Description and Status
14-200-09 Commercial	RiverPark Retail	Riverpark Blvd and Vineyard Ave.	Construct a single-story, 17,400 square-foot, multi-tenant commercial building featuring a drive-thru anticipated for WSS Shoe Warehouse and Krispy Kreme Doughnuts. Status: Under Construction <u>Proposed</u>
14-140-34 Commercial	The Container Store	450 Town Center Dr.	Construct a single-story, 25,000 square-foot commercial building within The Collection at RiverPark Shopping Center. Status: Proposed
12-540-01 Commercial	Redevelopment of the Food 4 Less Site (former Target site)	150 W. Esplanade Dr.	Redevelopment of the 14.47-acre Food 4 Less site, including the demolition of the former Target building, constructing of a new building to be occupied by Food 4 Less, a fuel station associated with Food 4 Less, rehabilitation of the existing on-site buildings, and two new retail buildings, for a net building area of 159,954 square feet. Status: Plan Check
11-500-02 Commercial	Vallarta Center	2600 E.Vineyard Ave.	Redevelop former Home Depot site, including removal of 4,327-square-foot out building; removal of a 12,750-square-foot (approx.) garden center; and addition of parking stalls. Status: Under Construction
02-670-01 Commercial	Third Tower	E. Esplanade Dr.	Esplanade Financial Square. Proposed 15-story office tower. Approx. 300,000 square feet. Status: Approved
06-540-03 Commercial	Oxnard Crossroads	481-491 Ventura Blvd.	Two new commercial buildings. Status: Approved
12-500-07 Commercial	Leasing Corp. of America	2121 N. Oxnard Blvd.	Outdoor RV and vehicle storage facility on three acres behind an existing automobile dealership. Status: Under Construction <u>Plan Check</u>
13-500-24 Commercial	Pacifica Senior Living at East Village	2211 E. Gonzales Rd.	15,968 square-foot addition and conversion of existing 57-room Grand Stay Hotel to 80 assisted/senior living units. The site is 2.26 acres in size and the total building area will be 54,073 square feet. Status: Under Construction <u>Plan Check</u>
13-200-15 Residential	New Single-Family Home	1200 Gina Dr.	4,651 square-foot single-family house on a 15,273 square-foot lot with two-car garage. Status: Under Construction
13-200-11 Residential	New Single-Family Home	434 South E St.	990 square-foot single-family home above a proposed four-car garage. Status: Under Construction
13-200-02 Residential	New Single-Family Home	337 E. First St.	988 square-foot single-family house and four-car garage. Status: Proposed
13-200-07 Residential	Single-Family Residence	554 Garfield Ave.	One 1,664-square-foot single-family residence on existing 4,800 square-foot residential lot. Status: Under Construction
13-200-04 Residential	Terraza de Las Cortes	Carmelita Ct.	Four 16-unit multi-family buildings with a total of 64 affordable apartments, and one 1,080 square-foot community building, parking and landscaping on a 3.56-acre site. Status: Under Construction
11-500-06 Residential	Las Palmas	161 N. Garfield Ave.	Four 1,350 square-foot, two-story homes on vacant 9,615-square-foot lot. Status: Plan Check

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Table 3-1. Cumulative Projects Located within Three Miles of the SCR-3 Project			
Project ID and Type	Project Name	Location	Description and Status
11-400-01 11-300-01 Residential	Avalon Homes Subdivision	Between Dunes St. & Canal St., north of Catamaran St.	Coastal Development Permit for 64 single-family homes and a tentative tract map for 16 parcels (4 houses per parcel) on an 8.1-acre property. Status: Proposed
09-500-05 09-300-05 Residential	Oneida Court	1071 N. Ventura Rd./ Oneida Pl.	Subdivide one acre into four lots and construct four detached single-family homes. Status: <u>Under Construction</u> Plan Check
05-300-08 05-500-04 Residential	North Shore Subdivision	198 S. Harbor Blvd.	183 single-family homes, 109 detached condos, and on-site amenities. Status: Plan Check
12-500-04 Commercial	UPRR Office Building	512 E. Fifth St.	2,500-square-foot modular office building and site improvements. Status: Plan Check
06-500-02 Commercial	Radio Lazer	200 & 210 S. A St.	Seven-story office building addition with roof garden/ lounge, remodel of exterior building skin of existing adjacent four-story building and incorporation of both buildings. Status: Proposed
05-110-11 Commercial	Paseo Azteca	618 S. A St.	Multi-tenant retail building with 10 spaces. Status: Plan Check
03-500-17 Commercial	Centennial Plaza (PHASE II)	431 S. A St.	Four new retail spaces. Status: Plan Check
13-550-01, 13-300-02 Commercial	Rancho Victoria Plaza Shopping Center	3600 & 3700 W. Fifth St.	Major modification to revise the site plan and architecture for an approved shopping center, and a revision to the approved tentative subdivision map to create 11 commercial parcels. Status: <u>Approved</u> Proposed
09-140-35 Industrial	Chemical Building for City of Oxnard, Public Works Department	251 S. Hayes Ave.	Construction of building to hold two chemical tanks to treat desalted water. Status: Approved
11-600-01 Community Plan	Teal Club Specific Plan	Teal Club Rd. & Ventura Rd.	990 residential units of varying density, single-family, town-homes, condominium, and apartment units; 244-acre community park; 8-acre <u>public/ semi-public use school site</u> ; <u>4 acres 60,000 square-foot commercial, mixed use, and retail</u> ; <u>10 acre 132,000 square-foot business research park</u> ; 1-acre fire station site. Status: <u>Preparing Final EIR – Planning Commission review by mid-2016</u> Resubmitted; Draft EIR being prepared
06-700-01 Community Plan	Meta District Plan	Oxnard Blvd. & Fifth St.	Land use, streetscape, infrastructure, and circulation plan for the 14-acre area bounded by Fifth St. to the north, Seventh St. to the south, Oxnard Blvd. to the west, and the railroad track to the east. Status: Plan Development
CITY OF VENTURA			
Proj-1805 Public Works CIP	Olivas Park Drive Extension Project	Between Golf Course Dr. & Johnson Dr.	The Olivas Park Drive extension would connect Johnson Dr. near Highway 101 to the existing terminus of Olivas Park Dr. at Perkin Avenue. The project site encompasses approximately 111.8 acres. Primarily in the City of Ventura with portions of the site in unincorporated Ventura County. Status: Final EIR completed June 2014; project approved.

Table 3-1. Cumulative Projects Located within Three Miles of the SCR-3 Project			
Project ID and Type	Project Name	Location	Description and Status
Proj-6270 Residential	Northbank	Eastern terminus of North Bank Dr.	117 single-family units, 31 affordable housing units for sale triplex/quadplex, 50 apartments. Status: In Planning Process
Proj-5097 Industrial	Allied Beverage Company	Nicolle St., between Seaborg Ave. & Golf Course Dr.	Warehouse and maintenance building. Status: Under Construction
Proj-03617 Industrial	FPA Land Dev/Victoria Corp	NE corner of Victoria Ave. & Olivas Park Dr.	Eight industrial office buildings. Status: All Planning Approvals
Proj-03864 Commercial	Voov, Apex Construction	4107 Main St.	Two-story office building. Status: All Planning Approvals
Proj-00723 Residential	Broome (The Grove)	Vacant land between Copland & Telephone Rd.	198-250 townhouse, apartment, courtyard, stacked units. Status: In Planning Process
Proj-6237 Mixed Use	Sondermann-Ring	Ventura Harbor at Anchors Way & Navigator Dr.	300 apartment units, 21,000-square-foot commercial, retail, office area, private indoor and outdoor recreational facilities. Status: All Planning Approvals
Proj-7606 Residential	1010 Cuchama Ave.	1010 Cuchama Ave.	38-unit townhomes. Status: In planning process
Proj-7272 Residential	Telegraph & Quincy City Ventures	Telegraph Rd. and Quincy St.	26 single-family homes. Status: In planning process
Proj-7286 Commercial	Union Bank	NEC Mills and Main St.	4,860-square-foot bank. Status: In plan check
Proj-7318 Industrial	Silver Bay Foods	Transport St.	New fish processing building (62,000 square feet). Status: In planning process
Proj-7594 Commercial	Kaiser Permanente	Market St. at Valentine Rd.	72,000-square-foot medical office. Status: In plan check
Proj-2008 Residential	Island View Apartments	Alameda at 8 th St.	154 apartments. Status: In plan check
Proj-6811 Mixed Use	Ravello Holdings	Johnson Dr. at Northbank Dr.	10,000 square feet of retail space and 306 apartments. Status: In planning process
COUNTY OF VENTURA			
Caltrans Project	Santa Clara River Bridge Mitigation Planting Project	Highway 101 Bridge, intersects Johnson Road at north end & Ventura Rd. at south end	Planting along both sides of the approx. 2,000-foot bridge. Status: Under Phase I, various activities beginning with site preparation and ending with maintenance and monitoring would occur from December 2013 to December 2019. Under Phase II, various activities beginning with site preparation and ending with maintenance and monitoring would occur from December 2015 to December 2022.
PL13-0036 CUP	Temporary outdoor events	5100 Olivas Park Dr.; approximately 0.5 mile north of the project site	Approved CUP for temporary outdoor events within a 2-acre area on a 20-acre property. Allows up to a maximum of 20 events each year, on Saturday and Sunday with wedding rehearsals and setup on Friday when needed. The events would be held between the months of April and September.
Flood Control	Santa Clara River Levee (SCR-1)	Located along the SE bank of the Santa Clara River between Hwy 101 and Saticoy	4.72-mile levee Status: The SCR-1 levee improvements are not anticipated to be constructed for approximately ten years at the earliest.

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Environmental Setting and Impact Analysis

Project ID and Type	Project Name	Location	Description and Status
PL14-0173	Wholesale Roofing	567 Ventura Blvd.	Permit Adjustment to Development Permit 62 for tenant change from paint store to wholesale roofing sales and distribution. The adjustment includes landscape improvements, accessible parking improvements, a new 8' vinyl fence with 30' wide manual bypass gate, and outdoor storage of roofing supplies and circulation for trucks. An anticipated 1680 gallons of hazardous material will be stored on site as indicated on the submitted Hazardous Materials and Wastes Inventory Matrix Report. Status: Approved
LU11-0148	Existing greenhouse facility	4107 Gonzales Rd.	Major Modification to LU11-0148; proposed construction of 11,000 square feet of new greenhouse space and maintaining the right to construct approx. 208,000 sq. ft. of greenhouses that were entitled under CUP 5042 though not yet built. Status: Awaiting resubmittal

Source: City of Oxnard, 2015, 2016; City of Ventura, 2014; City of Ventura, 2015; Ventura County, 2015a; Ventura County, 2015b; Ventura County, 2015c.

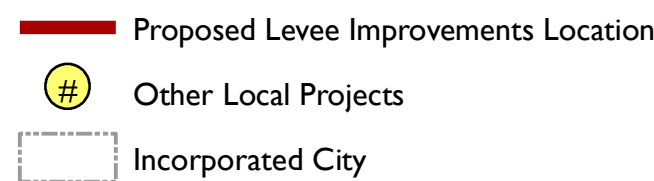
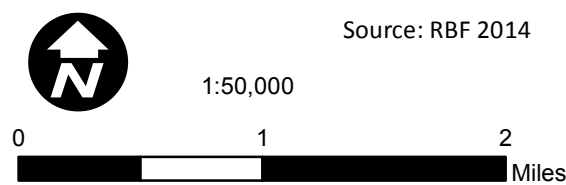
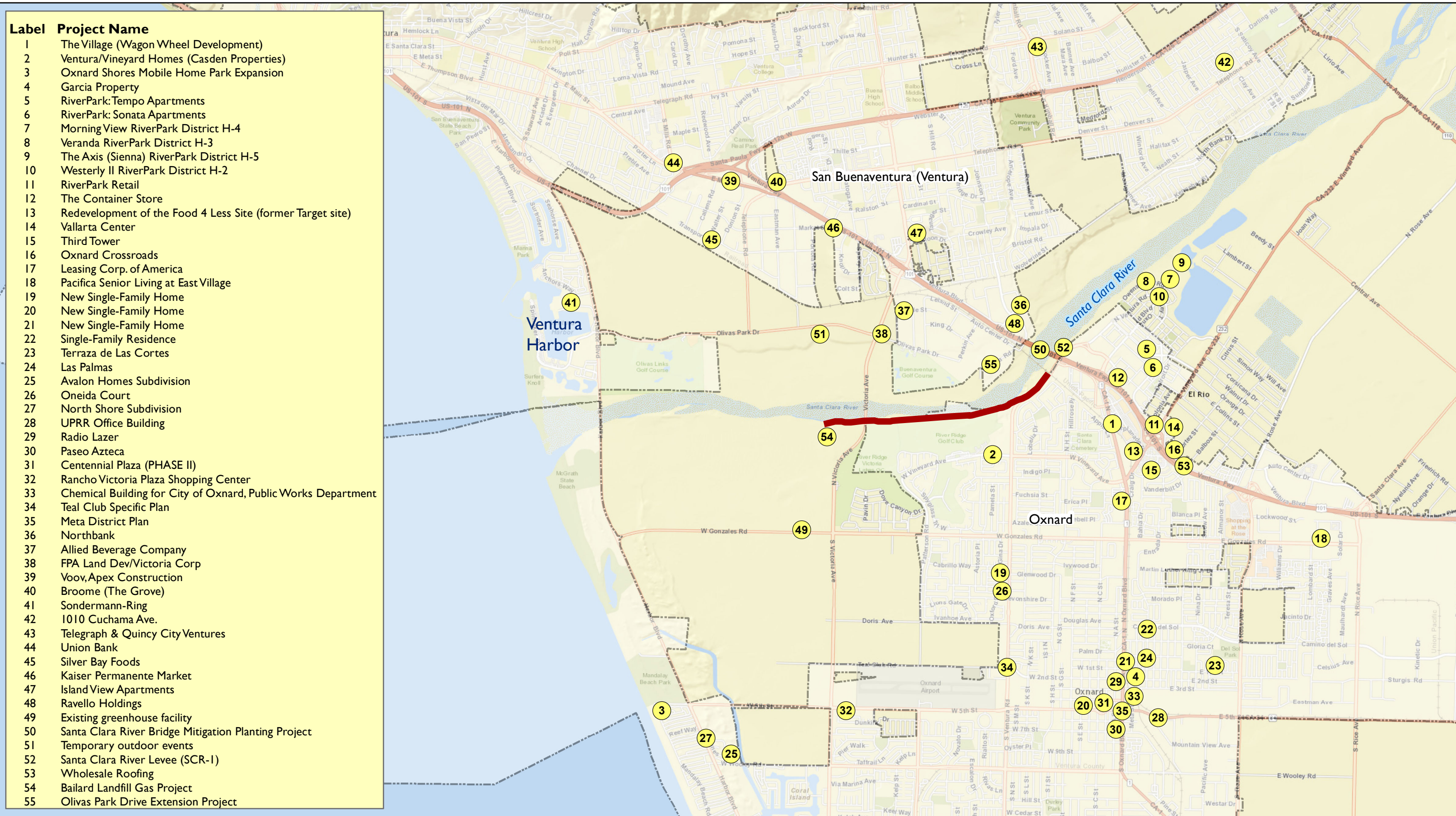


Figure 3-1

Cumulative Projects Map

3.1 Air Quality

This section describes effects on air quality from implementation of the proposed Project. The section describes existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts from the construction, operation, and maintenance of the Project. Existing laws and regulations relevant to air quality are described and how they would be applied to the Project. In some cases, compliance with existing laws and regulations would reduce or avoid impacts that might otherwise occur with implementation of the Project.

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following substantive issues related to air quality were raised during scoping and are addressed in this section.

- Reactive organic compound and nitrogen oxide emissions should be included in the analysis of Project-related motor vehicles and equipment.
- Cumulative potential net increase for any criteria pollutant should be evaluated.

3.1.1 Environmental Setting

3.1.1.1 Existing Conditions

Regional Climate and Meteorology

The proposed Project is located in unincorporated Ventura County and the City of Oxnard, California within the South Central Coast Air Basin (SCCAB) and under the jurisdiction of the Ventura County Air Pollution Control District (VCAPCD). Table 3.1-1 presents a monthly climate summary for the City of Oxnard, which is representative of the Project area.

Month	Temperature (°F)		Precipitation
	High	Low	
January	66	45	3.41
February	66	47	3.90
March	65	48	3.04
April	68	50	0.72
May	68	53	0.21
June	70	56	0.05
July	73	59	0.02
August	74	60	0.07
September	74	59	0.36
October	73	55	0.36
November	70	49	1.37
December	66	45	2.11

Source: Intellicast, 2015

3.1
Air Quality

The Project site experiences a mild Mediterranean climate with temperature extremes that are normally buffered by the nearby Pacific Ocean. As shown in Table 3.1-1, average summer (June to September) high and low temperatures in the Project area range from 70°F to 56°F. Average winter (December to March) high and low temperatures range from 66°F to 45°F. The average annual precipitation is 15.6 inches with 80 percent occurring between December and March. Summers are very dry with four straight months, starting in May, averaging less than a quarter of an inch of precipitation. Little precipitation occurs during summer because high-pressure cells block migrating storm systems over the eastern Pacific.

The typical wind speeds and directions for the Project area, as depicted in Figure 3.1-1 using a wind rose from the nearby Oxnard Airport, shows a strong predominant onshore flow from the west and west-northwest, a weaker offshore flow from the northeast and east-northeast, and a large number of calm wind hours. This wind rose is based on data between 2009 and 2013, and the average wind speed during this five-year period was just under seven miles per hour.

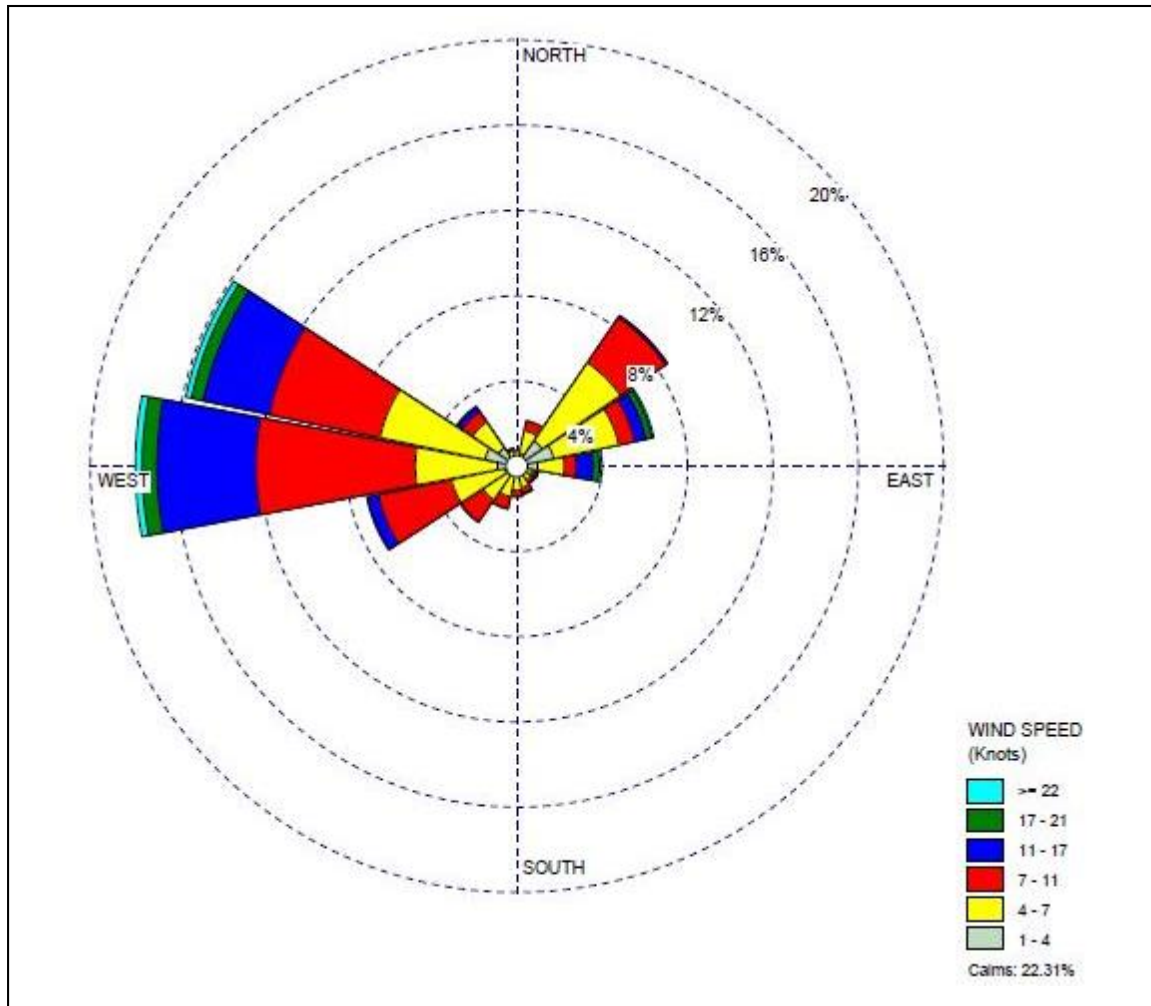


Figure 3.1-1 – Wind Rose from Oxnard Airport (2009 – 2013)

Source: CARB, 2015a

Air Pollutants and Monitoring Data

Air pollutants are defined as two general types: (1) “criteria” pollutants, representing six pollutants for which national and State health- and welfare-based ambient air quality standards have been established; and (2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. An additional air quality-related concern in the Project area is Valley Fever.

Criteria Pollutants

The United States Environmental Protection Agency (USEPA), California Air Resources Board (CARB), and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether or not the monitored ambient air quality data shows compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. The National and California Ambient Air Quality Standards (NAAQS and CAAQS) relevant to the Project are shown in Table 3.1-2.

Pollutant	Averaging Time	California Standards	National Standards	Health Effects
Ozone (O ₃)	1-hour	0.09 ppm	--	Breathing difficulties, lung tissue damage
	8-hour	0.070 ppm	0.070 ppm ¹	
Respirable particulate matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³	Increased respiratory disease, lung damage, cancer, premature death
	Annual	20 µg/m ³	--	
Fine particulate matter (PM _{2.5})	24-hour ²	--	35 µg/m ³	Increased respiratory disease, lung damage, cancer, premature death
	Annual ³	12 µg/m ³	12 µg/m ³	
Carbon monoxide (CO)	1-hour	20 ppm	35 ppm	Chest pain in heart patients, headaches, reduced mental alertness
	8-hour	9.0 ppm	9 ppm	
Nitrogen dioxide (NO ₂)	1-hour	0.18 ppm	0.100 ppm ⁴	Lung irritation and damage
	Annual	0.030 ppm	0.053 ppm	
Sulfur dioxide (SO ₂)	1-hour	0.25 ppm	0.075 ppm ⁴	Increases lung disease and breathing problems for asthmatics
	3-hour	--	0.5 ppm	
	24-hour	0.04 ppm	--	

Source: CARB, 2001; CARB, 2015b

Notes:

ppm = parts per million; µg/m³ = micrograms per cubic meter; "--" = no standards

- (1) The federal 8-hour ozone standard was lowered from 0.075 to 0.070 ppm on October 1, 2015. The attainment status designation is currently based on the former standard (0.075 ppm).
- (2) The federal 24-hour PM_{2.5} standard is based on the 98th percentile of maximum daily monitored values.
- (3) The federal standard shown is the primary standard, the secondary standard is 15 µg/m³.
- (4) The new federal 1-hour NO₂ and SO₂ standards are based on the 98th and 99th percentile of daily hourly maximum values, respectively.

Table 3.1-3 summarizes the federal and State attainment status of criteria pollutants for the Ventura County portion of the SCCAB based on the NAAQS and CAAQS, respectively. For simplification, if the federal attainment status is identified as unclassifiable/attainment or some similar status that is not either nonattainment or attainment/maintenance, it is noted as attainment in the table.

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Table 3.1-3. Attainment Status for the Ventura County portion of the SCCAB

Pollutant	Attainment Status	
	Federal	State
O ₃	Serious Nonattainment	Nonattainment
PM ₁₀	Attainment	Nonattainment
PM _{2.5}	Attainment	Attainment
CO	Attainment	Attainment
NO ₂	Attainment	Attainment
SO ₂	Attainment	Attainment

Source: CARB, 2015c; USEPA, 2015

Table 3.1-4 summarizes the historical air quality data for the Project area collected at the nearest representative air quality monitoring station in Ventura County. The air monitoring station used to provide ozone, PM₁₀, PM_{2.5}, and NO₂ concentrations is located at the El Rio-Rio Mesa School #2 monitoring station, which is located a few miles east-northeast of the Project area. This monitoring station is the only monitoring station currently operating within the coastal plain of Ventura County, and so is the only monitoring station that would be representative of the Project area. Carbon monoxide and sulfur dioxide are not monitored within Ventura County. Table 3.1-4 presents the maximum pollutant levels measured from the El Rio-Rio Mesa School #2 monitoring station from 2012 through 2014.

Table 3.1-4. Background Ambient Air Quality Data

Pollutant	Averaging Time	Maximum Concentration (ppm or µg/m ³) ¹		
		2012	2013	2014
O ₃	1-hour	0.082	0.067	0.112
	8-hour	0.065	0.062	0.077
PM ₁₀	24-hour	56.9	46.7	--
	Annual	21.0	24.3	--
PM _{2.5}	24-hour 98 th Percentile	17.0	17.7	17.8
	Annual	8.7	9.4	9.3
NO ₂	1-hour	0.057	0.040	0.039
	1-hour 98 th Percentile	0.033	0.033	0.030
	Annual	0.007	0.007	0.006

Source: CARB, 2015d

Notes:

ppm = parts per million; µg/m³ = micrograms per cubic meter; "--" = no data or data is currently incomplete

(1) Gaseous pollutant (ozone and NO₂) concentrations are shown in ppm and particulate (PM₁₀ and PM_{2.5}) concentrations are shown in µg/m³. The values provided may depict either "state" or "federal" values depending on applicable AAQS or to provide complete data where otherwise missing in the "state" or "federal" values provided by the CARB data source.

The ambient air quality data indicate that in the three years of data shown, the Project area has experienced exceedances of the federal and State ozone standards and the State PM₁₀ standards, but experienced no exceedances of any other federal or State standards.

Toxic Air Contaminants

TACs are compounds that are known or suspected to cause adverse long-term (cancer and chronic) and/or short-term (acute) health effects. The Health and Safety Code defines a TAC as an air pollutant which

may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another's. There are almost 200 compounds designated in California regulations as TACs (17 CCR §§ 93000-93001). The list of TACs also includes the substances defined in federal statute as hazardous air pollutants (HAPs) pursuant to Section 112 (b) of the federal Clean Air Act (42 U.S.C. Section 7412(b)). Some of the TACs are groups of compounds which contain many individual substances (e.g., copper compounds, polycyclic aromatic compounds). TACs are emitted from mobile sources, including diesel engines; industrial processes and stationary sources, such as dry cleaners, gasoline stations; paint and solvent operations; and stationary fossil fuel-burning combustion. Ambient TACs concentrations tend to be highest in urbanized and industrial areas near major TACs emissions sources, or near major mobile TACs emissions sources, such as heavily traveled highways or major airports/seaports. Unlike for criteria pollutants, no monitoring studies of ambient TACs concentrations have been performed in Ventura County. Generally, TACs do not have ambient air quality standards. The three TACs that do have State ambient air quality standards (i.e., lead, vinyl chloride, and hydrogen sulfide) are pollutants that are in attainment of the State standards in Ventura County and are not relevant to the emissions sources for this Project.

Valley Fever

Coccidioidomycosis, often referred to as San Joaquin Valley Fever or Valley Fever, is one of the most studied and oldest known fungal infections. Valley Fever most commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top few inches of soil and the existence of the fungus in most soil areas is temporary. The cocci fungus lives as a saprophyte (an organism, especially a fungus or bacterium, which grows on and derives its nourishment from dead or decaying organic matter) in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus "blooms" and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-disturbing activities and become airborne. Agricultural workers, construction workers, and other people who are outdoors and are exposed to wind, dust, and disturbed topsoil are at an elevated risk of contracting Valley Fever (CDPH, 2013).

Most people exposed to the CI spores will not develop the disease and of 100 persons who are infected approximately 60 will have no symptoms, 40 will have some symptoms, and 2 to 4 will have the more serious disseminated forms of the disease (Guevara, 2014). After recovery nearly all, including the asymptomatic, develop a life-long immunity to the disease (Guevara, 2014). African Americans, Asians, women in the third trimester of pregnancy, and persons whose immunity is compromised are most likely to develop the most severe form of the disease (CDC, 2013). In addition to humans, a total of 70 different species are known to be susceptible to Valley Fever infections, including dogs, cats, and horses, with dogs being the most susceptible (LACPH, 2007).

The Project is located in an area designated as suspected endemic for Valley Fever by the Center for Disease Control (CDC, 2013). Annual case reports for 2000 through 2013 from the California Department of Public Health indicate that Ventura County has reported incident rates for Valley Fever ranging from 1.3 to 10.6 cases per year per 100,000 population (CDPH, 2011; CDPH, 2014). The incidence rates for Ventura County during this period have generally been equal to or below the State average incidence rates, and have been well below the worst-case annual rates for other counties

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within the State during this period, which occur within the San Joaquin Valley and during some years have accounted for over 300 cases per 100,000 population.

Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. According to VCAPCD CEQA guidance (VCAPCD, 2003, p. A-7), sensitive receptor locations include schools, hospitals, and daycare centers.

Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Residential areas can also be sensitive to air pollution due to high exposure periods for individuals that do not leave their residences often. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

A land use survey was conducted to identify sensitive receptors (e.g., schools, hospitals, recreational facilities, local residences) in the general vicinity of the proposed Project. The Project area is large and adjoins a diverse group of land uses including recreational (golf courses), agricultural, open space, residential, and commercial/industrial. The nearest school would be the Rio Del Norte Elementary School, which is approximately a quarter mile from the Project area, and is within a residential area adjacent to the southeastern area of the Project alignment. There are several other schools located within a mile of the Project. There are no major hospitals nearby the Project area.

3.1.1.2 Applicable Regulations, Plans, and Standards

Sources of air emissions in the Ventura County portion of the SCCAB are regulated by the USEPA, CARB, and VCAPCD. The role of each regulatory agency is discussed below.

Federal

The federal Clean Air Act (CAA) of 1970 and its subsequent amendments form the basis for the nation's air pollution control effort. The USEPA is responsible for implementing most aspects of the CAA. Basic elements of the act include the establishment of NAAQS for criteria air pollutants (see Section 3.1.1.1), hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The CAA allows the delegation of the enforcement of many of the federal air quality regulations to the states. In California, the CARB is responsible for enforcing air pollution regulations. In the Ventura County portion of the SCCAB, the VCAPCD has this responsibility. In addition, the VCAPCD and the CARB are the responsible agencies for providing attainment plans and meeting attainment with the NAAQS; the USEPA reviews and approves these plans and regulations, which are designed to attain and maintain attainment with the NAAQS.

Specific federal regulations that are applicable to the Project, either directly or indirectly, and that are enforced by federal agencies are listed below.

Emission Standards for Non-Road Diesel Engines

The USEPA has established a series of cleaner emission standards for new off-road diesel engines culminating in the Tier 4 Final Rule of June 2004 (USEPA, 2004a). The Tier 1, Tier 2, Tier 3, and Tier 4 standards require compliance with progressively more stringent emission standards. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006, and the Tier 3 standards were phased in from 2006 to 2008.

The Tier 4 standards complement the latest 2007 and later on-road heavy-duty engine standards by requiring 90 percent reductions in diesel particulate matter (DPM) and NO_x when compared against current emission levels. The Tier 4 standards are currently being phased in starting with smaller engines in 2008 until all but the very largest diesel engines meet NO_x and PM standards in 2015.

Non-Road Diesel Fuel Rule

In May 2004, the USEPA set sulfur limits for non-road diesel fuel. Under this rule, sulfur levels in non-road diesel fuel would be limited to 500 parts per million (ppm) starting in 2007 and 15 ppm starting in 2010 (USEPA, 2004b), at which time it would be equivalent to sulfur content restrictions of the California Diesel Fuel Regulations (described below).

Emission Standards for On-Road Trucks

To reduce emissions from on-road, heavy-duty diesel trucks, the USEPA established a series of cleaner emission standards for new engines, starting in 1988. These emission standards regulations have been revised over time. The latest effective regulation, the 2007 Heavy-Duty Highway Rule, provides for reductions in PM, NO_x, and non-methane hydrocarbon emissions that were phased in during the model years 2007 through 2010 (USEPA, 2000).

State

California Clean Air Act

In California, the CARB is designated as the responsible agency for all air quality regulations. The CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for implementing the requirements of the federal CAA, regulating emissions from motor vehicles and consumer products, and implementing the California Clean Air Act of 1988 (CCAA). The CCAA outlines a program to attain the CAAQS for ozone, NO₂, SO₂, and CO by the earliest practical date. Since the CAAQS are often more stringent than the NAAQS, attainment of the CAAQS will require more emission reductions than what is required to demonstrate attainment of the NAAQS. Similar to the federal requirements, the State requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region. Additional information regarding the CAAQS that are relevant to the Project is provided in Section 3.1.1.1.

Other CARB regulations promulgated under the authority of the CCAA that are relevant, directly or indirectly, to the Project are as follows:

California Diesel Risk Reduction Plan

The CARB has adopted several regulations that are meant to reduce the health risk associated with on- and off-road and stationary diesel engine operation. This plan recommends many control measures

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with the goal of an 85 percent reduction in DPM emissions by 2020. The regulations noted below, which may also serve to significantly reduce other pollutant emissions, are all part of this risk reduction plan.

Emission Standards for On-Road and Off-Road Diesel Engines

The CARB, similar to the USEPA on-road and off-road emissions standards regulations described above, has established emission standards for new on-road and off-road diesel engines. These regulations have model year based emissions standards for NO_x, hydrocarbons, CO, and particulate matter (PM).

In-Use Off-Road Vehicle Regulation

The State has also enacted a regulation for the reduction of DPM and criteria pollutant emissions from in-use off-road diesel-fueled vehicles (CCR Title 13, Article 4.8, Chapter 9, Section 2449). This regulation provides target emission rates for PM and NO_x emissions from owners of fleets of diesel-fueled off-road vehicles, and applies to off-road equipment fleets of three specific sizes where the target emission rates are reduced over time. Specific regulation requirements include:

- Limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles;
- Requires all vehicles to be reported to the CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labeled;
- Restricts adding older vehicles into fleets starting on January 1, 2014; and
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies, VDECS (i.e., exhaust retrofits). (CARB, 2014)

The construction contractor(s) who complete the construction activities for this Project, including the VCWPD if they use their own off-road equipment fleet, would have to comply with the requirements of this regulation.

Heavy Duty Diesel Truck Idling Regulation

This CARB rule became effective February 1, 2005, and prohibits heavy-duty diesel trucks from idling for longer than five minutes at a time, unless they are queuing, and provided the queue is located more than 100 feet from any homes or schools (CARB, 2006).

California Diesel Fuel Regulations

In 2004, the CARB set limits on the sulfur content of diesel fuel sold in California for use in on-road and off-road motor vehicles (Title 13, California Code of Regulations, Sections 2281-2285 and Title 17, California Code of Regulations, Section 93114). Under this rule, sulfur content of diesel fuel would be limited to 15 ppm starting in June 2006 (CARB, 2004).

Statewide Portable Equipment Registration Program (PERP)

The PERP establishes a uniform program to regulate portable engines and portable engine-driven equipment units (CARB, 2005). Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts, as long as the equipment is located at a single location for no more than 12 months.

Local

The VCAPCD is primarily responsible for planning, implementing, and enforcing federal and State ambient air quality standards within the Ventura County portion of the SCCAB. As part of its planning

responsibilities, VCAPCD prepares Air Quality Management Plans and Attainment Plans as necessary based on the attainment status of the air basins within its jurisdiction. The VCAPCD is also responsible for permitting and controlling stationary source criteria and air toxic pollutants as delegated by the USEPA. The VCAPCD has developed the following federal and State attainment planning documents:

- 2006 Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) Revision (VCAPCD, 2006)
- 2007 Air Quality Management Plan (VCAPCD, 2008)
- 2009 Reasonably Available Control Technology State Implementation Plan (2009 RACT SIP) Revision (VCAPCD, 2009)
- Ventura County Triennial Assessment and Plan Update 2006 – 2008 (VCAPCD, 2011)

Through the attainment planning process, the VCAPCD develops the VCAPCD Rules and Regulations to regulate sources of air pollution in Ventura County (VCAPCD, 2015a). The VCAPCD rules that may be applicable to the Project are listed below.

VCAPCD Rule 50 – Opacity. This rule prohibits discharge of air contaminants or other material, which are as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or obscure an observer's view.

VCAPCD Rule 51 – Nuisance. This rule prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

VCAPCD Rule 55 – Fugitive Dust. The purpose of this rule is to control the amount of PM entrained in the atmosphere from man-made sources of fugitive dust. The rule limits visible dust opacity and visible dust plumes beyond property lines, requires control of track-out onto paved roads, prohibits visible dust plumes from earth moving to extend more than 100 feet, and specifies dust control requirements for truck hauling of bulk materials.

VCAPCD Rule 55.1 – Paved Roads and Public Unpaved Roads. This regulation requires the owner/operator of paved public roads to remove visible roadway accumulations, provides construction requirements for new roads with average daily trips of more than 1,000, and requires that activity on public unpaved roads not cause dust plumes that would exceed 100 feet in length or violate specified opacity requirements.

VCAPCD Rule 74.2 – Architectural Coatings. Architectural coating Rule 74.2 limits the volatile organic compound (VOC) content of paints applied to various surfaces and applies to any construction painting operation;

VCAPCD Rule 74.29 – Soil Decontamination Operations. The rule specifies the allowed methods for soil decontamination. This rule, which applies to soils contaminated with gasoline, diesel fuel, or jet fuel would only apply if contaminated soils are encountered during Project construction.

VCAPCD Rules 10, 23, and 26 to 26.13 – Permitting. These rules require the permitting of stationary sources, and requires new emission sources use best available control technology (BACT) to control criteria pollutant emissions, and requires offsetting emissions if permitted emissions would exceed designated thresholds. Portable internal combustion engines may be used during Project construction and would require permits if they are not permitted under the CARB PERP program.

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There are no new rules or revisions to rules currently on the VCAPCD 2015 Rule Development Calendar that would likely be applicable to the Project (VCAPCD, 2015b).

Ventura County Air Quality Assessment Guidelines

The VCAPCD in their *Ventura County Air Quality Assessment Guidelines* (VCAPCD Guidelines) document has recommended air quality analysis methodologies, and has established recommended CEQA significant emissions levels for applicable criteria pollutant emissions as follows:

- Nitrogen Oxides (NOx) – 25 pounds per day
- Reactive Organic Compounds (ROC) – 25 pounds per day

These two significance thresholds do not apply to construction emissions; however, if construction emissions exceed these values, then appropriate construction mitigation measures outlined in this guideline should be implemented to reduce the NOx and ROC emissions. Fugitive dust emissions' significance is based on the potential to cause a significant adverse air quality impact through injury or nuisance. Additionally, this guideline provides recommended fugitive dust emissions mitigation measures and Valley Fever mitigation measures.

General Plans

Ventura County and the City of Oxnard have adopted General Plans that include air quality-related goals, policies, and programs (Ventura County, 2015; City of Oxnard, 2011). However, none of the goals, policies, or programs in these General Plans provide specific air quality-related requirements beyond those already required by VCAPCD rules and regulations. The relevant goals and policies related to air quality are as follows (Ventura County, 2015):

Goals

- 1.2.1-1 Diligently seek and promote a level of air quality that protects public health, safety, and welfare, and seek to attain and maintain the State and Federal Ambient Air Quality standards.
- 1.2.1-2 Ensure that any adverse air quality impacts, both long-term and short-term, resulting from discretionary development are mitigated the maximum extent feasible.

Policies

- 1.2.2-1 Discretionary development that is inconsistent with the Air Quality Management Plan (AQMP) shall be prohibited, unless overriding considerations are cited by the decision-making body.
- 1.2.2-2 The air quality impacts of discretionary development shall be evaluated by use of the Guidelines for the Preparation of Air Quality Impact Analysis.
- 1.2.2-3 Discretionary development that would have a significant adverse air quality impact shall only be approved if it is conditioned with all reasonable mitigation measures to avoid, minimize or compensate (offset) for the air quality impact. Developers shall be encouraged to employ innovative methods and technologies to minimize air pollution impacts.
- 1.2.2-5 Development subject to APCD permit authority shall comply with all applicable APCD rules and permit requirements, including the use of best available control technology (BACT) as determined by the APCD.

3.1.2 Environmental Impacts and Mitigation Measures

3.1.2.1 Criteria for Determining Impact Significance

In accordance with the Ventura County *Initial Study Assessment Guidelines*, Ventura County General Plan, and Ventura County Administrative Supplement to the CEQA Guidelines, all County agencies, departments, and special districts utilize the air quality assessment guidelines as adopted and periodically updated by the VCAPCD. The most recently adopted guidelines are the 2003 VCAPCD Air Quality Assessment Guidelines (VCAPCD, 2003). Based on the VCAPCD Guidelines and the CEQA Guidelines, an air quality impact would be significant if the Project would:

- Conflict with or obstruct implementation of the VCAPCD Air Quality Management Plan and emit two pounds per day or greater of ROC and NO_x;
- Violate any air quality standard or contribute to an existing or projected air quality violation as demonstrated by an appropriate air dispersion modeling analysis;
- Result in a cumulatively considerable net increase of any criteria nonattainment pollutant, which for the Ventura County area surrounding the Project site is defined by VCAPCD as 25 pounds per day of ROC and NO_x (does not apply to temporary construction emissions);
- Expose the public (especially schools, day care centers, hospitals, retirement homes, convalescent facilities, and residences) to substantial pollutant concentrations, including generating fugitive dust emissions in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or have a natural tendency to cause injury or damage to business or property;
- Create objectionable odors affecting a substantial number of people; or
- Create a significant San Joaquin Valley Fever impact.

3.1.2.2 Direct and Indirect Impacts

VCAPCD Air Quality Management Plan

Option 1B and Option 1A

The VCAPCD has federal and State air quality management plans for ozone. The State does not require air quality planning documents for PM₁₀ attainment. The Ventura County portion of the SCCAB is in federal and State attainment of the other criteria pollutants, so no air quality plans are required for those pollutants (PM_{2.5}, CO, NO_x, and SO_x).

The VCAPCD air quality management planning documents, listed above in Section 3.1.1.2, do not propose any new control measures that would be applicable to this Project beyond those currently existing in the VCAPCD rules and regulations. Therefore, since the Project would not promote growth beyond the assumptions contained in the approved Air Quality Management Plan, and assuming compliance with existing rules and regulations, the Project would be consistent with the VCAPCD Air Quality Management Plan and, therefore, no violation of the Plan would occur.

Air Quality Standards

Impact AQ-1: Project construction could violate or substantially contribute to existing or projected violations of applicable air quality standards.

Option 1B and Option 1A

The Project’s construction emissions would be temporary, would be distributed and dispersed over a large project site area that would substantially reduce concentrations, and would not be of a magnitude (see construction emissions summary tables below [Tables 3.1-6 through 3.1-13] under Impact AQ-3) that could cause new ambient air quality violations or substantially contribute to existing violations. The Project’s calculated controlled average daily construction criteria emissions are no more than 0.031 percent of the 2012 Ventura County emissions inventory for all pollutants as shown in Table 3.1-5.

	VOC	CO	NOx	SOx	PM10	PM2.5
Option 1A Average Daily Emissions	1.15	8.73	7.69	0.02	19.57	2.56
Ventura County 2012 Average Daily Emissions	148,800	589,400	99,000	6,200	63,400	37,800
Percent of County Total	0.001%	0.001%	0.008%	0.000%	0.031%	0.007%

Source: CARB, 2015e; EIR Appendix C (Total Option 1A controlled emissions distributed over the accelerated 20-month total Project schedule)

Additionally, construction is a short-term activity that would not affect long-term projections for air quality attainment. With implementation of Mitigation Measures AQ-3a through AQ-3c, the Project’s construction emissions would not violate or substantially contribute to any violations of air quality standards (Class II).

Impact AQ-2: Project O&M could violate or substantially contribute to existing or projected violations of applicable air quality standards.

The Project’s operation emissions, which would be limited to occasional vegetation thinning activity and facility inspections, are negligible, as shown below in Table 3.1-14. The Project’s operation emissions would not violate air quality standards and, therefore, would not result in significant impacts (Class III).

Impact AQ-3: Project construction could result in a cumulatively considerable net increase in non-attainment pollutants.

As shown in Table 3.1-3, Ventura County is in non-attainment of the federal and State ozone standards and the State PM10 standard. Therefore, this impact analysis primarily considers ozone precursors (NOx and VOC) and PM10 emissions.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

The proposed Project would create air pollutant emissions during construction. The Project’s uncontrolled construction emissions estimate was completed and is provided in Appendix C, which provides a list of the methods and assumptions used in the emissions calculation. A limited amount of fugitive dust emission mitigation in the form of unpaved road watering, which is assumed to be necessary for VCAPCD rules compliance, is included in the uncontrolled emissions estimate. The uncontrolled on-road vehicle and off-road equipment emissions are based on fleet average emissions factors for the SCCAB.

A summary of the uncontrolled construction emissions estimate for Option 1B is provided below in Tables 3.1-6 and 3.1-7.

	VOC	CO	NOx	SOx	PM10	PM2.5
On-road vehicles	2.10	14.22	35.71	0.08	0.03	0.01
Off-road equipment	3.83	37.87	55.52	0.05	2.14	1.97
Fugitive dust	---	---	---	---	486.15	71.73
Total	5.92	52.09	91.23	0.14	488.31	73.71

Source: Appendix C

	VOC	CO	NOx	SOx	PM10	PM2.5
On-road vehicles	0.13	0.93	1.48	0.00	0.05	0.03
Off-road equipment	0.44	2.47	3.11	0.00	0.14	0.13
Fugitive dust	---	---	---	---	15.78	1.84
Total	0.57	3.40	4.59	0.01	15.97	2.00

Source: Appendix C

The maximum daily emissions for the gaseous pollutants (VOC, CO, NOx, and SOx) occurs during the overlap of the Levee Embankment Fill, Rock Riprap, Golf Course Fill, and 66-inch Reinforced Concrete Pipe (RCP) work tasks. The particulate emissions (i.e., fugitive dust) maximum daily emissions occur during the Foundation Excavation work task, which does not overlap with any other work tasks. The difference between the two is the larger amount of on-road vehicle tailpipe emissions versus the large amount of unpaved road fugitive dust emissions from scraper use and unpaved road travel, respectively. The total construction emissions occur over an estimated 77-week construction schedule.

VCAPCD's CEQA Guidelines do not provide quantitative emissions significance criteria for construction based on the emissions being temporary; however, the guidelines do indicate that NOx, VOC, and fugitive dust emissions from construction should be mitigated in consideration of Ventura County being nonattainment of the federal and State ozone ambient air quality standards and the State PM10 ambient air quality standards. For this Project, the NOx and VOC emissions sources comprise off-road equipment and on-road vehicles. Mitigating the on-road vehicle emissions by restricting the type or model year of the engine would be difficult to implement, so on-road vehicle mitigation is limited to idle duration control and proper engine maintenance (see Mitigation Measure AQ-3c); no emissions reductions have been assumed for this mitigation. However, mitigation of off-road vehicle emissions could be reasonably accomplished by specifying the use of equipment with newer, lower emitting engines. Therefore, Mitigation Measure AQ-3b, which specifies the use of off-road equipment that meet or exceed Tier 3 emission standards, is recommended. Additionally, Mitigation Measure AQ-3a is recommended to reduce particulate emissions impacts during construction. The specific mitigation assumptions and revisions to both off-road equipment and fugitive dust emissions calculations are provided in Appendix C. Tables 3.1-8 and 3.1-9 provide the mitigated construction emissions estimate.

	VOC	CO	NOx	SOx	PM10	PM2.5
On-road vehicles	2.10	14.22	35.71	0.08	0.03	0.01
Off-road equipment	1.90	37.87	27.03	0.05	1.01	0.93
Fugitive dust	---	---	---	---	166.36	23.18
Total	4.00	52.09	62.74	0.14	167.39	24.12

Source: Appendix C

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	VOC	CO	NOx	SOx	PM10	PM2.5
On-road vehicles	0.13	0.93	1.48	0.00	0.05	0.03
Off-road equipment	0.32	2.47	1.41	0.00	0.07	0.07
Fugitive dust	---	---	---	---	6.53	0.75
Total	0.45	3.40	2.88	0.01	6.65	0.85

Source: Appendix C

After mitigation, the estimated Project construction emissions would be substantially reduced. The off-road NOx and VOC emissions are estimated to be reduced by over 50 percent for the maximum day and almost 55 and over 25 percent over the entire construction period, respectively. The total NOx and VOC emissions are estimated to be reduced by over 30 percent for the maximum day and over 37 and over 21 percent over the entire construction period, respectively. The fugitive particulate emissions (PM10 and PM2.5) are estimated to be reduced by over 65 percent for the maximum day and over 57 percent over the total construction period.

Construction emissions for Option 1B, after implementation of Mitigation Measures AQ-3a through AQ-3c, would still be adverse. However, the construction emissions would be temporary, would be greatly reduced from the potential uncontrolled construction emissions, and therefore would not result in significant impacts after implementation of mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

This option requires more construction activity than Option 1B and, therefore, has greater overall emissions (comparing values in Table 3.1-11 for Option 1A to Table 3.1-7 for Option 1B). However, the differences in task overlap in the two schedules determine which option has the greatest estimated maximum daily emissions (comparing values in Tables 3.1-10 and 3.1-6).

The proposed Project’s uncontrolled construction emissions estimate was completed and is provided in Appendix C, which provides a list of the methods and assumptions used in the emissions calculation. A limited amount of fugitive dust emission mitigation in the form of unpaved road watering, which is assumed to be necessary for VCAPCD rules compliance, is included in the uncontrolled emissions estimate. The uncontrolled on-road vehicle and off-road equipment emissions are based on fleet average emissions factors for the SCCAB. A summary of the uncontrolled construction emissions estimate for Option 1A are provided in Tables 3.1-10 and 3.1-11.

	VOC	CO	NOx	SOx	PM10	PM2.5
On-road vehicles	2.09	14.27	32.99	0.08	0.03	0.01
Off-road equipment	3.97	23.77	31.64	0.02	2.14	1.97
Fugitive dust	---	---	---	---	488.49	72.21
Total	6.06	38.03	64.63	0.11	490.66	74.19

Source: Appendix C

Table 3.1-11. Option 1A Uncontrolled Total Construction Emissions (Tons)

	VOC	CO	NO _x	SO _x	PM10	PM2.5
On-road vehicles	0.15	1.05	1.70	0.00	0.05	0.03
Off-road equipment	0.47	2.54	3.34	0.00	0.15	0.14
Fugitive dust	---	---	---	---	19.57	2.39
Total	0.61	3.59	5.03	0.01	19.78	2.56

Source: Appendix C

The maximum daily emissions for most of the gaseous pollutants (VOC, CO, and SO_x) occurs during the overlap of the Levee Embankment Fill and Concrete Retaining Wall work tasks (Weeks 11-13; see Table 2-3). The NO_x maximum daily emissions occurs during the overlap of the Levee Embankment Fill and Rock Riprap tasks (Weeks 18-22; see Table 2-3). The particulate emissions maximum daily emissions occurs during the Foundation Excavation task (Weeks 7-10; see Table 2-3), which does not overlap with any other work tasks. For the gaseous pollutants (VOC, CO, SO_x) other than NO_x, the daily maximum is based on an overlap of tasks with high off-road equipment use and on-road vehicle use requirements. However, for NO_x the specific off-road equipment required during the Rock Riprap task has proportionally higher uncontrolled NO_x emissions than the equipment required for the Concrete Retaining Wall task, which creates a maximum day for NO_x that is a fraction of a pound higher during Weeks 18-22 as opposed to Weeks 11-13. For the PM emissions (PM10 and PM2.5), the Foundation Excavation task in Reaches 1-3 has much higher fugitive dust emissions from scraper use and greater on-site unpaved road travel than any other task for Option 1A, enough to overwhelm any differences in the off-road and on-road PM emissions during other construction periods. The total construction emissions occur over an estimated 80 week construction schedule.

Construction emissions mitigation applies to Option 1A as it did for Option 1B. Therefore, the same mitigation measures (AQ-3a through AQ-3c) and controlled emissions calculation assumptions apply. Tables 3.1-12 and 3.1-13 provide the mitigated construction emissions estimate for Option 1A.

Table 3.1-12. Option 1A Maximum Daily Controlled Construction Emissions (lbs/day)

	VOC	CO	NO _x	SO _x	PM10	PM2.5
On-road vehicles	2.09	14.27	35.73	0.08	0.03	0.01
Off-road equipment	2.54	23.77	12.77	0.02	1.01	0.93
Fugitive dust	---	---	---	---	167.27	23.36
Total	4.63	38.03	48.50	0.11	168.31	24.30

Source: Appendix C

Table 3.1-13. Option 1A Controlled Total Construction Emissions (Tons)

	VOC	CO	NO _x	SO _x	PM10	PM2.5
On-road vehicles	0.15	1.05	1.70	0.00	0.05	0.03
Off-road equipment	0.33	2.54	1.46	0.00	0.08	0.07
Fugitive dust	---	---	---	---	7.91	0.95
Total	0.47	3.59	3.16	0.01	8.04	1.05

Source: Appendix C

In the controlled emissions scenario, all gaseous pollutant maximum daily emissions occur during the overlap of the Levee Embankment Fill and Concrete Retaining Wall work tasks (Weeks 11-13). The maximum daily PM emissions remain during the Foundation Excavation work task (Weeks 7-10).

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After mitigation, the estimated Project construction emissions for Option 1A would be substantially reduced. The off-road NOx and VOC emissions are estimated to be reduced by over 50 and 35 percent for the maximum day and nearly 60 and over 30 percent over the entire construction period, respectively. The total NOx and VOC emissions are estimated to be reduced by about 25 and 24 percent for the maximum day and about 37 and 22 percent over the entire construction period, respectively. The fugitive particulate emissions (PM10 and PM2.5) are estimated to be reduced by over 65 percent for the maximum day and nearly 60 percent over the total construction period.

The Project's construction emissions for Option 1A, after implementation of Mitigation Measures AQ-3a through AQ-3c, would still be adverse. However, the construction emissions would be temporary, would be greatly reduced from the potential uncontrolled construction emissions, and therefore would not result in significant impacts after implementation of mitigation (Class II).

Mitigation Measures

The following mitigation measures would substantially reduce the off-road equipment NOx emissions and the fugitive dust particulate emissions during Project construction (applies to Options 1A and 1B).

AQ-3a **Fugitive Dust Control.** All construction and site preparation operations shall be conducted in compliance with all applicable Ventura County Air Pollution Control District (VCAPCD) Rules and Regulations with emphasis on Rule 50 (Opacity), Rule 51 (Nuisance), and Rules 55 (Fugitive Dust) and 55.1 (Paved Roads and Public Unpaved Roads), as well as Rule 10 (Permits Required). The following specific dust control measures, unless more strict measures are implemented for VCAPCD rule compliance, shall be implemented:

1. Apply environmentally safe chemical stabilization, which can be water or other non-toxic soil binder(s), at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with public paved surface to the working areas of the Project site, with an acceptable width to accommodate traffic ingress and egress from the site.
2. Minimize areas of grading, excavation, earth moving, and surface disturbance to the extent feasible.
3. Pre-water areas to be graded or excavated, and water during grading/excavation activities so that soils being handled are moist (12 percent moisture or greater).
4. Maintain stabilized surfaces on inactive graded/excavated areas by using water, rolling, or other non-toxic soil binders; and re-vegetate or perform other long-term surface stabilization within a week after active construction activities are completed.
5. Install a properly functioning and well-maintained track-out control device(s) that prevents track-out of soil onto paved public roads.
6. Remove track-out from pavement as soon as possible but no later than one hour after it has been deposited on the paved road.
7. Use properly secured tarps or covering that covers the entire surface area of the earthen fill, or other fine bulk material, loads.
8. Water or use environmentally safe chemical stabilization to treat earthen fill storage piles to minimize wind erosion emissions.
9. Limit vehicle speeds, including off-road scrapers, on unpaved roads and work areas to 15 mph. Speed limit signs shall be posted onsite at locations of the point of initial egress to the unpaved areas and within unpaved work areas.

10. Discontinue work activities, including all grading activities, with the exception of fugitive dust control activities, as necessary to prevent nuisance dust conditions during high wind events (25 mph for more than 5 minutes in any hour).

AQ-3b **Off-road Equipment Emissions Control.** Off-road equipment with engines larger than 50 horsepower shall have engines that meet or exceed USEPA/CARB Tier 3 Emissions Standards. Exceptions will be allowed only on a case by case basis for three specific situations: (1) an off-road equipment item that is a specialty, or unique, piece of equipment that cannot be found with a Tier 3 or better engine after a due diligence search; and/or (2) an off-road equipment item that will be used for a total of no more than 5 days; and/or (3) the off-road equipment is registered under CARB’s Statewide Portable Equipment Registration Program. Additionally, all off-road equipment engines shall be maintained in good operating condition and in tune per manufacturers’ specification, and equipment idling shall be limited to no more than five minutes unless needed for proper operation.

AQ-3c **On-road Equipment Emissions Control.** All non-employee on-road vehicle engines shall be turned off when not in use. Engine idling shall not exceed five (5) minutes unless required for proper operation. All non-employee on-road vehicle engines shall be maintained in good operating condition and in tune per manufacturers’ specification.

Impact AQ-4: Project O&M could result in a cumulatively considerable net increase in non-attainment pollutants.

Option 1B and Option 1A

The Project’s increase in operation emissions is limited to two weeks of vegetation thinning and up to 12 inspections per year. Options 1B and 1A are assumed to have the same type of increased O&M activities. The emission estimate for this increase in O&M activities is provided in Table 3.1-14.

Table 3.1-14. Option 1B and 1A Operation Emissions (lbs/day and lbs/year)						
	VOC	CO	NO _x	SO _x	PM10	PM2.5
Maximum Daily Emissions, lbs/day	8.97	32.14	3.57	0.01	0.39	0.22
VCAPCD Significance Thresholds, lbs/day	25	--	25	--	--	--
Significant?	NO	--	NO	--	--	--
Total Annual Emissions, lbs/year	89.71	321.70	36.02	0.08	3.88	2.23

Source: Appendix C; VCAPCD, 2003

Operations emissions are minimal and are below all VCAPCD emissions significance thresholds. The VOC and CO emissions are proportionately higher than the rest of the pollutants due to the assumed use of gasoline-powered chainsaws. The minimal O&M emissions for Options 1B and 1A would not cause significant air quality impacts (Class III).

Localized Health Impacts

Impact AQ-5: Project construction and O&M could expose the public to substantial pollutant concentrations.

Option 1B and Option 1A

The Project’s construction emissions of criteria pollutants after mitigation, including particulate emissions, are not considered to be at a level that would be high enough to cause direct health impacts

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to local sensitive receptors. The Project's emissions would occur over a large area, the on-road portion of the emissions would occur over a large portion of the County and the off-road emissions would move over the approximately two-mile long Project construction corridor. Therefore, Project emissions would not materially affect criteria pollutant ambient air quality attainment, much less create substantial pollutant concentrations that could cause distress or injury. Additionally, the Project elements with the highest off-road emissions occur in or adjacent to the Santa Clara River channel, and so are generally the farthest construction elements from the sensitive receptors that surround the Project. Therefore, these emissions would generally disperse substantially before reaching sensitive receptor locations. Additionally, the Project's operation emissions of criteria pollutants are negligible (see Table 3.1-14).

The Project's emissions of toxic air pollutants would be minimal and would consist primarily of DPM emissions during Project construction activities. These emissions would be temporary, would occur over a large Project area, and would average just over 0.3 pounds per day over the construction period and less than 0.2 pounds per day within the approximately two-mile long Project construction site area. This latter average daily level of on-site DPM emissions would be equivalent to that from a two-mile long section of Highway 101 for approximately 180 truck trips per day, while in reality there is over 30 times that amount of traffic on Highway 101; over 5,600 truck trips per day on the 101 near the Project site (Highway 101 at PCH in Oxnard in 2013 had 5,618 average daily truck trips; Caltrans, 2014). This illustrates the relative low magnitude of the Project's DPM emissions. DPM does not have substantial acute toxic effects, so its risks are related to long-term/lifetime chronic and primarily carcinogenic exposures, while the Project would occur and expose receptors for 27 months. Therefore, given the temporary small quantity of toxic air pollutant emissions, their large release area, and the large project average distance to sensitive receptors, construction of the proposed Project (Option 1B or Option 1A) would not expose any nearby sensitive receptor location to a cancer risk above 10 in a million or an acute or chronic hazard index of one or more, so construction air toxics emissions impacts would be less than significant (Class III). Additionally, the primary on-site source of air toxic emission, the diesel fueled off-road equipment, would be subject to NO_x emission mitigation (Mitigation Measure AQ-3b) that would also reduce uncontrolled on-site PM₁₀ emissions from off-road equipment (where PM₁₀=DPM) by 50 percent or more. The Project's operation emissions of air toxics are negligible (Class III).

Objectionable Odors

Impact AQ-6: Project construction and O&M could cause localized nuisance odors.

Option 1B and Option 1A

The Project's construction and operation for both design options would not include the use of malodorous substances or activities that would cause significant odors. Construction equipment and construction operations may create mildly objectionable odors, such as during asphalt paving operations. However, these odors would be temporary, limited in extent, are the types of odors regularly experienced by the public, and would not affect a substantial number of people. The Project's operation, which would be limited to the additional maintenance activity of occasional thinning of vegetation, is not expected to create any noticeable odors. The localized odor impacts from the proposed Project's construction and operation activities would not be significant (Class III).

San Joaquin Valley Fever

Impact AQ-7: Project construction could cause an increase in the incidence of Valley Fever infections.

Option 1B and Option 1A

Valley fever is endemic or suspected to be endemic throughout Southern California, so fugitive dust emissions from the Project could cause exposure to the arthroconidia (spores) of the fungus *Coccidioides immitis* (CI) if those spores are present in areas being excavated or in areas with unpaved vehicle/equipment travel. Exposure to the CI spores could cause Project construction workers, area residents, or others using recreation facilities downwind of the Project construction activities to contract the disease. The primary way to avoid valley fever is to limit exposure to the CI spores. The construction methods and mitigation measure (see Mitigation Measure AQ-3a above), which have been designed to comply with the VCAPCD Guidelines' recommended fugitive dust mitigation measures, would provide substantial control of the fugitive dust emissions during construction. The potential for the Project to increase incidence of valley fever infection during construction would not be significant after fugitive dust mitigation (Class II).

Impact AQ-8: Project O&M could cause an increase in the incidence of Valley Fever infections.

Option 1B and Option 1A

The potential for Project-related valley fever impacts during operation would be minimal as the additional maintenance activities, occasional vegetation thinning and facility inspections, should cause negligible quantities of fugitive dust emissions. The potential for the Project to increase incidence of valley fever infection during operation would not be significant (Class III).

3.1.2.3 Cumulative Impacts

Introduction

The geographic extent for the analysis of cumulative impacts related to air quality is generally limited to areas within approximately one mile of the Project alignment. It is possible that air pollutant emissions from different sources could combine to create a significant impact to receptors in the same downwind direction. At distances greater than one mile air pollutants have had time to disperse to concentrations that would not be of concern. The shorter the distance between projects, all other things being equal, the higher the potential for cumulative impacts. The baseline for assessing cumulative air quality impacts includes the ambient air quality in the Project area and existing projects and land uses.

The proposed Project alignment, as shown in Figure 3-1, would be within one mile of approximately 17 of the 55 listed cumulative projects and within one-half mile of six of those projects.

Project Contribution to Cumulative Impacts

The proposed Project has dozens of work tasks that would occur at various times and places over an approximately two-mile length of the Project alignment along the Santa Clara River channel and adjacent lands. Based on the accelerated (worst-case) construction schedule (20 months), none of these work tasks are anticipated to last longer than 16 weeks, and the entire construction period is less than two years, whereas the anticipated normal-case construction schedule is expected to be somewhat longer at 27 months. While there may be some overlap between some of the identified

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cumulative projects within a mile of the Project area, the Project’s emissions and mitigation would be consistent with the Air Quality Management Plan. Therefore, per VCAPCD Guidelines, the construction emissions, which would be mitigated, would not create a cumulatively considerable contribution to cumulative air quality impacts.

The Project’s operation is limited to a small increase in occasional vegetation thinning activities, and therefore would not make a cumulatively considerable contribution to cumulative air quality impacts.

3.1.2.4 Impact Significance Summary

Table 3.1-14, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.1-15 also indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project’s contributions to construction and O&M air quality impacts were determined not to be cumulatively considerable.

Impacts	Mitigation Measures	Significance Conclusion
Impact AQ-1: Project construction could violate or substantially contribute to existing or projected violations of applicable air quality standards.	AQ-3a: Fugitive Dust Control. AQ-3b: Off-road Equipment Emissions Control. AQ-3c: On-road Equipment Emissions Control.	Class II
Impact AQ-2: Project O&M could violate or substantially contribute to existing or projected violations of applicable air quality standards.	No mitigation measures are required.	Class III
Impact AQ-3: Project construction could result in a cumulatively considerable net increase in non-attainment pollutants.	AQ-3a: Fugitive Dust Control. AQ-3b: Off-road Equipment Emissions Control. AQ-3c: On-road Equipment Emissions Control.	Class II
Impact AQ-4: Project O&M could result in a cumulatively considerable net increase in non-attainment pollutants.	No mitigation measures are required.	Class III
Impact AQ-5: Project construction and O&M could expose the public to substantial pollutant concentrations.	No mitigation measures are required.	Class III
Impact AQ-6: Project construction and O&M could cause localized nuisance odors.	No mitigation measures are required.	Class III
Impact AQ-7: Project construction could cause an increase in the incidence of Valley Fever infections.	AQ-3a: Fugitive Dust Control.	Class II
Impact AQ-8: Project O&M could cause an increase in the incidence of Valley Fever infections.	No mitigation measures are required.	Class III

Class I: Significant impact; cannot be mitigated to a level that is not significant. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: Significant impact; can be mitigated to a level that is not significant. A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR.

Class III: Adverse; less than significant. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: Beneficial impact. A Class IV impact represents a beneficial effect that would result from project implementation.

3.2 Biological Resources

This section describes the effects to biological resources that may result from the implementation of the proposed Project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid impacts anticipated from Project construction and O&M. In addition, existing laws and regulations relevant to biological resources are described in Section 3.2.2. Section 3.2.1 (Environmental Setting) includes a detailed description of the sources of information used to develop the baseline conditions for the Project area. Section 3.2.3 presents the impact analysis for biological resources.

Additional detail and background on biological resources are included in the following appendices to this EIR:

- Appendix B-1: Applicable Biological Studies
- Appendix B-2: Summary of Surveys Conducted in the Study Area
- Appendix B-3: Wildlife Observed in the Study Area
- Appendix B-4: Plant Species Observed in the Study Area
- Appendix B-5: Sensitive Plant Species Unlikely to Occur in the Study Area
- Appendix B-6: Special Status Plant and Wildlife Descriptions
- Appendix B-7: Preliminary Jurisdictional Delineation Report
- Appendix G: Ventura County Watershed Protection District Routine Operations & Maintenance Program – Environmental Best Management Practices and Permit Conditions Summary

Scoping Issues Addressed

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following issues related to biological resources were raised during scoping and are addressed in this section.

- The proposed Project should identify impacts and preserve riparian habitat within and adjacent to the Project.
- Proposed Project design should prevent rodent burrows instead of other rodent control methods.
- The proposed Project should consider alternatives to traditional anticoagulant poisons in regards to rodent control.
- The proposed Project should consider sensitive wildlife habitat and wildlife movement.
- The proposed Project should assess flora and fauna within the Project area.
- The proposed Project should assess impacts related to the use of herbicide for levee maintenance.
- Analysis should consider indirect impacts from proposed Project activities.

3.2.1 Environmental Setting

This section presents information on biological resources in the proposed Project region and describes baseline conditions within the Project area. In addition, this section includes vegetation types within the Project area to characterize the botanical resources and potential for wildlife to occur on the proposed Project site. Biotic habitats suitable for the occurrence of plant and wildlife species of special-

status (State and Federally listed threatened and endangered species, Federal candidate species, California Native Plant Society List species, Ventura Locally Important Species, California Fully Protected species, and California Species of Special Concern) are also described.

3.2.1.1 Baseline Data Collection Methodology

Information used in preparing this section was derived from a number of sources including biological resources reports provided by the VCWPD, review of existing literature, consultation with technical experts, and reconnaissance surveys of the Project site. Biological resource data included, but were not limited to, the following:

Literature Search and Review of Existing Data

Aspen has peer reviewed and where appropriate, field verified, all information and data presented in materials provided by the VCWPD. This peer review included but was not limited to technical reports and data, including special-status species locations and survey data presented in Appendix B-1 of this EIR. Aspen conducted data collection through review of the following resources:

- Draft Environmental Impact Report for the Olivas Park Drive Extension Project (City of Ventura, 2013);
- Santa Clara River Levee Certification; Freeman Diversion to Bailard Landfill; Vegetation Management Area and Levee Gap Area Biological Survey Report (Padre, 2009);
- Least Bell's Vireo Protocol Survey and Territory Mapping on the Santa Clara River (VCWPD, 2013a);
- Southwestern Willow Flycatcher Protocol Survey on the Santa Clara River (VCWPD, 2013b);
- Initial Study/Mitigated Negative Declaration for the Santa Clara River Trail Master Plan (City of Oxnard, 2011);
- Natural Diversity Database (CDFW, 2015a);
- State and federally listed endangered and threatened animals of California (CDFW, 2015b);
- Special Animals List (CDFW, 2015c);
- California Wildlife Habitat Relationships (CDFW, 2008);
- Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2010);
- Consortium of California Herbaria;
- County of Ventura General Plan (County, 2015);
- Aerial photographs of the Project site and surrounding areas (January 2014, December 2013, August 2012, April 2011, June 2009, October 2007, September 2007, August 2006, July 2006, December 2005, June 2005, October 2004, December 2003, July 2003, and September 1994).
- List of Ventura County Locally Important Animals (County of Ventura, 2014a); and
- List of Ventura County Locally Important Plants (County of Ventura, 2014b).

Consultation with Agencies and Local Experts

VCWPD staff and the Aspen have maintained an active dialogue with the US Fish and Wildlife Service (USFWS), United States Army Corps of Engineers (USACE), and California Department of Fish and Wildlife (CDFW).

Collection of Field Data

Aspen conducted multiple reconnaissance level visits of the proposed Project site in order to document the site conditions and to collect new biological resources related field data where applicable. A summary of the surveys conducted in support of the proposed Project are presented in Appendix B-2.

3.2.1.2 Regional Setting

The Santa Clara River system originates in the San Gabriel Mountains and flows westward for approximately 84 miles to the Pacific Ocean where the river forms a coastal lagoon and estuary near McGrath State Beach (VCWPD and LADPW, 2005). The river supports some of the last large-scale cottonwood galleries in the region and is one of the last natural river systems in Southern California. The Santa Clara River is considered a regionally important habitat linkage for many species and provides connectivity from coastal regions to inland valleys and important tributary drainages. Principal tributaries of the Santa Clara River are Castaic Creek in Los Angeles County, and Piru, Sespe and Santa Paula Creeks in Ventura County, with drainage areas of 197, 441, 269, and 42 square miles, respectively (VCWPD and LADPW, 2005).

Faber et al. (1989) estimated that as much as 95 to 97 percent of riparian habitats have been lost in southwestern California. In addition, most of the natural riparian vegetation in California has been lost or degraded from land use conversions to agricultural, urban, and recreational developments; channelization for flood control; sand and gravel mining; ground water pumping; water impoundments; and various other alterations. The Santa Clara River has been subject to numerous anthropogenic disturbances, yet still supports a complex association of river channel, sandy terraces, riparian forest, and upland stream terraces. Portions of the Santa Clara River are considered critical habitat for steelhead trout (southern California distinct population segment, or DPS). A variety of State and federally listed species are known to occur in and near the river corridor and adjacent uplands.

3.2.1.3 Project Overview

The proposed Project consists of implementing improvements to the SCR-3 levee between the northeast end of the Bailard Landfill and the northeast boundary of the UPRR property, generally following the southern bank of the Santa Clara River near the City of Oxnard, California. Proposed Project improvements would occur along an approximately 2.0-mile (10,775-foot) stretch of the SCR-3 levee (includes the extreme southern portion of the “gap” between the east end of the SCR-3 levee and the SCR-1 levee). For purposes of analysis, the VCWPD divided the SCR-3 levee into four reaches:

- Reach 1 – Extends approximately 2,125 feet from the northeast corner of the Bailard Landfill upstream to the Coastal Landfill (just east of Victoria Avenue) (Station 128+75 to 150+00).
- Reach 2 - Extends approximately 5,200 feet along the Coastal Landfill to a point just west of N. Ventura Road (Station 150+00 to 202+00).
- Reach 3 – Extends approximately 1,550 feet from Reach 2 to the point where N. Ventura Road turns easterly and is parallel to the Santa Clara River, approximately 2,600 feet west of Highway 101 (Station 202+00 to 217+50).
- Reach 4 - Extends approximately 1,936 feet from Reach 3 (Station 217+50) upstream to the northeast side of the UPRR crossing (Station 217+50 to Station 236+86). The gap between the UPRR and the Highway 101 Bridge will be addressed by The Village development.

Although impacts from the proposed Project would largely occur within the general area of the existing levee, in order to better characterize the biological resources that may occur in the general vicinity of

the proposed Project, surveys were conducted within a much larger footprint than the Project impact areas. The surveyed area extends approximately 500 feet north and 200 feet south of the existing levee structure from Highway 101 to approximately 2.2 miles downstream near Victoria Avenue (Study Area) (Figure 3.2-1). The portion of the Santa Clara River within the Study Area is bordered to the north by agriculture lands, light industrial facilities, and a golf course. Land uses to the south include residential communities, commercial properties, a golf course, and three landfills. Highway 101 and upstream portions of the Santa Clara River are located to the east. The western border consists of downstream portions of the Santa Clara River channel and adjacent agricultural areas.

3.2.1.4 Project Setting

The proposed Project is located along an approximately 2.0-mile reach of the Lower Santa Clara River. Habitat in the Study Area includes dense riparian vegetation, broad unvegetated sand/gravel bars, and upland terraces. Riparian plant communities are dominated by stands of native willows (*Salix* spp.), cottonwood (*Populus* spp.), and occasional sycamore (*Platanus racemosa* var. *racemosa*). In some locations, thickets of invasive giant reed (*Arundo donax*) comprise the dominant vegetation. Early seral stands of willow and mulefat (*Baccharis salicifolia*) are common along the margins of the low-flow channels. In many areas, dense stands of white sweetclover (*Melilotus albus*) with pockets of western ragweed (*Ambrosia psilostachya* var. *californica*) occur. Other native plant species observed within or near the low-flow channels included California croton (*Croton californicus*), telegraph weed (*Heterotheca grandiflora*), and southern California locoweed (*Astragalus trichopodus*).

The stream terrace located immediately downstream and southwest of the U.S. Highway 101 Bridge supports a mosaic of upland and riparian woodland communities. Mature cottonwood willow riparian forest with an understory of poison oak (*Toxicodendron diversilobum*), mulefat, California sagebrush (*Artemisia californica*) and black sage (*Salvia mellifera*) transitions to open grasslands and riparian scrub communities. Non-native grasslands in this area are dominated by brome grasses (*Bromus* spp.), with scattered aggregations of summer mustard (*Hirshfeldia incana*), tocalote (*Centaurea melitensis*), horehound (*Marrubium vulgare*), and Russian thistle (*Salsola tragus*). In a few locations, isolated California sagebrush, black sage, and quail bush (*Atriplex lentiformis*) are present. An area subject to previous restoration activities occurs near the Highway 101 Bridge and is dominated by thick stands of coyote brush (*Baccharis pilularis*), with scattered mulefat and quail bush. Fennel (*Foeniculum vulgare*), tocalote, and emerging sages are present along the edge of the dirt road that spans this area. Honey bees (*Apis* spp.), an introduced species to the new world, were commonly observed in irrigation boxes used to support the restoration area. A large windrow of gum trees (*Eucalyptus* spp.) borders N. Ventura Road. Scattered non-native tree tobacco (*Nicotiana glauca*), giant reed, and castor bean (*Ricinus* spp.) are also present in this area to a limited degree.

Adjacent land uses in the Project area are varied. Agricultural lands are present to some degree along both sides of the river. Buenaventura Golf course and River Ridge Golf Course are located north and south of the Project area, respectively, and abut the upper banks of the Santa Clara River. Commercial buildings and a residential community are located south of the Project area. Bailard Landfill is located within and south of the western extent of the Study Area. An active rail line supporting Amtrak, Metrolink, and commercial rail uses runs parallel to Highway 101 near the upstream end of the Study Area. In addition, a large number of homeless encampments are present within the upland terraces of the river channel.



Figure 3.2-1
Study Area
Santa Clara River Levee

0 750 1,500 Feet

Study Area

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Vegetation

Field surveys were conducted by VCWPD and Aspen in 2013 and 2014; the Study Area was found to support a variety of natural and disturbed vegetation communities and land forms. In addition, large tracts of invasive non-native species, dominated by giant reed, have colonized portions of the Study Area. Thirteen plant communities defined by Sawyer et al. (2009) were mapped within the Study Area. An additional six land cover types were mapped. Table 3.2-1 lists these habitat and cover types including the total acreage within the Study Area. Full descriptions of each of these vegetation communities, as described by Sawyer et al. (2009), are provided in detail below (refer to Figure 3.2-2).

Riparian Vegetation Types

Much of the natural riparian vegetation in California has been lost or degraded due to a variety of factors, including land use conversions to agricultural, urban, and recreational uses; channelization for flood control; sand and gravel mining; ground water pumping; water impoundments; and various other alterations. Riparian habitats are biologically productive and diverse, and are the exclusive habitat for several special-status wildlife species. Many of these species are wholly dependent on riparian habitats throughout the entirety of their life cycles, while others may utilize these habitats during certain seasons or life history phases. For example, numerous amphibian species breed in aquatic habitats but spend most of their lives in upland areas.

In an otherwise arid landscape, primary productivity in riparian habitats is high due to year-round soil moisture. High plant productivity leads to increased habitat structural diversity and increased food availability for herbivorous animals, and in turn, predatory animals (reviewed by Faber et al., 1989). Insect productivity is also exhibited at relatively higher levels in riparian systems. During warmer months, large numbers of insects provide a prey base for a diverse breeding bird fauna. Structural diversity is also much more evident in riparian systems than those of most regional uplands. Riparian woodlands tend to have multiple-layered herb, shrub, and tree canopies, whereas most upland communities are relatively simple-structured.

Table 3.2-1. Vegetation Community and Land Cover Acreages in the Study Area

Vegetation Communities	Approximate Acres in the Study Area
Arroyo willow thickets [†]	25.43
Black cottonwood forest [*]	2.12
California sagebrush scrub	1.51
Cattail marshes ^{**}	0.09
Coyote brush scrub	3.42
Eucalyptus groves	4.14
Fremont cottonwood forest [*]	2.24
Giant reed breaks	18.42
Mulefat Thicket [†]	23.88
Myoporum stands	2.56
Quailbush scrub	0.50
Shining willow groves [†]	21.78
Upland mustards	0.24
Land Cover Types	
Agriculture	0.50
Developed	34.97
Maintained landscape	19.21
Ruderal	12.84
Sparsely vegetated sandy wash	23.67
Vegetation management zone	1.12
Total	198.62

* Generally meets the habitat requirements of southern cottonwood willow riparian forest, a community considered sensitive by the CDFW.

**Generally meets the habitat requirements of coastal and valley freshwater marsh, a community considered sensitive by the CDFW.

[†] Generally meets the requirements of southern riparian scrub, a community considered sensitive by the CDFW.

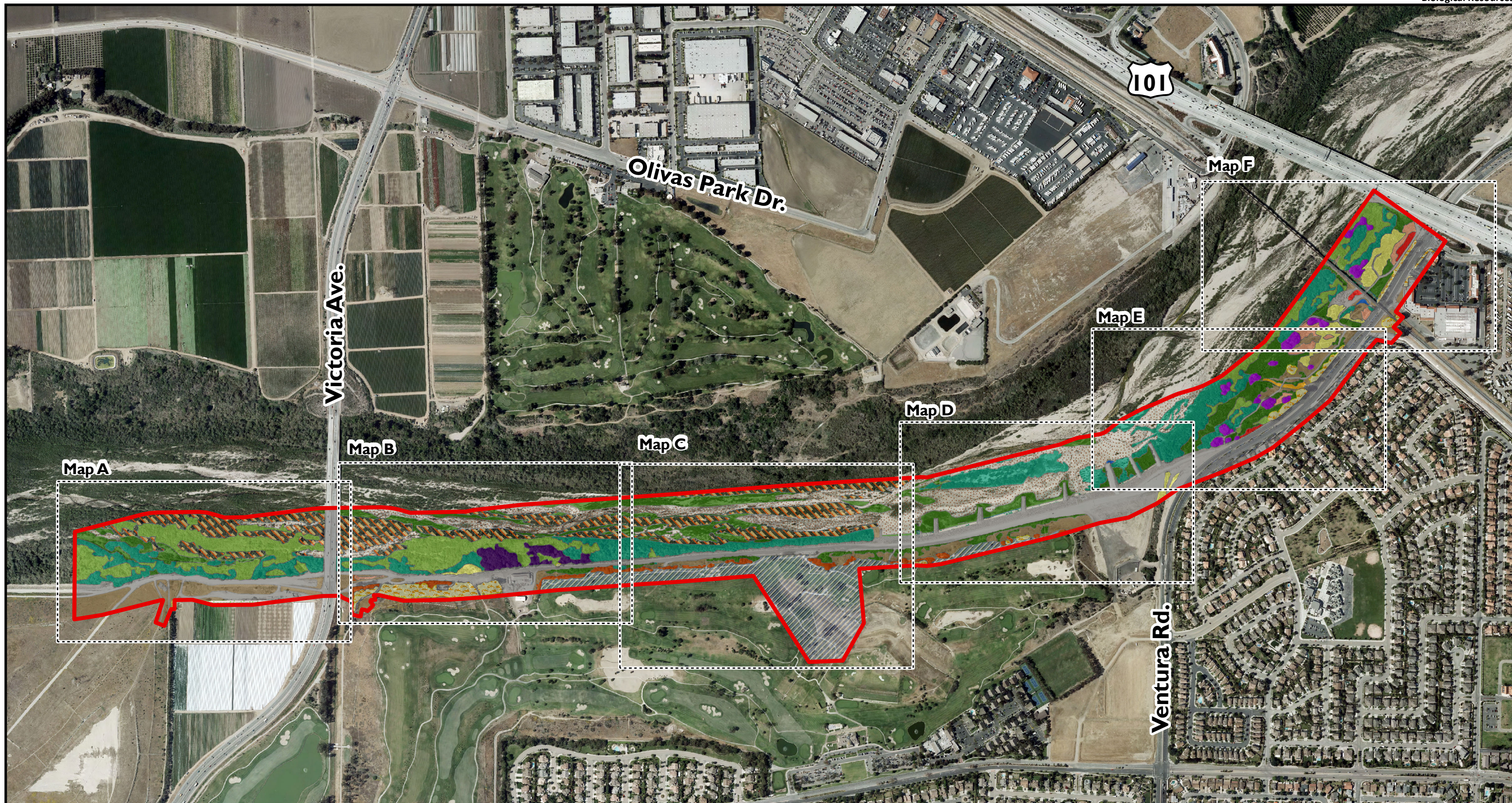
This diverse vertical habitat structure supports a greater diversity of nesting and foraging sites for birds. Similarly, riparian communities support a broader diversity of mammals due to higher biological productivity, denning site availability, thermal cover, and greater access to water.

Riparian woodlands and shrublands in the region are typically dominated by shrubby or tree willow species, cottonwoods, and mulefat, and sometimes have an overstory canopy of taller trees including mature cottonwoods and sycamores. Woody riparian vegetation exists in mosaics of shrublands, developing into woodlands, and finally into a mature forest. These communities may be dominated by similar species, but their structures change over time, mainly as a function of destructive flooding (Holland and Keil, 1995). For example, in the Study Area, several flood prone areas have been recently subjected to scour and existing vegetation is dominated by small early successional species such as sandbar willow (*Salix exigua*) and emerging mulefat. Conversely, large stands of mature willows and scattered cottonwoods dominate areas cut off from scouring flows.

In total, seven riparian vegetation types were documented within the Study Area including arroyo willow thickets, shining willow groves, Fremont cottonwood forest, black cottonwood forest, mulefat thickets, cattail marshes, and giant reed breaks (Sawyer et al., 2009). The portions of the Study Area that appear to have been recently scoured by flows from the Santa Clara River are discussed below under upland habitats because they are not technically a riparian vegetation type, even though they occur in similar areas. Some of the riparian vegetation types are similar to one another in general form and function and tend to intergrade, making it difficult to define the exact limits of each vegetation type. However, for the purposes of this document these communities were mapped and are discussed in detail below.

Mulefat thickets (Baccharis salicifolia Shrubland Alliance). Mulefat thickets were highly variable in composition and occurred throughout Study Area. In the more mesic habitats, this community was found to integrate with arroyo willow thickets and giant reed breaks such that species like sandbar willow, arroyo willow (*Salix lasiolepis*), and giant reed occurred in limited numbers. In the drier habitats, this community integrated with upland vegetation types that included species such as California sagebrush or coyote brush; other shrubs such as quailbush and black sage were also observed. Within the Study Area this community was generally observed on sandy soils in areas of river wash and onto the upland terraces on heavier loam soils. Mulefat thickets were most often found to occur in areas that have not been scoured by flood waters in at least five years; these types of areas are present throughout the Study Area. This vegetation is most similar to the “valley foothill riparian” described by Grenfell (1988) and “mulefat scrub” as described by Holland (1986).

Fremont cottonwood forest (Populus fremontii Forest Alliance). Described as a dense broadleaved, winter deciduous woodland, Fremont cottonwood forests were most often observed on the upland terraces, near mesic swales, or in small secondary channels, within the eastern portions of the Study Area (Reach 4). With Fremont cottonwood (*Populus fremontii*) as the single dominant species in the tree canopy, the understory consisted of a variety of species including various willows, coyote brush, and mulefat. This community likely occurs in close proximity to ground water but at such an elevation that it is protected from scouring floods. This vegetation is most similar to the “valley foothill riparian” described by Grenfell (1988) and “southern cottonwood-willow riparian forest” as described by Holland (1986).





0 750 1,500
Feet

Study Area

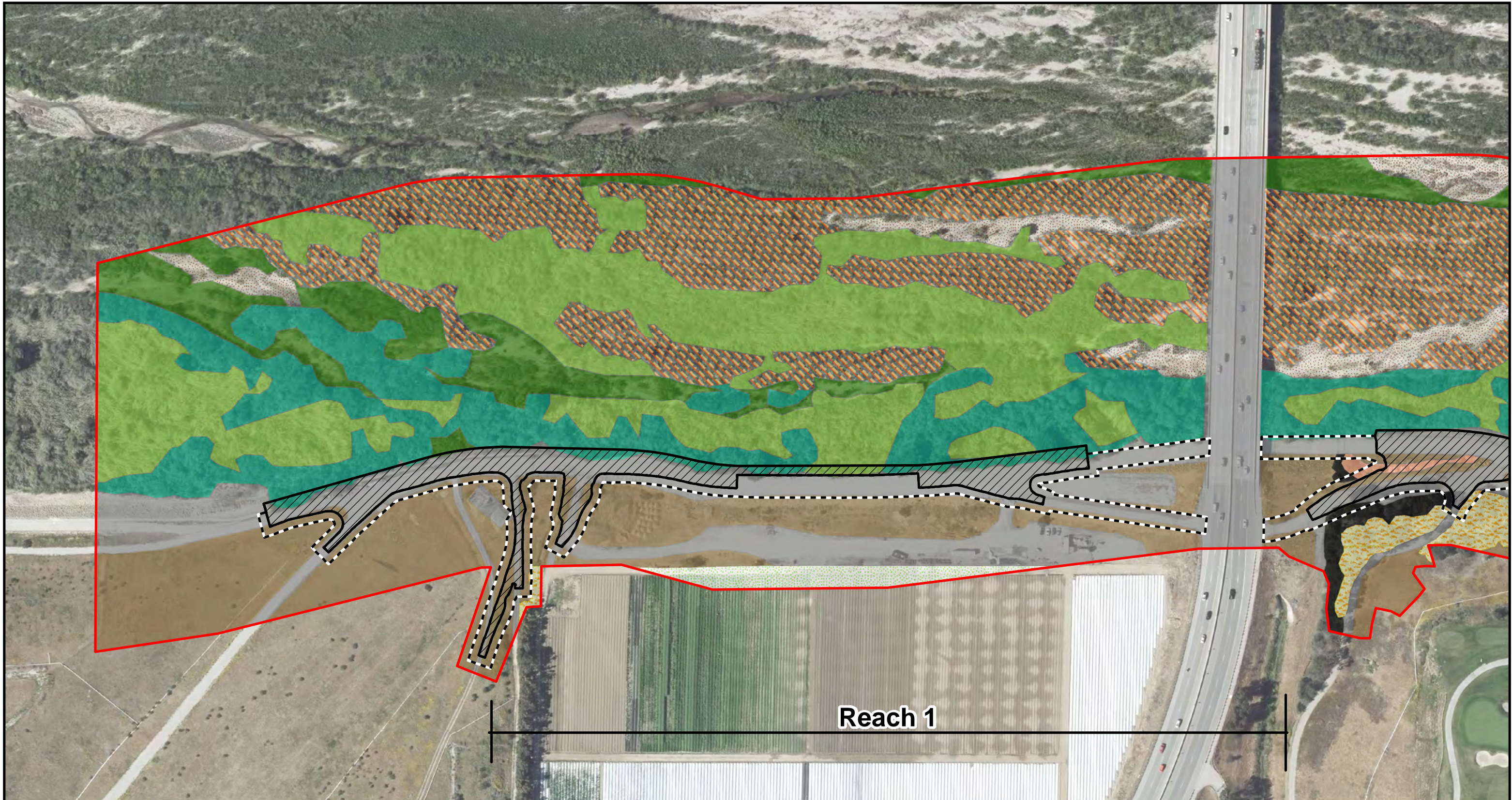


Vegetation/Cover Type

 Agriculture	 Cattail marsh	 Giant reed breaks	 Ruderal
 Arroyo Willow Thickets	 Coyotebush scrub	 Maintained Landscape	 Shining willow thicket
 Black cottonwood forest	 Developed	 Mulefat thickets	 Sparsely vegetated sandy wash
 California sagebrush scrub	 Eucalyptus grove	 Myoporum stands	 Upland mustards
	 Fremont cottonwood forest	 Quailbush scrub	 Vegetation management zone

Figure 3.2-2
Vegetation and
Cover Types

Santa Clara River Levee
Overview Map



Reach 1



- Study Area
- Permanent Impact Areas
- Temporary Impact Areas

- Vegetation/Cover Type**
- Agriculture
 - Arroyo Willow Thickets

- California sagebrush scrub
- Developed
- Eucalyptus grove

- Giant reed breaks
- Mulefat thickets
- Myoporum stands
- Ruderal

- Shining willow thicket
- Sparsely vegetated sandy wash

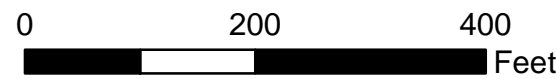
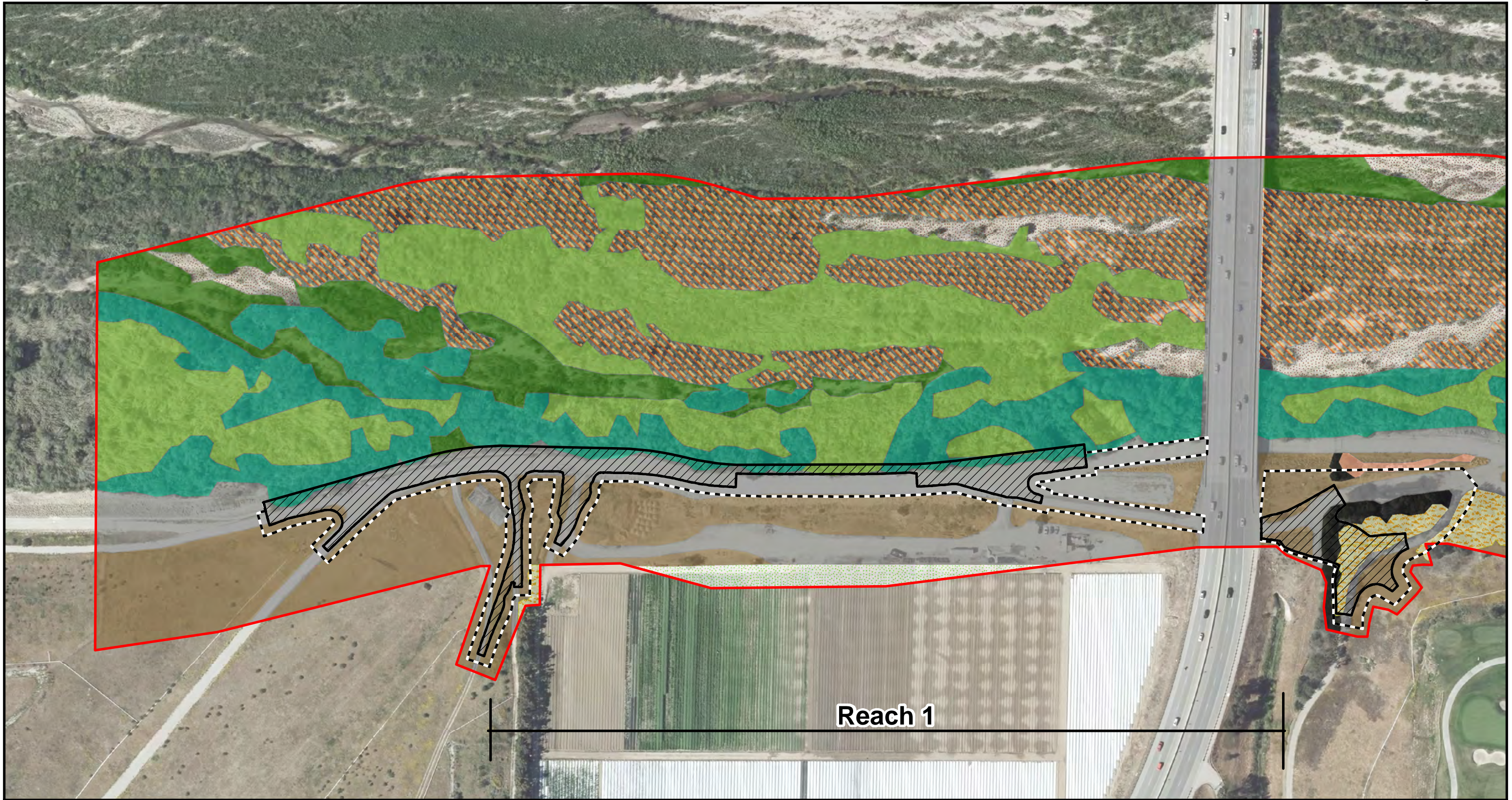


Figure 3.2-2
Vegetation and Cover Types
Option A
Santa Clara River Levee
Map A-1




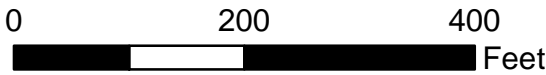














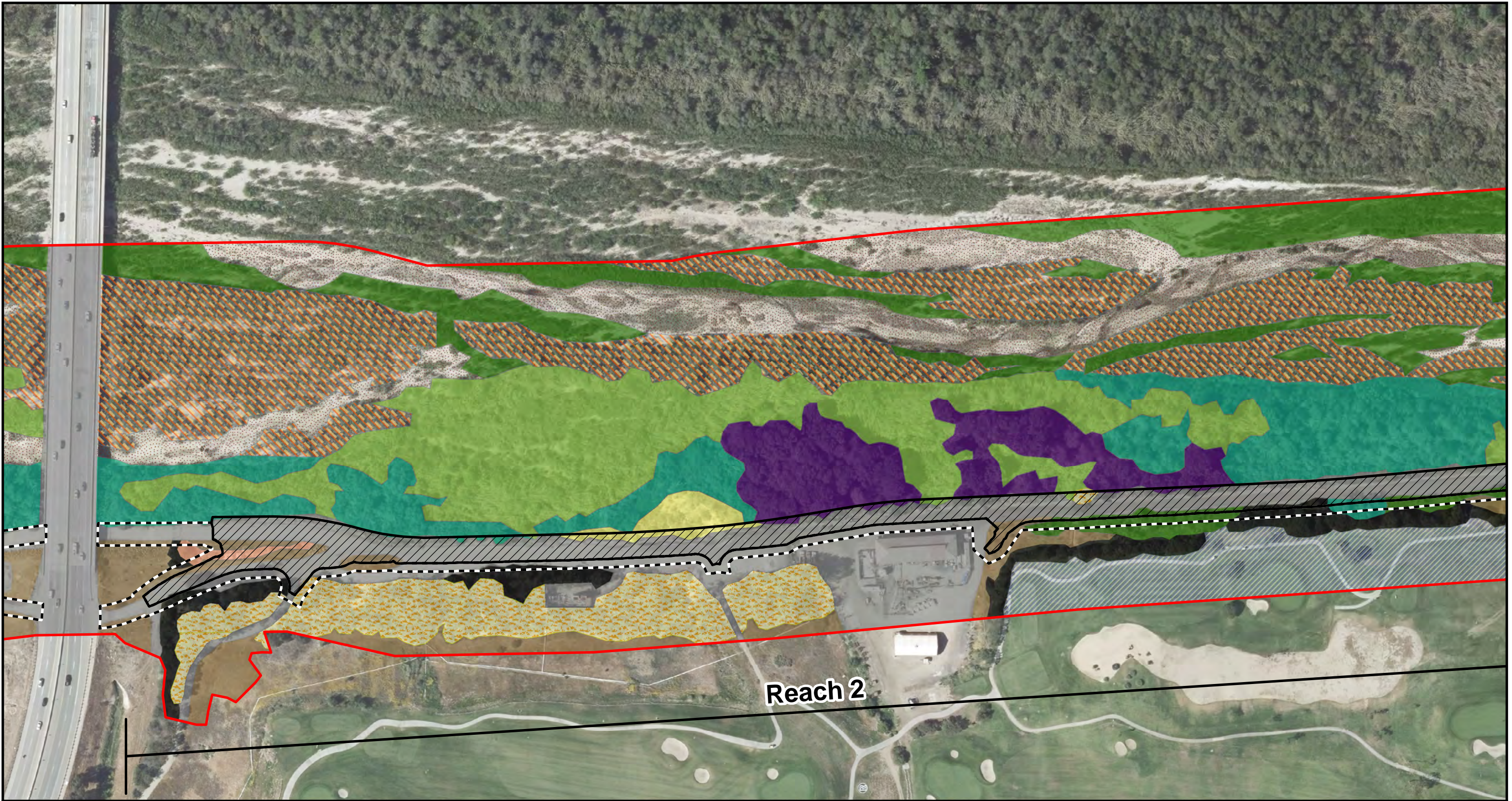

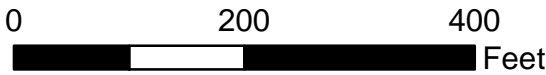
















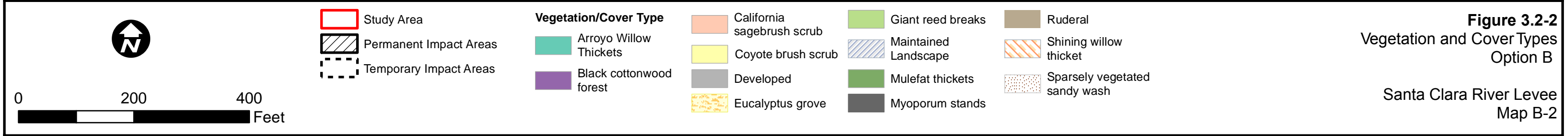
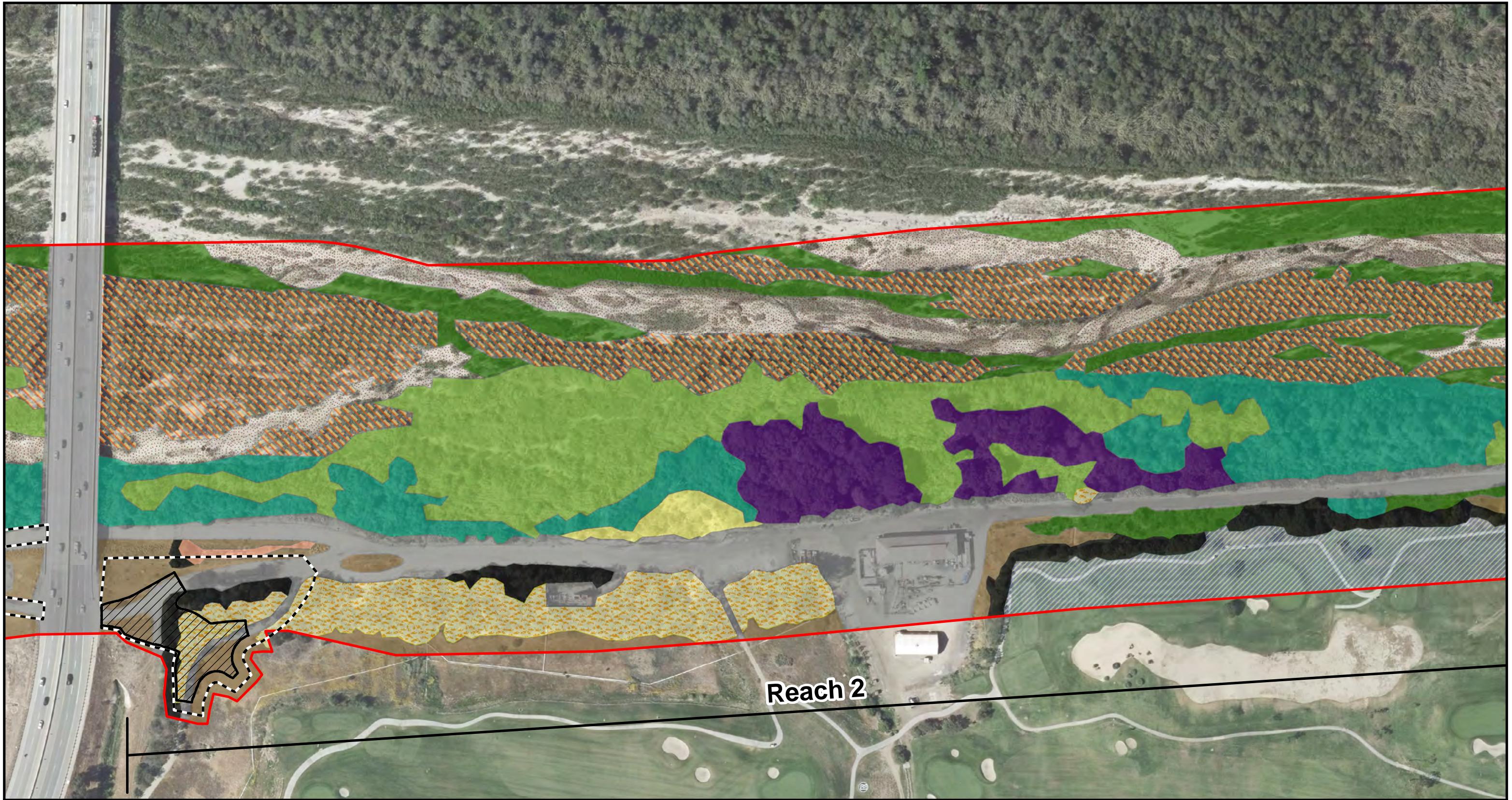
 	 Study Area  Permanent Impact Areas  Temporary Impact Areas	Vegetation/Cover Type  Agriculture  Arroyo Willow Thickets	 California sagebrush scrub  Developed  Eucalyptus grove	 Giant reed breaks  Mulefat thickets  Myoporum stands  Ruderal	 Shining willow thicket  Sparsely vegetated sandy wash
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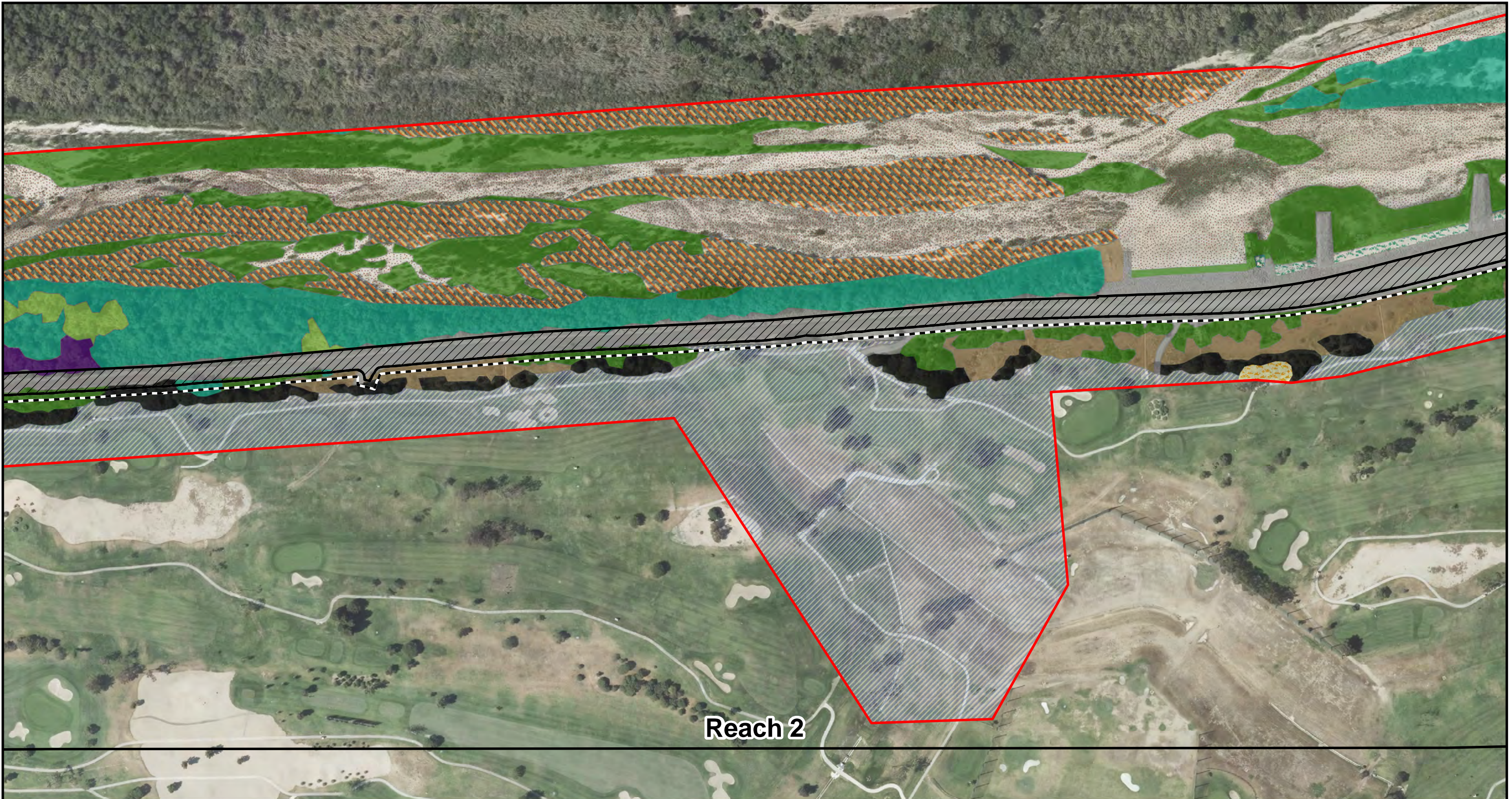
Figure 3.2-2
Vegetation and Cover Types
Option B
Santa Clara River Levee
Map A-2




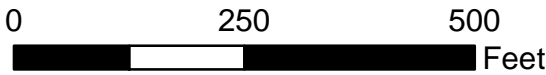

















Reach 2

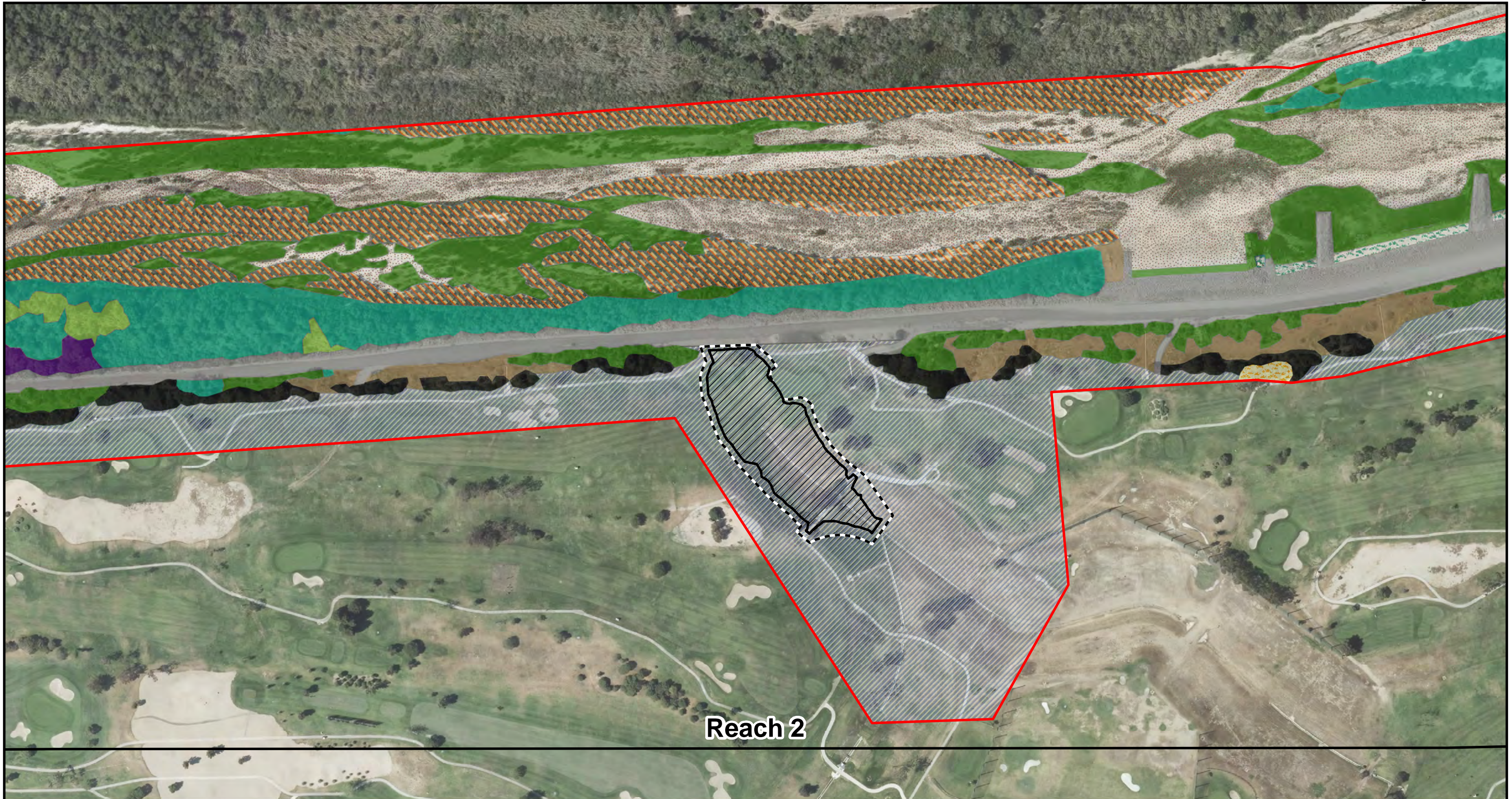
 	 Study Area  Permanent Impact Areas  Temporary Impact Areas	Vegetation/Cover Type  Arroyo Willow Thickets  Black cottonwood forest	 California sagebrush scrub  Coyote brush scrub  Developed  Eucalyptus grove	 Giant reed breaks  Maintained Landscape  Mulefat thickets  Myoporum stands	 Ruderal  Shining willow thicket  Sparsely vegetated sandy wash
	Figure 3.2-2 Vegetation and Cover Types Option A Santa Clara River Levee Map B-1				





Reach 2

 	 Study Area  Permanent Impact Areas  Temporary Impact Areas	Vegetation/Cover Type  Arroyo Willow Thickets  Black cottonwood forest  Giant reed breaks  Maintained Landscape	 Developed  Eucalyptus grove  Giant reed breaks  Maintained Landscape	 Mulefat thickets  Myoporium stands  Ruderal  Shining willow thicket	 Sparsely vegetated sandy wash  Vegetation management zone
	Figure 3.2-2 Vegetation and Cover Types Option A Santa Clara River Levee Map C-1				



Reach 2



- Study Area
- Permanent Impact Areas
- Temporary Impact Areas

Vegetation/Cover Type

- | | | | |
|---|---|---|---|
| <ul style="list-style-type: none"> Arroyo Willow Thickets Black cottonwood forest | <ul style="list-style-type: none"> Mulefat thickets Myoporum stands Ruderal Shining willow thicket | <ul style="list-style-type: none"> Developed Eucalyptus grove Giant reed breaks Maintained Landscape | <ul style="list-style-type: none"> Sparsely vegetated sandy wash Vegetation management zone |
|---|---|---|---|

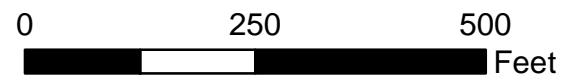
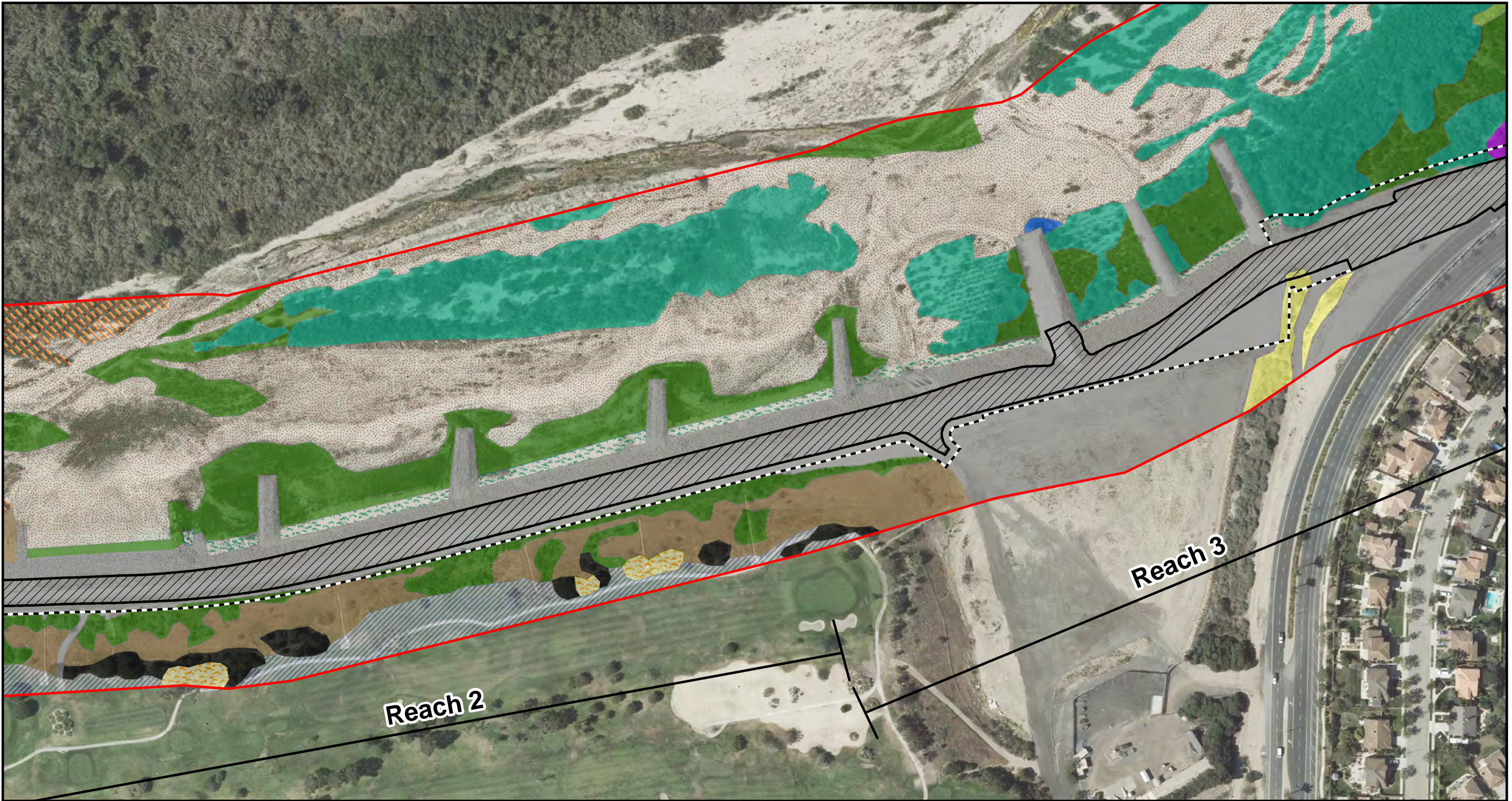


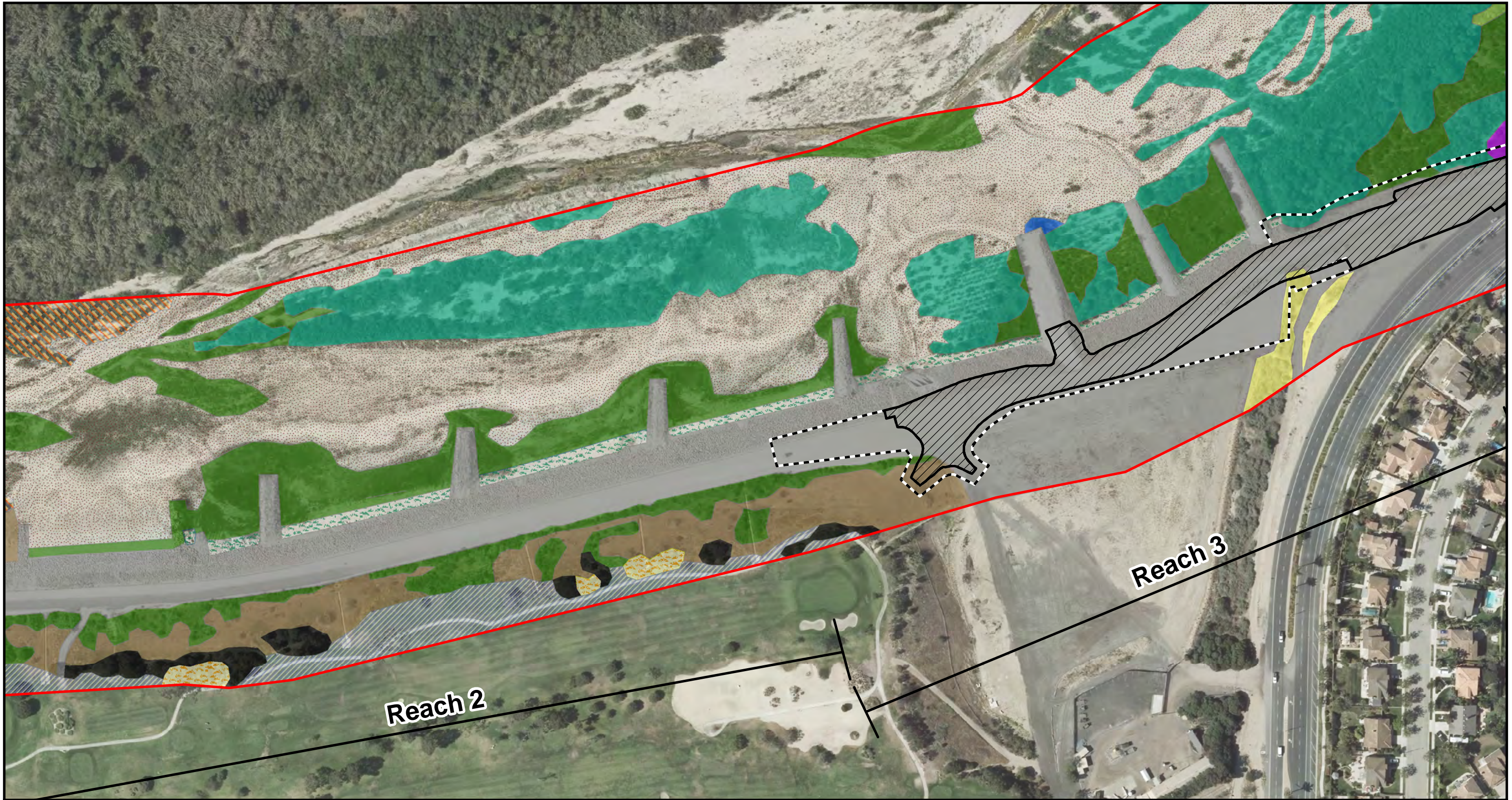
Figure 3.2-2
Vegetation and Cover Types
Option B


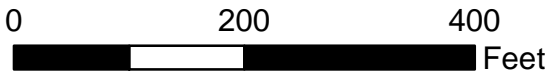

















Santa Clara River Levee
Map C-2



	Study Area	Vegetation/Cover Type	Developed	Maintained Landscape	Shining willow thicket
	Permanent Impact Areas	Arroyo Willow Thickets	Eucalyptus grove	Mulefat thickets	Sparse vegetated sandy wash
Temporary Impact Areas	Cattail marsh	Fremont cottonwood forest	Myoporium stands	Myoporium stands	Vegetation management zone
	Coyotebush scrub	Giant reed breaks	Ruderal		

Figure 3.2-2
Vegetation and Cover Types
Option A
Santa Clara River Levee
Map D-1

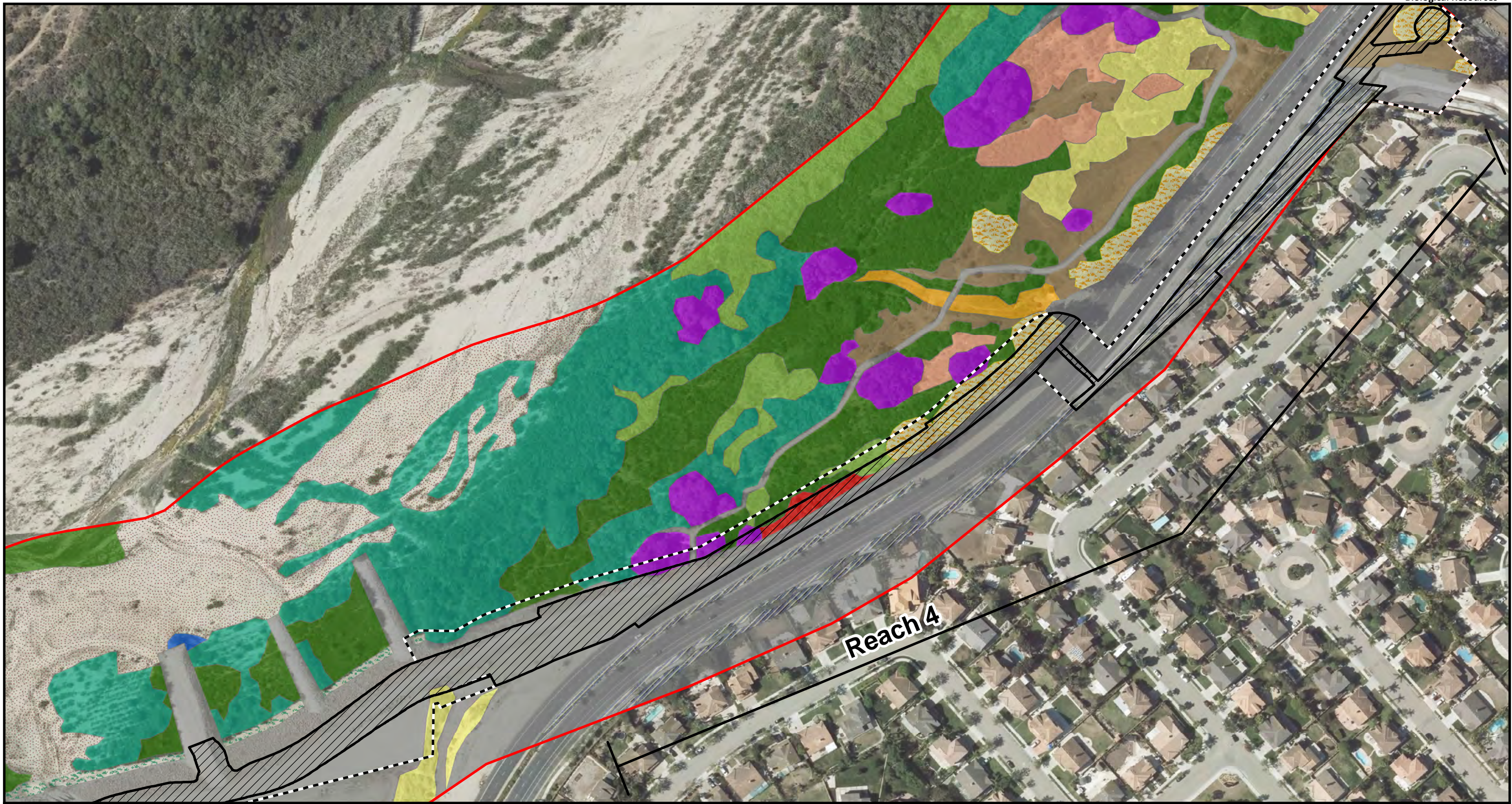


 	 Study Area  Permanent Impact Areas  Temporary Impact Areas	Vegetation/Cover Type  Arroyo Willow Thickets  Cattail marsh  Coyotebush scrub	 Developed  Eucalyptus grove  Fremont cottonwood forest  Giant reed breaks	 Maintained Landscape  Mulefat thickets  Myoporium stands  Ruderal	 Shining willow thicket  Sparsely vegetated sandy wash  Vegetation management zone
	Figure 3.2-2 Vegetation and Cover Types Option B Santa Clara River Levee Map D-2				



	Study Area	Vegetation/Cover Type		Coyote brush scrub	Giant reed breaks	Ruderal
	Permanent Impact Areas	Temporary Impact Areas	Arroyo Willow Thickets	Developed	Maintained Landscape	Sparsely vegetated sandy wash
		California sagebrush scrub	Eucalyptus grove	Mulefat thickets	Upland mustards	Vegetation management zone
		Cattail marsh	Fremont cottonwood forest	Quailbush scrub		

Figure 3.2-2
Vegetation and Cover Types
Option A
Santa Clara River Levee
Map E-1





0 200 400 Feet

Study Area

Study Area

Permanent Impact Areas

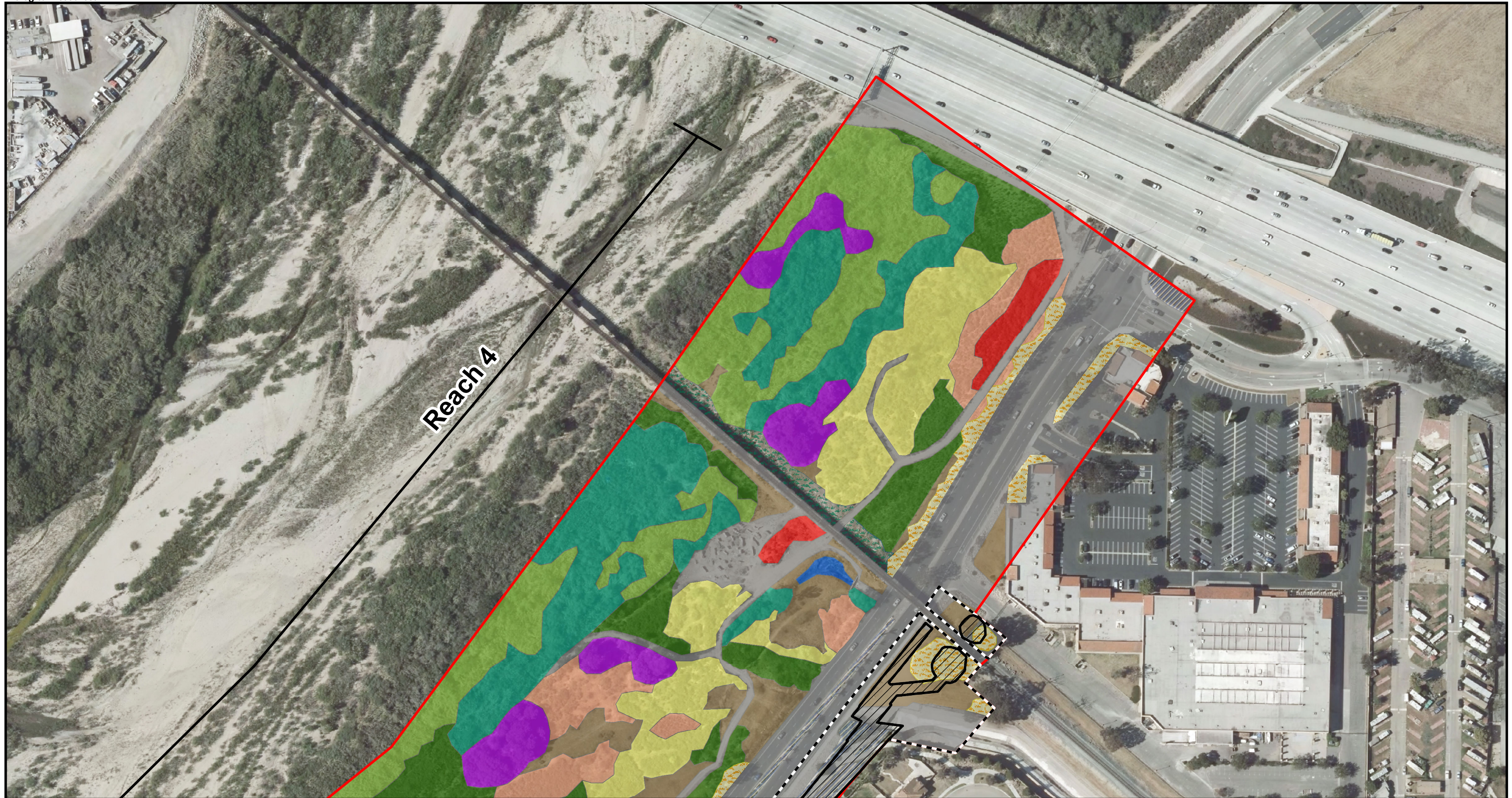
Temporary Impact Areas

Vegetation/Cover Type

 Arroyo Willow Thickets	 California sagebrush scrub	 Cattail marsh
 Coyote brush scrub	 Developed	 Fremont cottonwood forest
 Giant reed breaks	 Maintained Landscape	 Mulefat thickets
 Eucalyptus grove	 Quailbush scrub	 Ruderal
 Upland mustards	 Sparsely vegetated sandy wash	 Vegetation management zone

Figure 3.2-2
Vegetation and Cover Types
Option B

Santa Clara River Levee
Map E-2




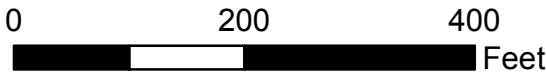
















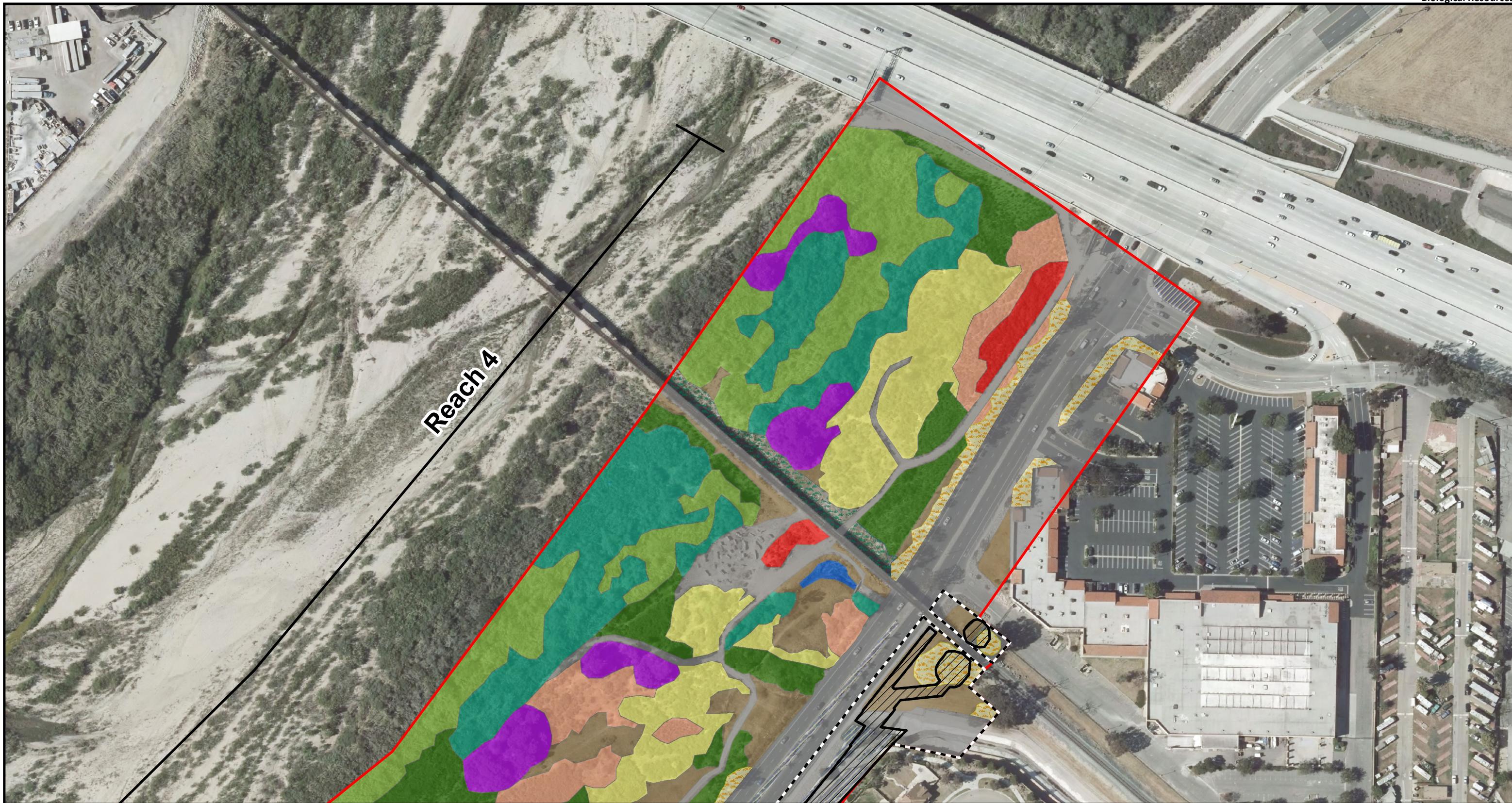
 	 Study Area  Permanent Impact Areas  Temporary Impact Areas	Vegetation/Cover Type  Arroyo Willow Thickets  California sagebrush scrub  Cattail marsh	 Coyotebush scrub  Developed  Eucalyptus grove  Fremont cottonwood forest	 Giant reed breaks  Maintained Landscape  Mulefat thickets  Quailbush scrub	 Ruderal  Vegetation management zone
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Figure 3.2-2A
Vegetation and Cover Types
Option A

Santa Clara River Levee
Map F-1




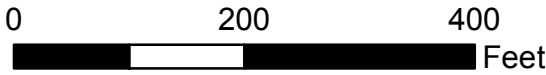
















 	 Study Area  Permanent Impact Areas  Temporary Impact Areas	Vegetation/Cover Type  Arroyo Willow Thickets  California sagebrush scrub  Cattail marsh	 Coyotebush scrub  Developed  Eucalyptus grove  Fremont cottonwood forest	 Giant reed breaks  Maintained Landscape  Mulefat thickets  Quailbush scrub	 Ruderal  Vegetation management zone
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Figure 3.2-2B
Vegetation and Cover Types
Option B

Santa Clara River Levee
Map F-2

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Black cottonwood forest (*Populus trichocarpa* Forest Alliance). Black cottonwood forests are broadleaved, winter deciduous riparian woodlands that are very similar to Fremont cottonwood forest discussed above. This community is found only in the western half of the Study Area, just upstream from the Victoria Avenue Bridge where black cottonwood (*Populus trichocarpa*) replaces Fremont cottonwood as the dominant species in the tree canopy. The understory was generally observed to have scattered willows and a dense lower layer of Pacific poison oak and California blackberry (*Rubus ursinus*). This vegetation community is most similar to the “valley foothill riparian” described by Grenfell (1988) and “southern cottonwood-willow riparian forest” as described by Holland (1986).

Arroyo willow thickets (*Salix lasiolepis* Shrubland Alliance). Arroyo willow thickets are dense, broadleaved, winter deciduous woodlands. This community was generally found within the sandy soils of the lower and upper terraces of the Santa Clara River floodplain throughout the Study Area. Where this community occurs in the upper terraces, it was observed to integrate with both types of the cottonwood forests identified in the Study Area. Understory species on the lower terraces included an extensive cover of giant reed and patchy areas of Pacific poison oak and California blackberry. This is an intermediate seral community that can tolerate periodic flooding (Holland, 1986). This vegetation is most similar to the “valley foothill riparian” described by Grenfell (1988) and “southern willow scrub” as described by Holland (1986).

Shining willow groves (*Salix lucida* Woodland Alliance). Described as dense broadleaved, winter deciduous woodlands, shining willow groves were observed within the sandy soils of the Santa Clara River floodplain west of the constructed rock groins in the Study Area. This community tends to integrate with the arroyo willow thickets on the lower terraces and forms monotypic stands in the more active areas of the floodplain. Periodic scouring events that typically remove many of the annual/perennial herbaceous and shrubby species, but that do not uproot the shining willow (*Salix lucida* ssp. *lasiandra*), have resulted in the lack of developed understories in this community. This is an intermediate seral community that can tolerate periodic flooding (Holland 1986). This vegetation is most similar to the “valley foothill riparian” described by Grenfell (1988) and “southern willow scrub” as described by Holland (1986).

Giant reed breaks (*Arundo donax* Semi-Natural Herbaceous Stands). Giant reed is an extremely invasive species non-native to southern California that forms dense monotypic stands and outcompetes most of the native species for resources. This vegetation community occurs throughout the Study Area, primarily in and adjacent to the riparian vegetation along the floodplain of the Santa Clara River; this community also occurred on the lower river terraces. In wetter areas it was over ten feet in height and in such dense stands that it likely acts as a barrier to movement for larger wildlife. In the drier portions of the Study Area the giant reed ranged from six to eight feet in height and occurred in less dense stands (as compared to those occurring in wetter areas). This vegetation community does not match any of the vegetation types described by Holland (1986).

Cattail marshes [*Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance]. Cattail marshes were uncommon in the Study Area and were mapped at only two locations; at the north end of a constructed rock groin in Reach 3 and within a potentially jurisdictional drainage adjacent to the railroad bridge in Reach 4. In good rainfall years, when water in the Santa Clara River is more plentiful, this vegetation community would likely be more commonly observed in the Study Area. In the Study Area, these isolated cattail marshes are dominated by broad-leaved cattails (*Typha latifolia*). Other species observed included bulrush (*Scirpus* spp.), sedges (*Cyperus* spp.), water parsnip (*Berula erecta*), yellow waterweed (*Ludwegia peploides* ssp. *peploides*), and dock (*Rumex* spp.). This vegetation

community best matches the description of “fresh emergent wetland” described by Kramer (1988) and “freshwater marsh” by Holland (1986).

Upland Vegetation Types

Upland plant communities include vegetation dominated by plant species that do not require a permanent source of water, as opposed to plant species that are adapted to areas that are either seasonally flooded or have saturated soils for at least a portion of the growing season. Generally, upland plant communities consist of plant species that are adapted to dryer conditions and typically require only seasonal precipitation to obtain adequate water resources for growth and reproduction. Although most of the proposed Project area is occupied by riparian habitats, several upland plant communities do occur on the elevated terraces, primarily in the eastern portion of the Study Area.

In the Study Area six upland vegetation types including coyote brush scrub, California sagebrush scrub, quailbush scrub, upland mustards, eucalyptus groves, and myoporum stands were observed (Sawyer et al., 2009). Each of these vegetation types is described below in detail.

Coyote brush scrub (Baccharis pilularis Shrubland Alliance). Except for small stands in Reaches 2 and 3, this shrubland vegetation community was only found along the upland terrace within Reach 4 (refer to Figure 3.2-2); the community was generally observed to form thick monotypic stands of vegetation up to six feet tall. Besides the dominant coyote brush, species including mulefat, quailbush, California sagebrush, and black sage were commonly observed within the shrub layer. Understory vegetation was composed of a suite of native annual and perennial herbs as well as non-native species including brome grasses and tocalote. This community does not tolerate flooding events and is therefore not found within the more active areas of the floodplain. This vegetation community best matches descriptions of “coastal scrub” by de Becker (1988) and “Venturan coastal sage scrub” by Holland (1986).

California sagebrush scrub (Artemisia californica Shrubland Alliance). With the exception of a small patch immediately east of the Victoria Avenue Bridge, this shrubland vegetation community was only observed on the upland terrace within Reach 4. As the community name suggests it is dominated by California sagebrush and was generally found to occur in dense stands up to four feet high. Coyote brush and black sage were occasionally observed within openings in the dense stands of California sagebrush. Within the Study Area this community was observed to integrate with coyote brush scrub and quailbush scrub. This vegetation best matches descriptions of “coastal scrub” by de Becker (1988) and “Venturan coastal sage scrub” by Holland (1986).

Quailbush scrub (Atriplex lentiformis Shrubland Alliance). Occurring at only two distinct locations on the upland terrace in Reach 4, this shrubland vegetation community, while dominated by quailbush, included other species such as California sagebrush and coyote brush. This community was observed to integrate with other shrubland vegetation types mapped in the Study Area. This vegetation best matches descriptions of “coastal scrub” by de Becker (1988) and “Venturan coastal sage scrub” by Holland (1986).

Eucalyptus groves [Eucalyptus (globulus, camaldulensis) Semi-Natural Woodland Stands]. Present throughout the Study Area, primarily along roads, on the River Ridge Golf Course, and in disturbed areas, eucalyptus groves are characterized by the presence of gum trees (*Eucalyptus* spp.); gum trees are a non-native species that have become naturalized in southern California. This vegetation community best matches the description of “Eucalyptus” in Pearson (1988).

Upland mustards [*Brassica (nigra)* and Other Mustards Semi-Natural Herbaceous Stands]. The Upland mustards community was mapped at only a single location within the Study Area; a dense stand of mustard (*Brassica* spp.) is growing in an unnamed drainage ditch on the upland terrace in Reach 4. Other non-native species observed within this community includes Italian thistle (*Carduus pycnocephalus*), Australian brass buttons (*Cotula australis*), hairy bittercress (*Cardamine hirsuta*), and speedwell (*Veronica arvensis*). This vegetation community does not match any of the vegetation types described by Holland (1986).

Myoporum stands (*Myoporum laetum* Semi-Natural Woodland Stands). Myoporum stands are non-native shrublands characterized by the presence of lollypop tree (*Myoporum laetum*). Lollypop tree is an invasive shrub tree that was introduced from Australia for landscape purposes and in some areas has become naturalized and spread into natural communities. It tends to either form dense monotypic stands or grows in the understory of the eucalyptus groves. Within the Study Area, it is found primarily between the existing levee access road and the River Ridge Golf Course. Several individuals were also observed in the lower terraces of the Santa Clara River, which indicates that it is beginning to naturalize in the area. This vegetation community does not match any of the vegetation types described by Holland (1986).

Other Cover Types

Other cover types present within the Study Area that do not fit into the descriptions of vegetation communities are discussed below.

Sparsely vegetated sandy wash. This cover type is used to classify frequently scoured portions of the Santa Clara River and occurs in the northern half of the Study Area within Reaches 1-3. Depending on the time of year, these areas may have dense, short-lived, patches of the non-native white sweet-clover or occasional stands of natives such as young mulefat and willows. Over time, if there are multiple years with no scouring flows in the Santa Clara River, these areas may revert to mulefat thickets or arroyo willow thickets as those species grow to a larger size and increase in density.

Disturbed/Developed. There are numerous disturbed and developed areas in the Study Area including flood control facilities, established roads/bridges, and residential buildings. This cover type also includes areas that are devoid of vegetation or support scattered ornamental species or low densities of weeds due to continual disturbance by vehicles, pedestrians, or other anthropogenic means. These areas generally match the description of “urban” by McBride and Reid (1988).

Ruderal. Ruderal vegetation communities are composed of herbaceous pioneering plant species that readily colonize open disturbed soil and thrive as a result of anthropogenic impacts. Ruderal communities are present throughout the Study Area and were dominated by tocalote, Italian thistle, red stem filaree (*Erodium cicutarium*), fennel, prickly lettuce (*Lactuca serriola*), and bur-clover (*Medicago polymorpha*). Some native species were observed in the ruderal areas but in very low densities and included species such as chaparral aster (*Corethrogyne filaginifolia*), sawtooth goldenbush (*Hazardia squarrosa*), and deerweed (*Acmispon glaber*).

Vegetation Management Zone. Adjacent to and on the upstream side of the railroad bridge in Reach 4 is a long strip of vegetation that appears to be regularly mowed. These areas were dominated by ruderal species and occasional emerging riparian shrubs during surveys in 2013/1014. Additionally, an area starting just east of the upstream most groin in Reach 3 and extending west just downstream of the western most weir in Reach 2 is maintained vegetation free. This area includes a 15-foot wide strip extending towards the Santa Clara River from the toe of the existing levee.

Agriculture. Near the western extent of the Study Area, south of the levee and west of Victoria Avenue, is a small area mapped as agriculture. This area was planted with an unknown row crop during surveys conducted in 2013/1014.

Maintained Landscape. Portions of the Study Area occurring within the River Ridge Golf Course (Reaches 2 and 3, south of the existing levee structure) and south of Ventura Road along the residential development (Reach 4) are covered in ornamental vegetation and turf grass that are regularly maintained. Dominant trees within the cover type include various non-native species such as gum trees, pines (*Pinus* spp.), and lollypop tree. Turf grasses at the golf course dominate this cover type and are composed of non-natives including Bermuda grass (*Cynodon dactylon*), tall fescue (*Festuca arundinacea*), and various other species. Areas mapped as this cover type are associated with human development and may also contain paved footpaths and small water conveyance structures.

Jurisdictional and Other Waters

An assessment of jurisdictional wetlands, other “waters of the U.S.,” waters of the State, and riparian habitat was conducted by the Aspen in February and March 2014. This assessment was conducted to determine the extent of resources under the jurisdiction of the USACE, the LARWQCB, and the CDFW that occur within the Study Area (see Table 3.2-2).

Portions of the Study Area that support hydrophytic vegetation, show evidence of wetland hydrology, and contain hydric soils were identified as USACE/RWQCB jurisdictional wetlands (66.4 acres). Areas not meeting the hydrophytic vegetation and/or hydric soils criteria for wetlands but where evidence of hydrology and/or a

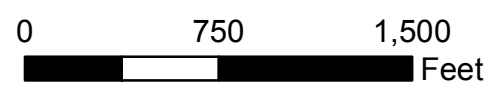
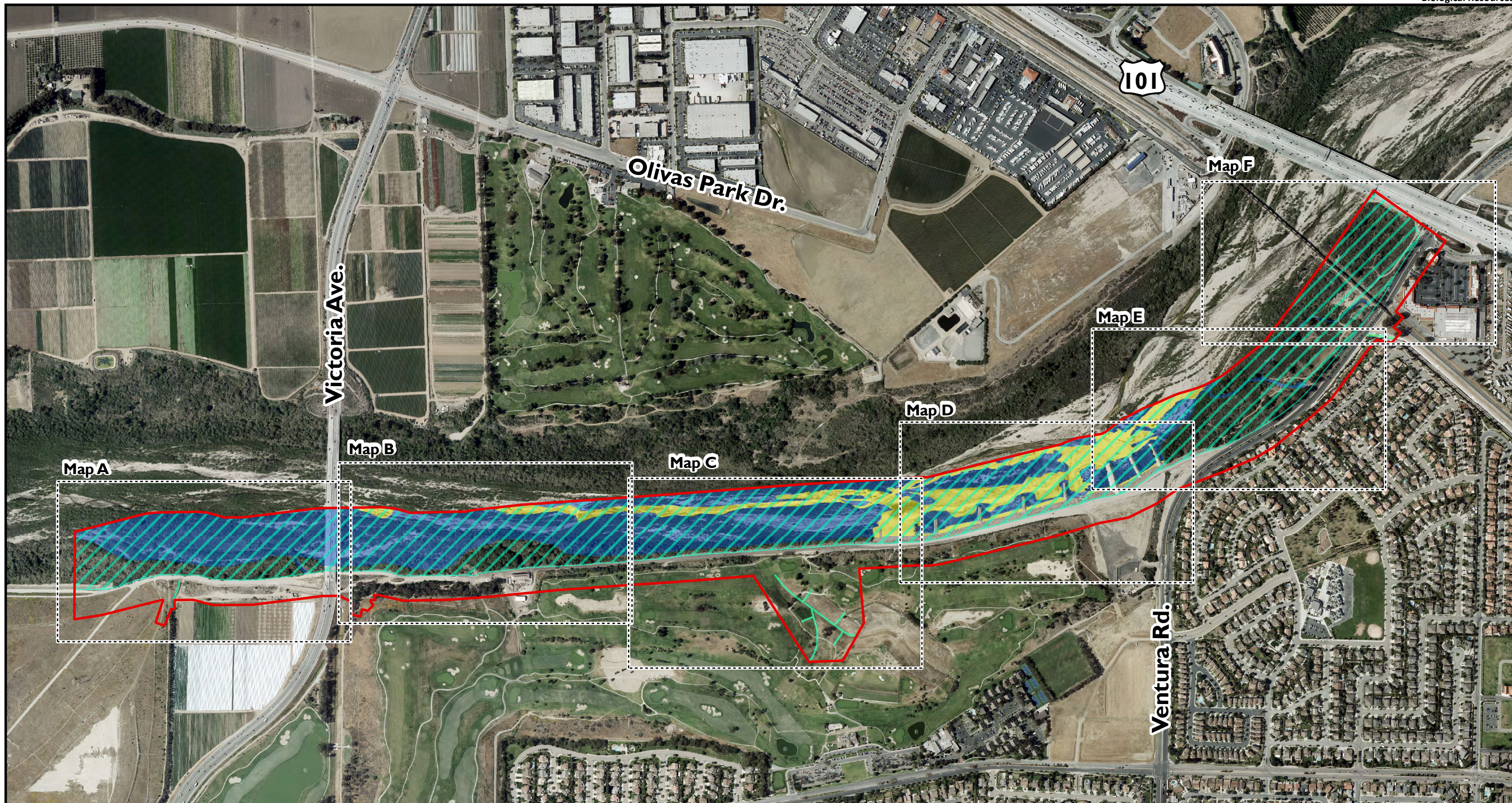
Table 3.2-2. Acreage of USACE/RWQCB Jurisdictional Waters, Wetlands, and CDFW Jurisdictional Habitat in the Study Area		
Jurisdictional Feature Type		Approximate Acres
USACE/LARWQCB Waters and Wetlands (acres)	Non-wetland Waters of the U.S.	18.8
	Wetlands	66.4
CDFW Jurisdictional Waters (Acres)		134.2

discernible OHWM was visible were mapped as USACE/RWQCB jurisdictional non-wetland “waters of the United States” (18.8 acres). Using a combination of vegetation mapping and bed/bank delineation and field observations, 134.2 acres of CDFW jurisdictional waters were identified within the Study Area. Refer to Figure 3.2-3 and the Preliminary Jurisdictional Delineation Report for the Project (Appendix B-7) for additional information on the jurisdictional assessment.

Common Wildlife

Invertebrates

Focused insect surveys within the boundaries of the Study Area have not been completed to date; however, a suite of common insects are known to occur in the area. Habitat conditions in the Study Area provide a suite of microhabitat conditions for a wide variety of terrestrial and aquatic insects, crustaceans, and other invertebrates. This includes swift running portions of the Santa Clara River (when flowing) with cobble and rocks, thick leaf litter, and pools of slow-moving or still water. Like in all ecological systems, invertebrates in the Study Area play a crucial role in a number of biological processes. They serve as the primary or secondary food source for a variety of fish, bird, reptile, and mammal predators and provide important pollination vectors for numerous plant species.



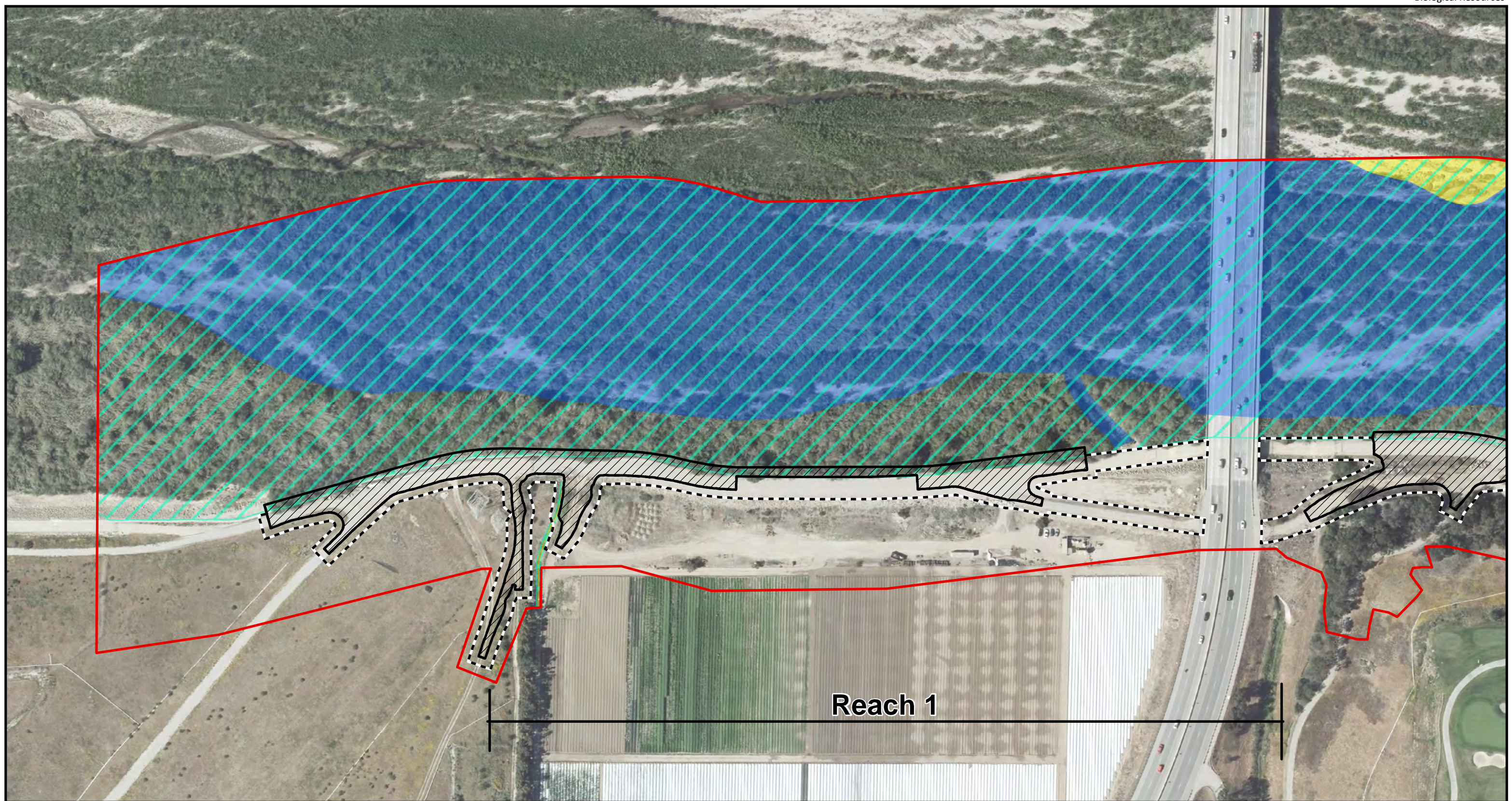
 Study Area

 CDFW Waters (134.2 acres)

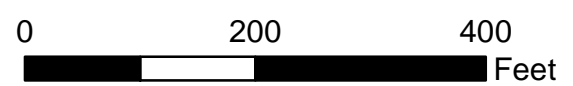
 Federal Wetlands (66.4 acres)

 Federal Non-Wetland Waters (18.8 acres)

Figure 3.2-3
Jurisdictional Features
Santa Clara River Levee
Overview Map



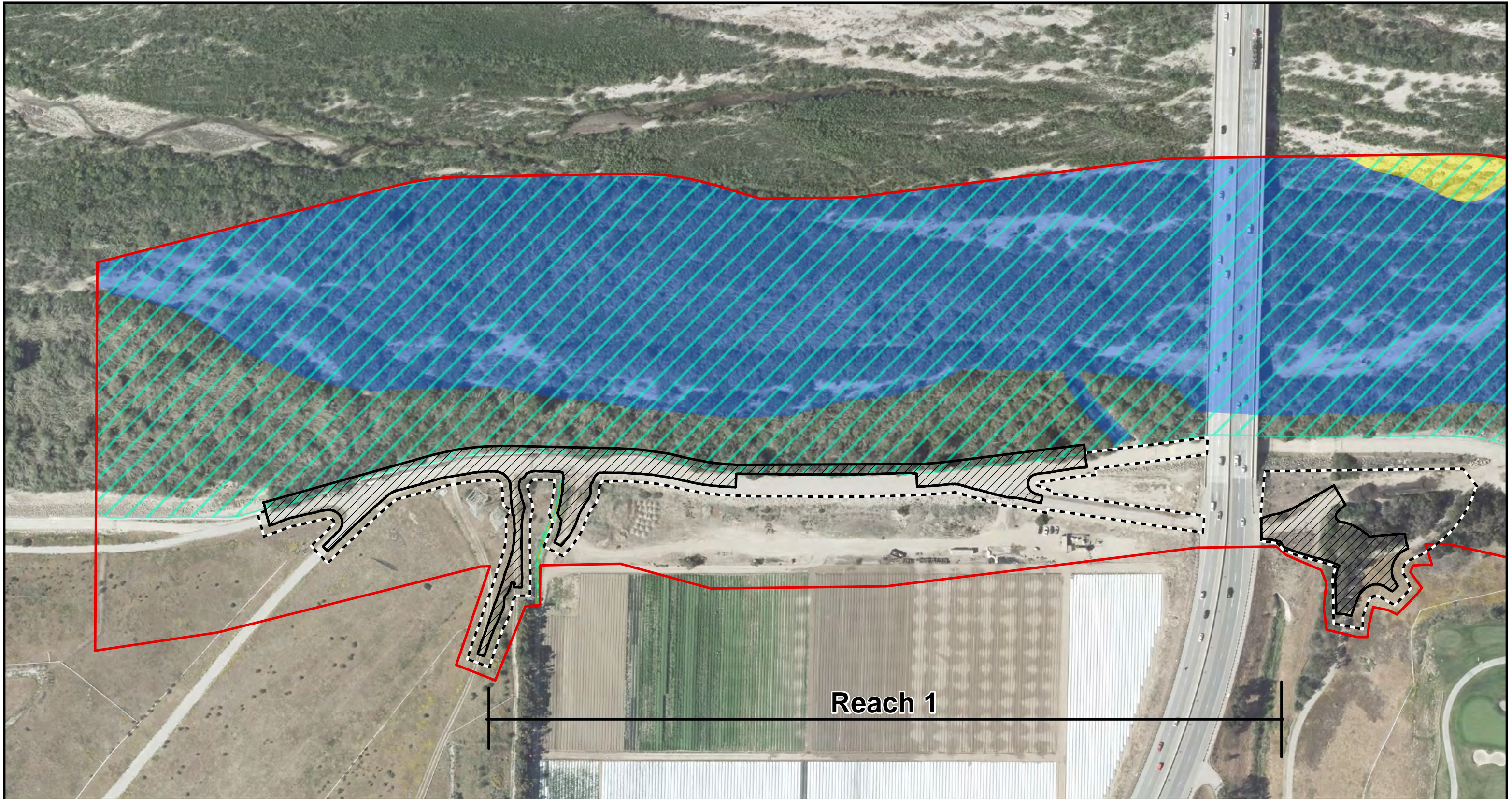
Reach 1



- Study Area
- Impact Areas
- Permanent
- Temporary
- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

Figure 3.2-3A
Jurisdictional Features
Option A

Santa Clara River Levee
Map A-1



Reach 1

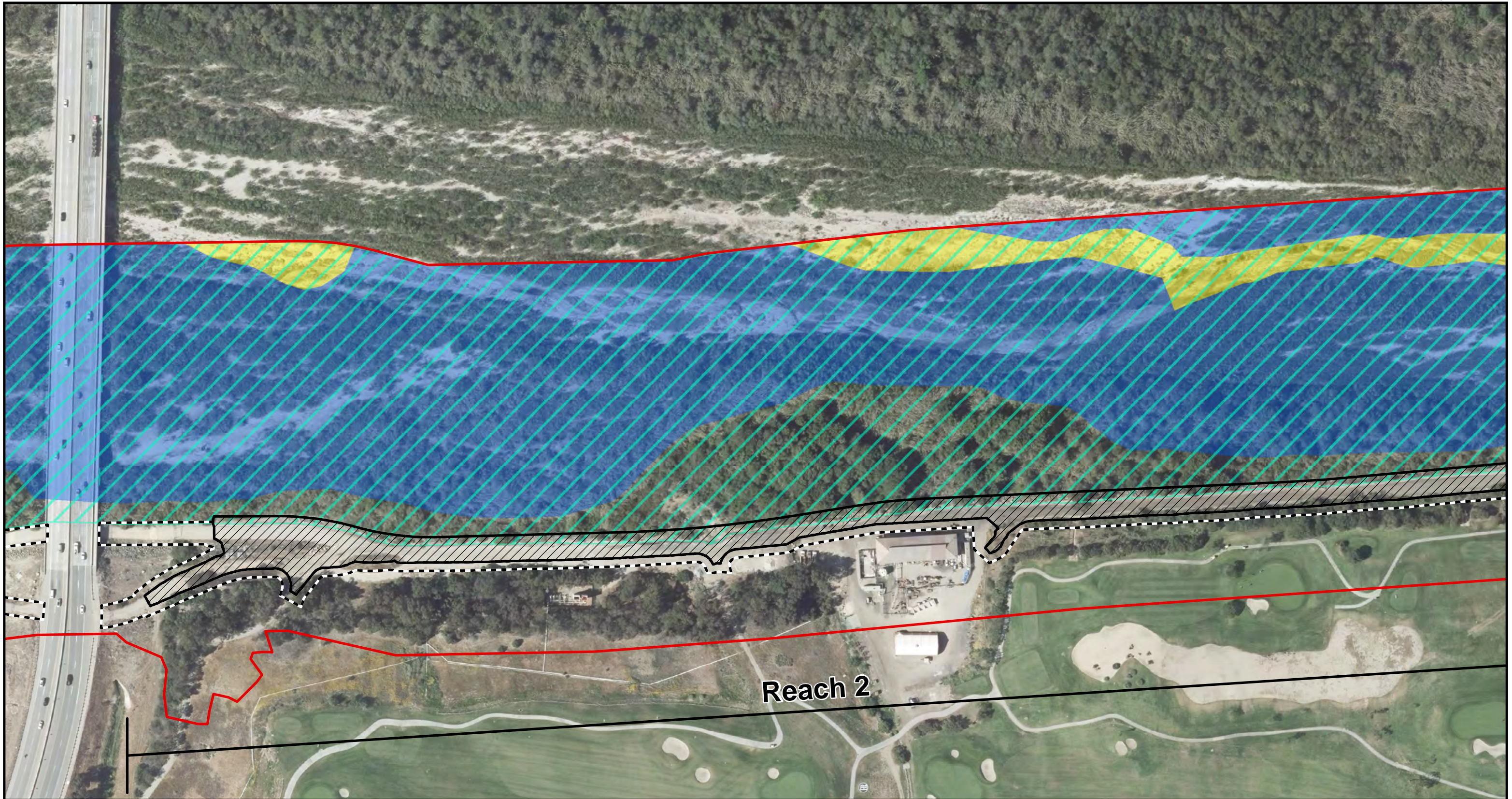


0 200 400 Feet

Study Area
Impact Areas
Permanent
Temporary

CDFW Waters
Federal Non-Wetland Waters
Federal Wetlands

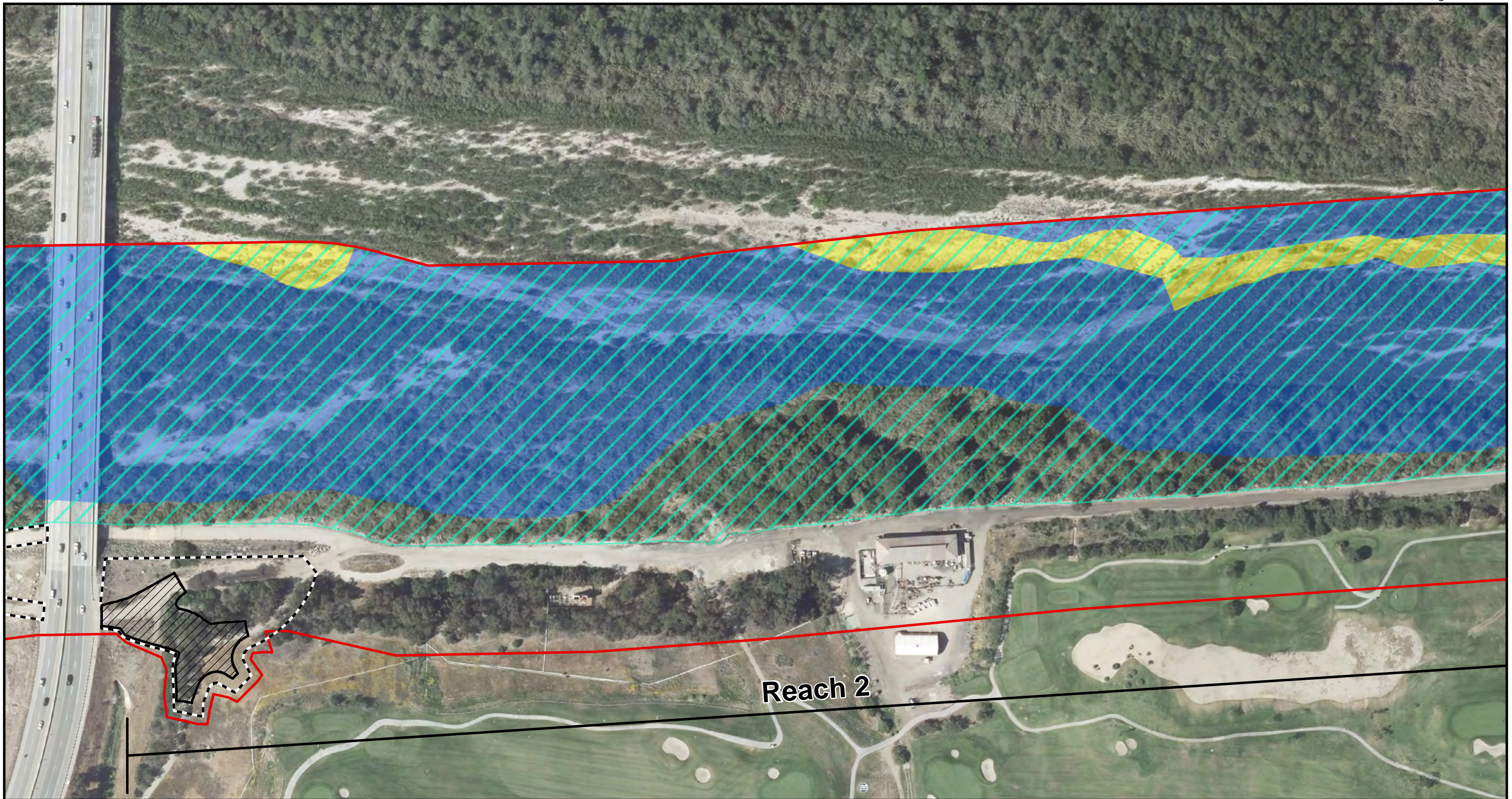
Figure 3.2-3B
Jurisdictional Features
Option B
Santa Clara River Levee
Map A-2



- Study Area
- Impact Areas
- Permanent
- Temporary
- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

Figure 3.2-3A
Jurisdictional Features
Option A

Santa Clara River Levee
Map B-1



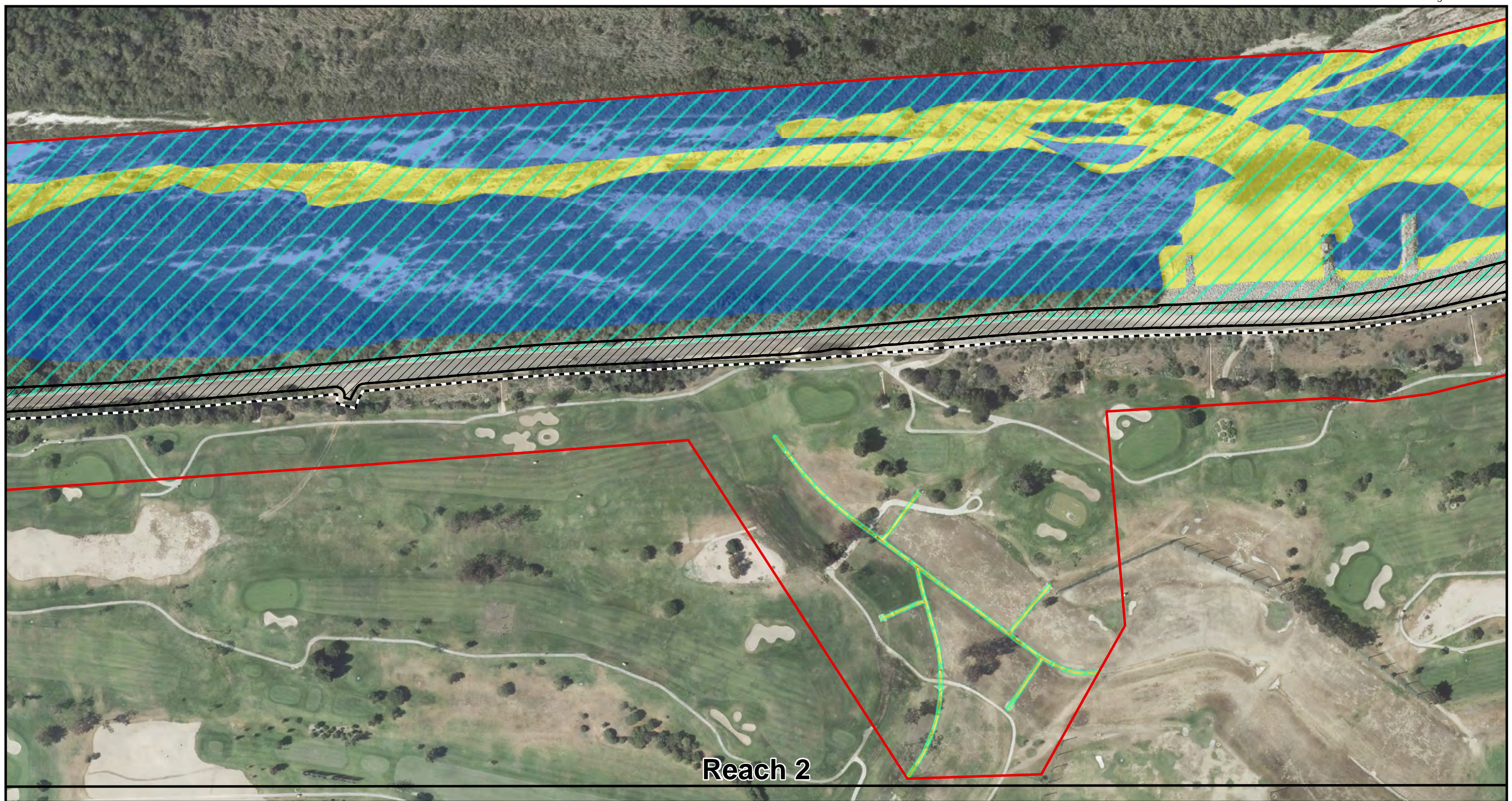
0 200 400
Feet

- Study Area
- Impact Areas
- Permanent
- Temporary

- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

Figure 3.2-3B
Jurisdictional Features
Option B

Santa Clara River Levee
Map B-2



Reach 2



0 200 400
Feet








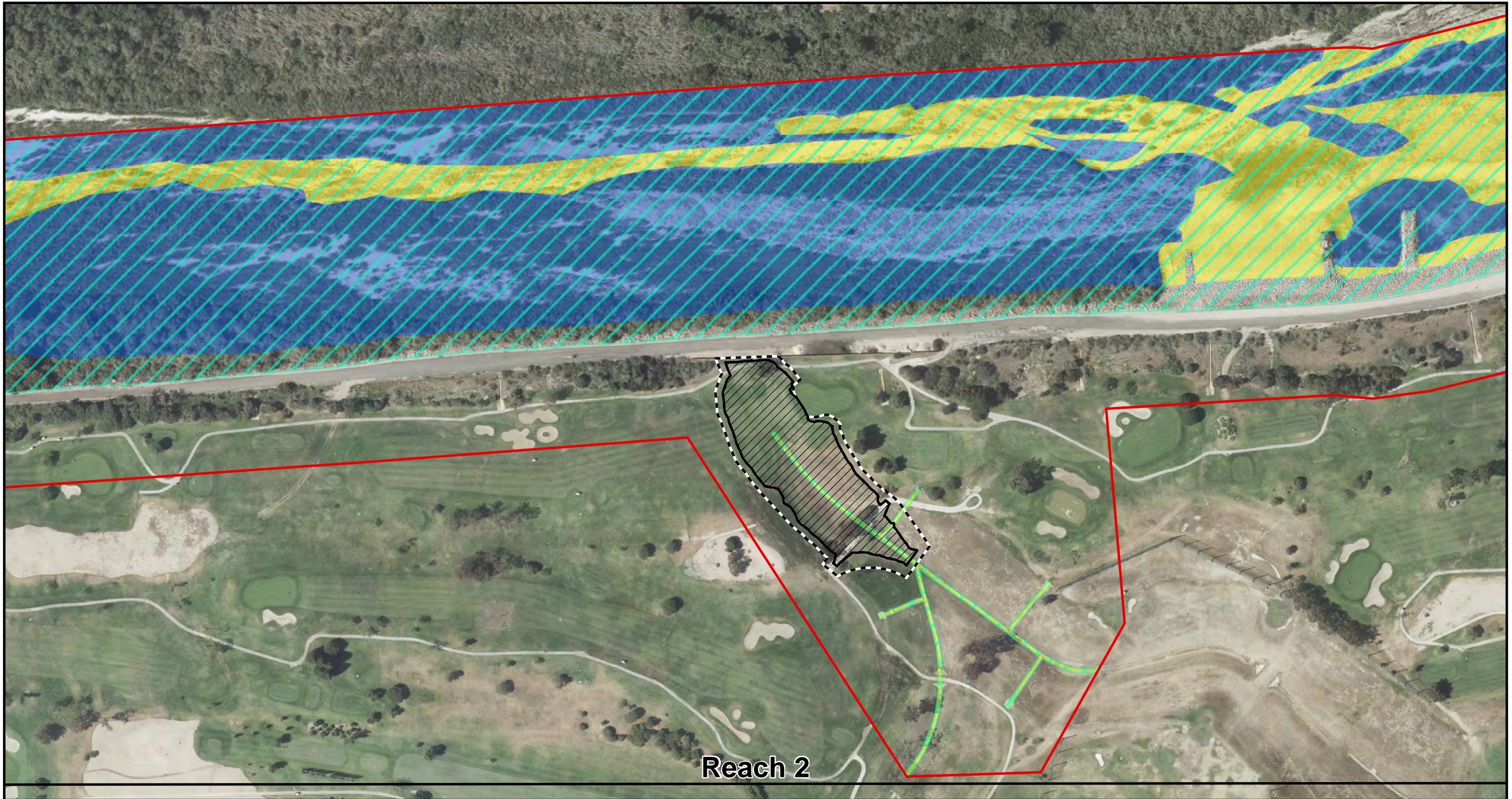
-  Study Area
-  Impact Areas
-  Permanent
-  Temporary
-  CDFW Waters
-  Federal Non-Wetland Waters
-  Federal Wetlands

Figure 3.2-3A
Jurisdictional Features
Option A

Santa Clara River Levee
Map C-1



Reach 2



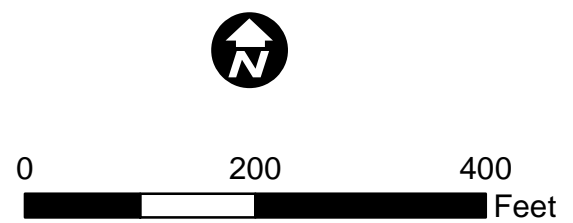
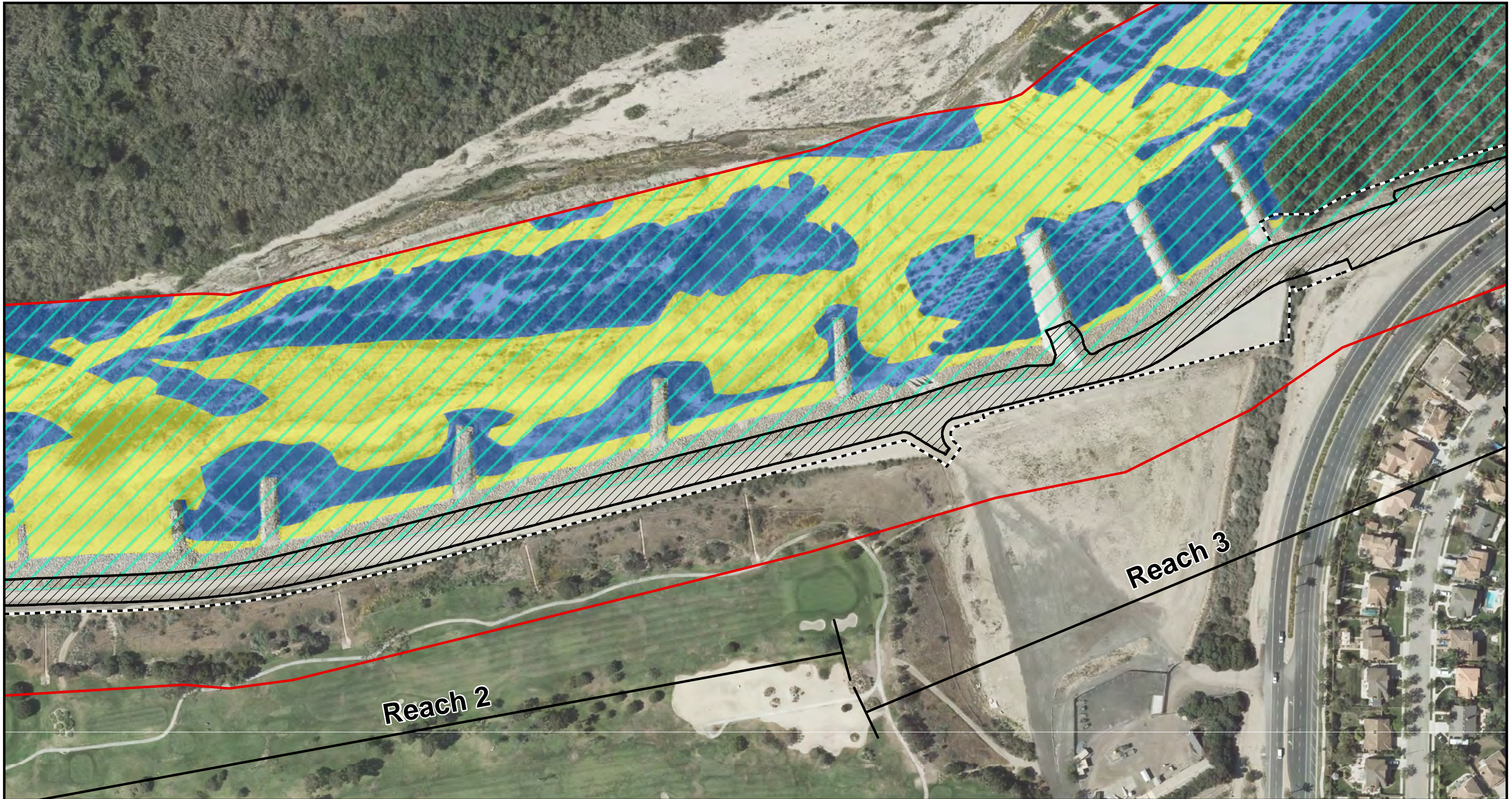
0 200 400
Feet

- Study Area
- Impact Areas
- Permanent
- Temporary

- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

Figure 3.2-3B
Jurisdictional Features
Option B

Santa Clara River Levee
Map C-2










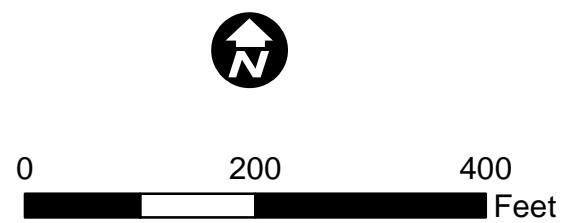
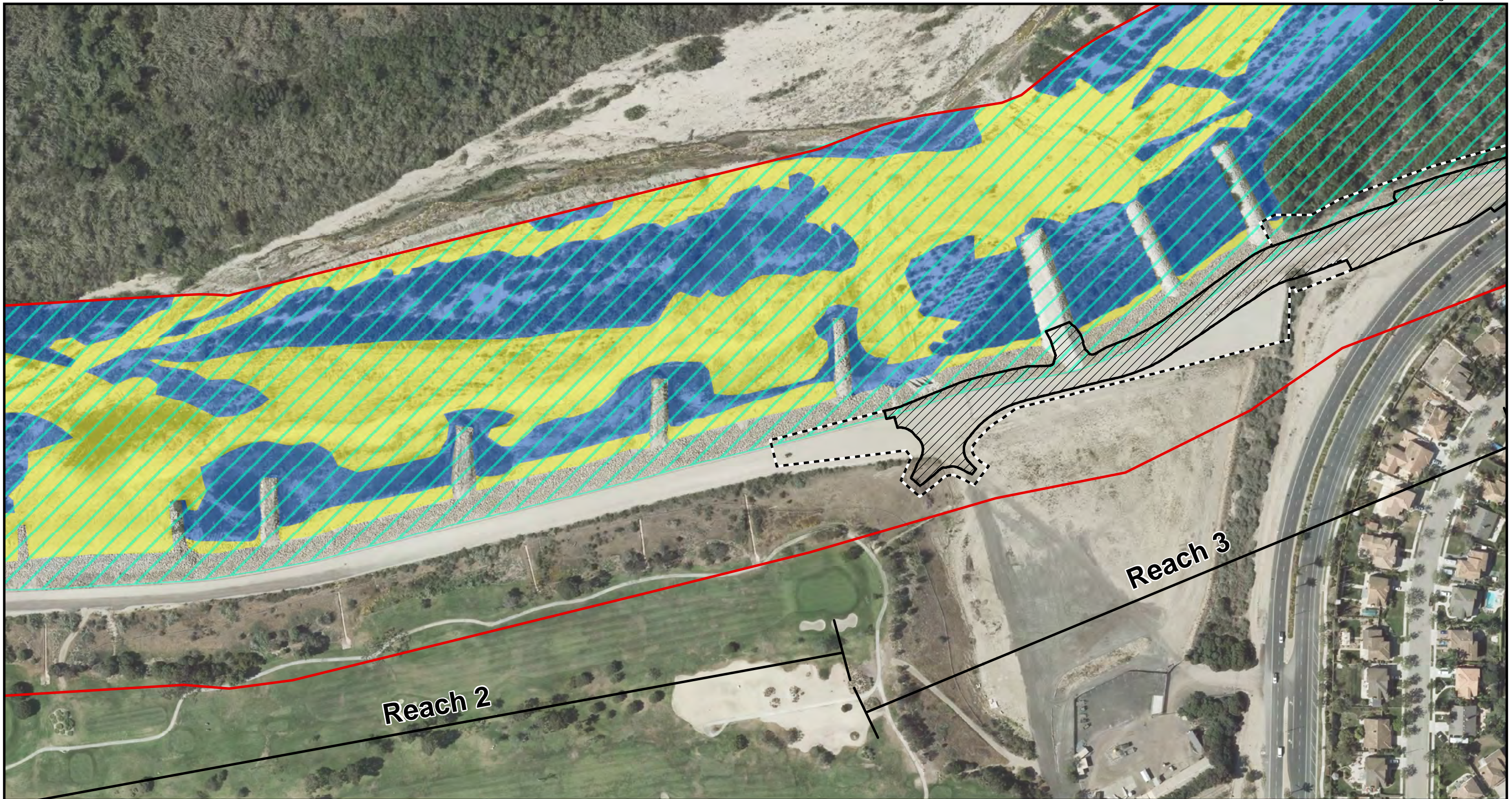
-  Study Area
-  Impact Areas
-  Permanent
-  Temporary
-  CDFW Waters
-  Federal Non-Wetland Waters
-  Federal Wetlands

Figure 3.2-3A
Jurisdictional Features
Option A

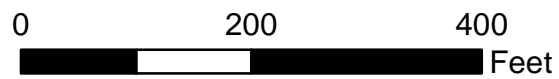
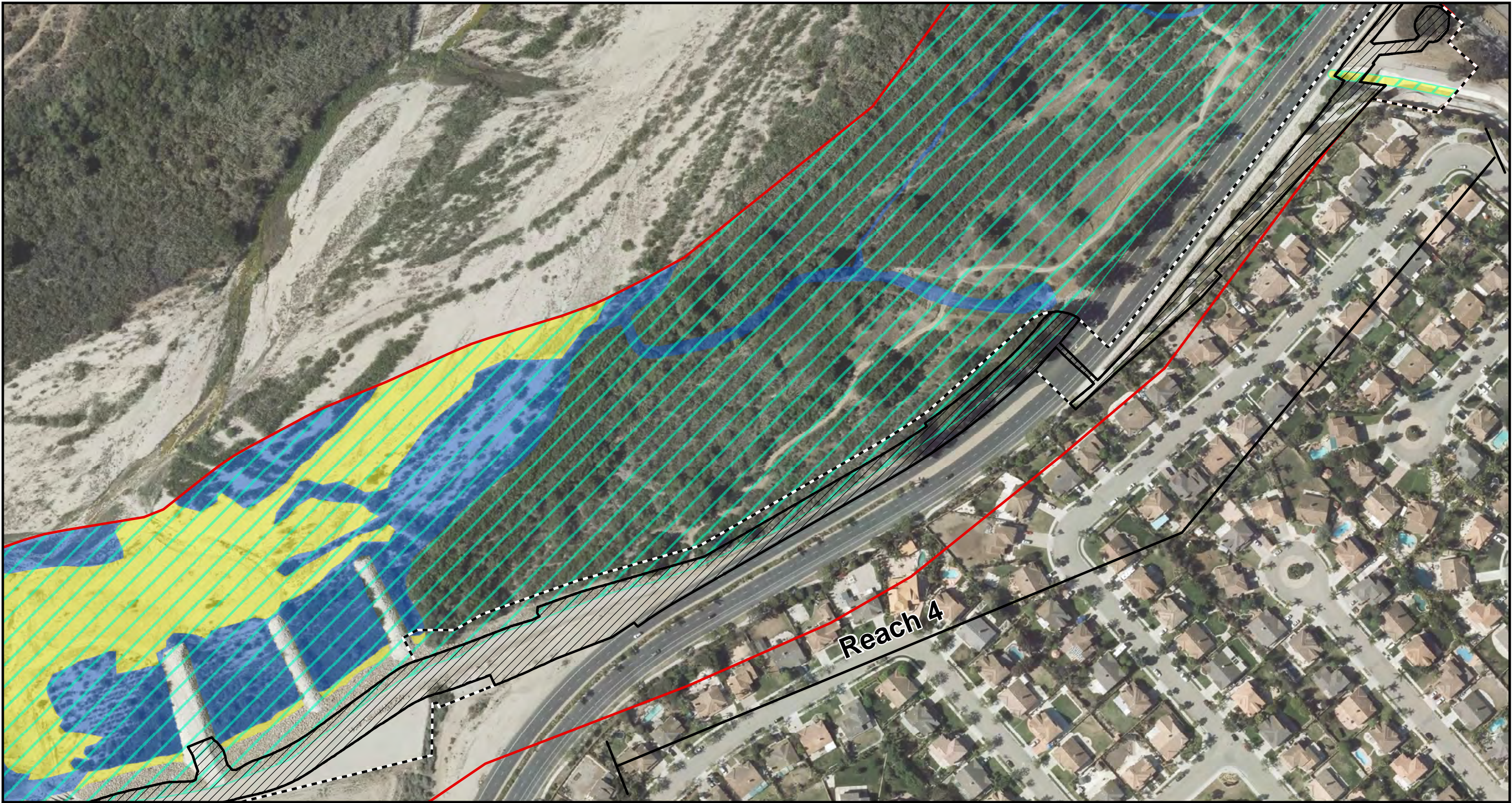
Santa Clara River Levee
Map D-1



- Study Area
- Impact Areas
- Permanent
- Temporary
- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

Figure 3.2-3B
Jurisdictional Features
Option B

Santa Clara River Levee
Map D-2

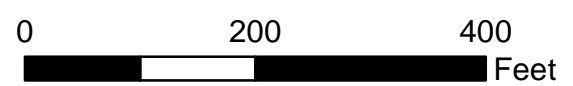
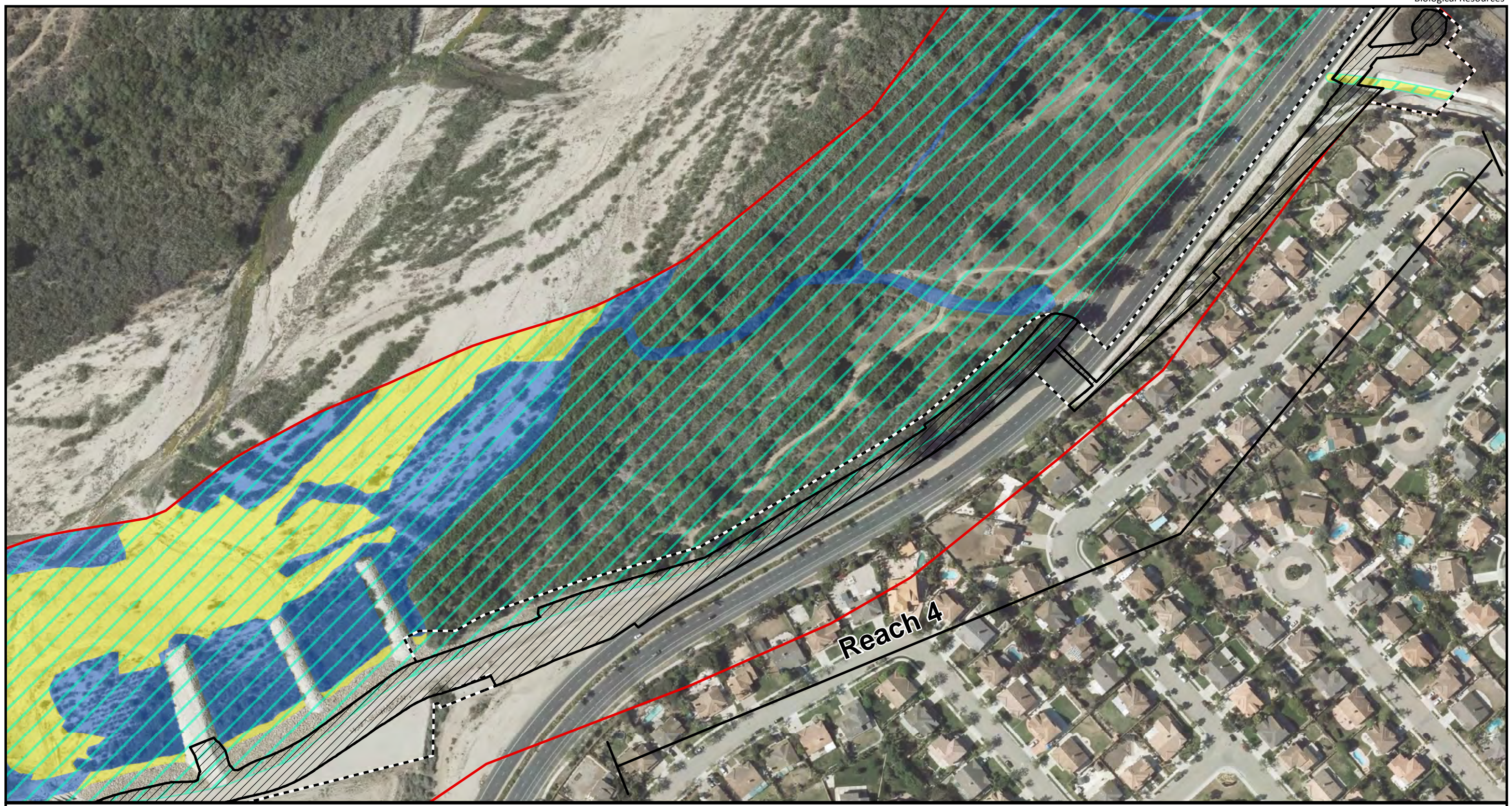


- Study Area
- Impact Areas
- Permanent
- Temporary

- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

Figure 3.2-3A
Jurisdictional Features
Option A

Santa Clara River Levee
Map E-1










-  Study Area
-  Impact Areas
-  Permanent
-  Temporary
-  CDFW Waters
-  Federal Non-Wetland Waters
-  Federal Wetlands

Figure 3.2-3B
Jurisdictional Features
Option B
Santa Clara River Levee
Map E-2



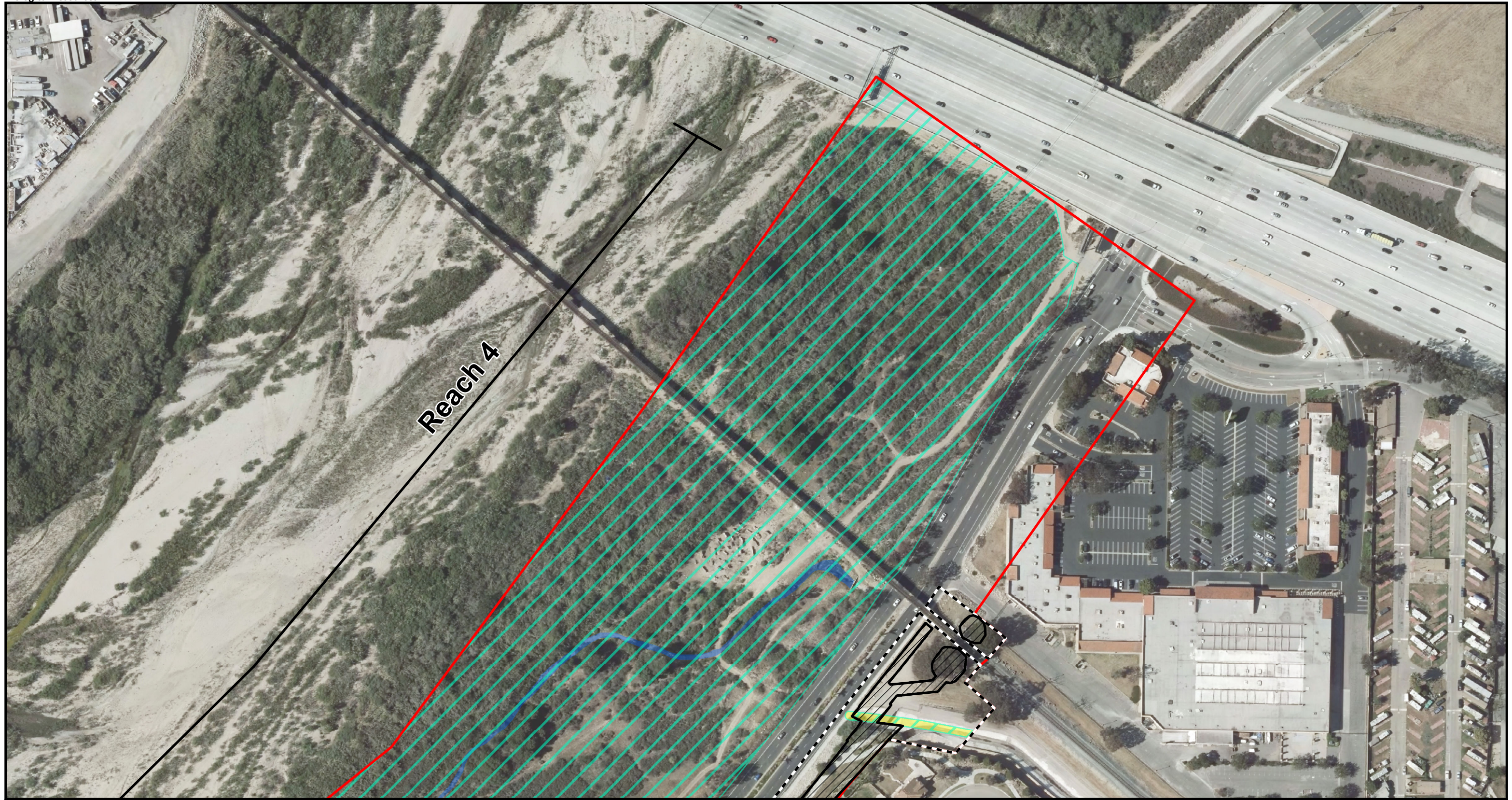
Reach 4



- Study Area
- Permanent Impact Areas
- Temporary Impact Areas
- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

Figure 3.2-3A
Jurisdictional Features
Option A

Santa Clara River Levee
Map F-1



0 200 400
Feet

- Study Area
- Permanent Impact Areas
- Temporary Impact Areas

- CDFW Waters
- Federal Non-Wetland Waters
- Federal Wetlands

Figure 3.2-3B
Jurisdictional Features
Option B

Santa Clara River Levee
Map F-2

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Invertebrates also act as efficient components in controlling pest populations and support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. General surveys of the Study Area detected a wide variety of common and nonnative invertebrates. Some of the orders identified in the Study Area included Odonata (dragonflies, damselflies), Hemiptera (true bugs), Coleoptera (beetles), Diptera (flies), Plecoptera (stone flies), Lepidoptera (moths and butterflies), Hymenoptera (wasps, bees and ants), and Trichoptera (caddis flies).

Both non-native Argentine ants (*Linepithema humile*, formerly *Iridomyrmex humile*) and native harvester ants (*Pogonomyrmex californicus*) were detected in the Study Area. Harvester ants were commonly observed in upland habitats on the terraces above the Santa Clara River.

Several species of gastropod were also observed during focused surveys in the Study Area. These included native and non-native snails, such as the introduced garden snail (*Helix aspersa*). In addition, three shoulderband snails (*Helminthoglypta* spp.) were detected during focused surveys for gastropods. Several locally important shoulderband snails are known to occur in the region; these species are discussed further below under threatened, endangered, or special-status invertebrates.

Fish

The Santa Clara River within the Study Area is an ephemeral stream. Due to instances of shallow groundwater and drainage from the adjacent golf course and surrounding community, portions of the Study Area provide potential year-round pool habitat for several species of fish. Habitat conditions in the Santa Clara River within the Study Area include overhanging vegetation, scour pools, and when water is present sections with short runs and riffles. Substrate conditions vary by location but the stream contains areas supporting silty sands, gravel, and cobble dominated zones. Macroalgae communities are present within localized areas and include duck and pond weed and mat-forming algae (*Charra* spp.). When the Santa Clara River is actively flowing, water temperatures vary by season and are a function of depth, location, and snow pack in the upper watershed. The majority of near perennial pool habitats within the Study Area tend to exhibit warmer water temperatures due to the lack of vegetative cover and shallow depths.

Seining and dip netting were conducted as part of the surveys within the aquatic habitats of the Study Area; no species of native fish were detected during these surveys. As with many streams in California, non-native invasive fish were routinely detected during the surveys. Mosquito fish (*Gambusia affinis*) and common carp (*Cyprinus carpio*) were the most common non-native species detected and occurred throughout the pool habitats in the Study Area. Although not detected during the surveys, the watershed is known to support other exotic species including green sunfish (*Lepomis cyanellus*), bluegill (*Lepomis macrochirus*), and large-mouth bass (*Micropterus salmoides*).

Reptiles

The number and type of reptile species that may occur at a given site is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrate, soil type, and presence of refugia such as rock piles, boulders, and native debris.

Reptiles were commonly observed during surveys of the Study Area, in both disturbed and natural areas. Western fence lizard (*Sceloporus occidentalis*) and sideblotch lizard (*Uta stansburiana*) were observed whenever weather conditions were favorable and were broadly distributed across the Study Area. A common kingsnake (*Lampropeltis getula*) was observed along the top of the levee near the existing weir field in Reach 2. A coachwhip (*Masticophis flagellum*) and gopher snake (*Pituophis melanoleucus*) were also observed in the Study Area.

Most reptile species, even if present in an area, are difficult to detect because they are cryptic and their life history characteristics (i.e., foraging and thermoregulatory behavior) limit their ability to be observed during most surveys. Further, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation where they are protected from unsuitable environmental conditions and predators (USACE and CDFG, 2010). In some cases they are only observed when flushed from their refugia. Although not detected in the Study Area, habitat conditions are suitable for a number of common reptiles, including western skink (*Plestiodon skiltonianus*), California whipsnake (*Masticophis lateralis*), western rattlesnake (*Crotalus viridis*), California black-headed snake (*Tantilla planiceps*), and California western blindsnake (*Leptotyphlops humilis*).

Amphibians

Amphibians often require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. While perennial flows do not exist in the portion of the Santa Clara River within the Study Area, shallow groundwater and drainage from the adjacent golf course and surrounding community have created small pool habitats that can persist year-round. These small pools were found to support both native and non-native species. After periods of substantial rainfall within the upper watershed shallow rills and runs, and deep wide slow-moving water may be present within the Study Area and provide additional habitat for amphibious species.

Adjacent upland habitat and riparian vegetation provide ample foraging opportunities. Amphibians that were observed during surveys include the Pacific treefrog [chorus frog] (*Pseudacris regilla*), western toad (*Anaxyrus boreas*), slender salamander (*Batrachoseps* spp.), and the nonnative bullfrog (*Lithobates catesbeiana*). An African clawed frog (*Xenopus laevis*), a highly invasive species known from the watershed, was observed in a small pool located adjacent to one of the existing rock groins in Reach 3. Many amphibians are highly cryptic and often difficult to detect. Downed logs, bark, and other woody material in various stages of decay (often referred to as coarse woody debris) provide shelter and feeding sites for a variety of wildlife, including amphibians and reptiles (Maser and Trappe, 1984; Aubry et al., 1988). Many amphibians are often excluded by exotic fish and amphibian species, which are common the Santa Clara River watershed.

Birds

Ninety-six species of common and sensitive birds were identified in the Study Area during surveys completed in 2013 and 2014 (refer to Appendix B-3 for a complete list of detected birds). It is possible that many other birds use the site either as wintering habitat, seasonal breeding, or as occasional migrants. Special-status species are further discussed below under special-status wildlife.

Birds were identified by sight and sound and were observed throughout the Study Area. The diversity of birds at this location is a function of the large size of the site and the wide variation in plant communities that provide habitat for a number of different groups of birds. For example, a large number of birds are closely associated or dependent on the riparian vegetation within and that borders portions of the Santa Clara River. Riparian systems are frequently considered one of the most productive forms of wildlife habitat in North America. Many bird species are wholly, or at least partially, dependent on riparian plant communities for breeding and foraging (Warner et.al., 1984).

Shore birds and other more aquatic species were commonly detected in the Study Area. In a few locations the presence of rock weirs have resulted in the formation of large pools where shore birds and ducks prey on the many small fish that occur in these areas. Mallard duck (*Anas platyrhynchos*), great blue heron (*Ardea herodias*), green heron (*Butoroides virescens*), great egret (*Ardea alba*), and snowy egret (*Egretta thula*) were commonly observed feeding in the pools within the Study Area when water was present.

Various common song birds were detected in the Study Area and were closely associated or dependent on the riparian vegetation that occurs within and adjacent to the Santa Clara River. Riparian systems are frequently considered one of the most productive forms of wildlife habitat in North America. Some of the detected species included common yellow throat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), and lesser goldfinch (*Carduelis psaltria*). House sparrow (*Passer domesticus*), spotted towhee (*Pipilo maculatus*), and great-tailed grackle (*Quiscalus mexicanus*) were also commonly observed.

Several exotic species including the brown-headed cow bird (*Molothrus ater*) and feral pigeon or rock dove (*Columba livia*) were also observed.

Bird use of the upland terraces was moderate and included a variety of song birds, raptors, vultures, and game birds. Western king bird (*Tyrannus verticalis*), spotted towhee, bushtit (*Psaltriparus minimus*), mourning dove (*Zenaida macroura*), western meadowlark (*Sternella neglecta*), northern mockingbird (*Mimus polyglottos*) and California quail (*Callipepla californica*), were fairly common. Common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), and greater roadrunner (*Geococcyx californianus*) were also observed.

Red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*) were observed either soaring over the site (red-tailed hawks) or foraging for small birds in the Study Area (kestrel). An old raptor nest was observed within an arroyo willow adjacent to the western-most rock groin in the eastern portion of Reach 2. A red-tailed hawk was documented in the general vicinity of this nest during several surveys; the nest was not used in 2013/1014.

Although not detected during surveys within the Study Area, available online eBird (eBird, 2015) data report observations of European starling (*Sturnus vulgaris*), black-chinned hummingbird (*Archilochus alexandri*), gadwall (*Anas strepera*), chipping sparrow (*Spizella passerina*), hairy woodpecker (*Picoides villosus*), hermit warbler (*Setophaga occidentalis*), cinnamon teal (*Anas cyanoptera*), American avocet (*Recurvirostra americana*), belted kingfisher (*Megaceryle alcyon*), and Lincoln's Sparrow (*Melospiza lincolni*) along the Santa Clara River up and downstream of the Study Area and within the Study Area itself.

Mammals

The Study Area is approximately 198 acres in size and is largely confined between developed and residential areas. However, the large width of the flood plain does allow for connectivity to natural lands in areas up and downstream from the Study Area. Generally the distribution of mammals in the Study Area is associated with the presence of such factors as access to perennial water, topographical and structural components (i.e., rock piles, vegetation, and stream terraces) that provide for cover and support prey base, and the presence of suitable soils for fossorial mammals (i.e., sandy areas on the large stream terrace).

The detection of mammals in the Study Area during surveys included direct observation and evidence of use, including tracks, scat, burrows, or other signs. Small mammals or their sign were commonly observed during most of the surveys primarily in the margins of the riparian vegetation, the various rock flood control structures, and in some of the upper stream terraces. Species detected or observed

included desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Otospermophilus beecheyi*), big-eared woodrat (*Neotoma macrotis*), long-tailed weasel (*Mustela frenata*), and Botta's pocket gopher (*Thomomys bottae*).

Mid-size mammals including common muskrat (*Ondatra zibethicus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and coyote (*Canis latrans*) were detected or observed within the Study Area. Most of these species were detected on the margins of the low flow channels of the Santa Clara River, near the permanent pool habitats, or near the existing levee structure that abuts the developed areas on the south side of the Study Area.

Bats were routinely detected in the Study Area and forage over most of the Study Area where prey species such as small insects, moths, and other invertebrates occur. However, many bats tend to concentrate foraging activities in riparian and wetland habitats where insect abundance is high (CDFW, 2000). Common bats known to occur in the Study Area included canyon bat (*Parastrellus hesperus*), greater bonneted bat (*Eumops perotis*), Mexican free-tailed bat (*Tadarida brasiliensis*), Yuma myotis (*Myotis yumanensis*), California myotis (*Myotis californicus*), and big brown bat (*Eptesicus fuscus*). Bats of an unknown species were observed roosting in the Victoria Avenue Bridge that occurs in the western portion of the Study Area.

Because of the close proximity to urban development and the homeless presence, the Study Area is also frequented by domestic animals including house cat (*Felis catus*) and domestic dog (*Canis familiaris*). It is also likely that invasive or urban associated mammals such as house rats (*Rattus spp.*), Virginia opossum (*Didelphis virginiana*), and common house mice (*Mus musculus*) occur in the urban wilderness interface to some degree.

Sensitive Vegetation Communities

Sensitive vegetation communities are defined by CDFW (2009) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." The literature review and vegetation mapping determined that six sensitive vegetation communities including arroyo willow thickets, mulefat thickets, shining willow groves, black cottonwood forest, Fremont cottonwood forest, and cattail marsh occur within or in the vicinity of the Study Area.

Arroyo willow thickets, mulefat thickets, and shining willow groves all generally meet the classification requirements of southern riparian scrub, a community considered sensitive by the CDFW. Portions of the Study Area mapped as black cottonwood forest and Fremont cottonwood forest generally meet the requirements of southern cottonwood-willow riparian forest which is considered a CDFW sensitive community. The one location of cattail marsh in the Study Area meets the classification requirements of coastal and valley freshwater marsh, a community considered sensitive by the CDFW.

Designated Critical Habitat

Literature review conducted prior to initiating field surveys determined that designated and/or mapped critical habitat for steelhead trout (*Oncorhynchus mykiss*), southern California DPS, occurs within the Santa Clara River in the Study Area (Calfish, 2015). The most recent critical habitat was designated on September 2, 2005, and is part of the Santa Clara-Calleguas Hydrologic Unit 4403 (50 CFR Part 226). Mapped critical habitat for tidewater goby (*Eucyclogobius newberryi*) occurs approximately 1.25 miles downstream of the Study Area within the brackish water areas of the Santa Clara River (CDFW, 2015d). All portions of the Study Area within the bed and banks of the Santa Clara River are mapped as critical habitat for the southwestern willow flycatcher (*Empidonax traillii extimus*) (CDFW, 2015d). Critical

habitat for western snowy plover (*Charadrius alexandrinus nivosus*) is mapped within four locations along the coastal areas from San Buenaventura State Beach to the north and Mugu Lagoon to the south; no critical habitat for this species is located within the Study Area.

Special-Status Species

Special-status taxa include plant and wildlife species listed as threatened or endangered under the federal or California Endangered Species Acts, taxa proposed for listing, Species of Special Concern, plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered in California and beyond, and other taxa which have been identified by the USFWS, CDFW, or local jurisdictions (i.e., Ventura County) as unique or rare and which have the potential to occur within the Study Area. The Ventura County General Plan and Initial Study Assessment Guidelines (County of Ventura, 2015; County of Ventura, 2011) have also identified Significant Biological Resources to include any of the following:

- Habitats of endangered, threatened or rare species
- Wetland habitats
- Coastal habitats
- Migration corridors for fish or wildlife
- Locally important species/communities

Special-Status Plant Species

Record searches and consultation with local experts identified a total of 151 special-status plant taxa that have been documented within the general region of the Study Area. Of this total, 138 taxa were determined to have limited potential to occur due to a variety of factors; these species are listed in Appendix B-5 of this document. Figures 3.2-4 and 3.2-5 illustrate the known locations of special-status plants occurring in or near the Study Area and within the general region (CDFW, 2015a). No state or federally listed plant species were identified in the Study Area. Three Southern California black walnut (*Juglans californica*), a CRPR list 4.2 plant, were detected in the Study Area in 2014 (refer to Figure 3.2-2). Table 3.2-3 lists the special-status plants, including federally and State listed, CRPR 1 – 4, and County of Ventura Locally Important species, that have the potential to occur in or near the Study Area. Species descriptions for taxa having a moderate, or high potential to occur in the Study Area are located in Appendix B-6 of the EIR.

Each of these taxa was assessed for its potential to occur within the Study Area based on the following criteria:

- **Present:** Taxon was observed within the Study Area during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.
- **High:** Both a documented recent record (within 10 years) exists of the taxon within the Study Area or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with the taxon are present within the Study Area.
- **Moderate:** Both a documented recent record (within 10 years) exists of the taxon within the Study Area or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxon presence are marginal and/or limited within the Study Area or the Study Area is located within the known current distribution of the taxon and the environmental conditions (including soil type) associated with taxon presence occur within the Study Area.
- **Low:** A historical record (over 10 years) exists of the taxon within the Study Area or general vicinity (approximately 10 miles) and the environmental conditions (including soil type) associated with taxon presence are marginal and/or limited within the Study Area.

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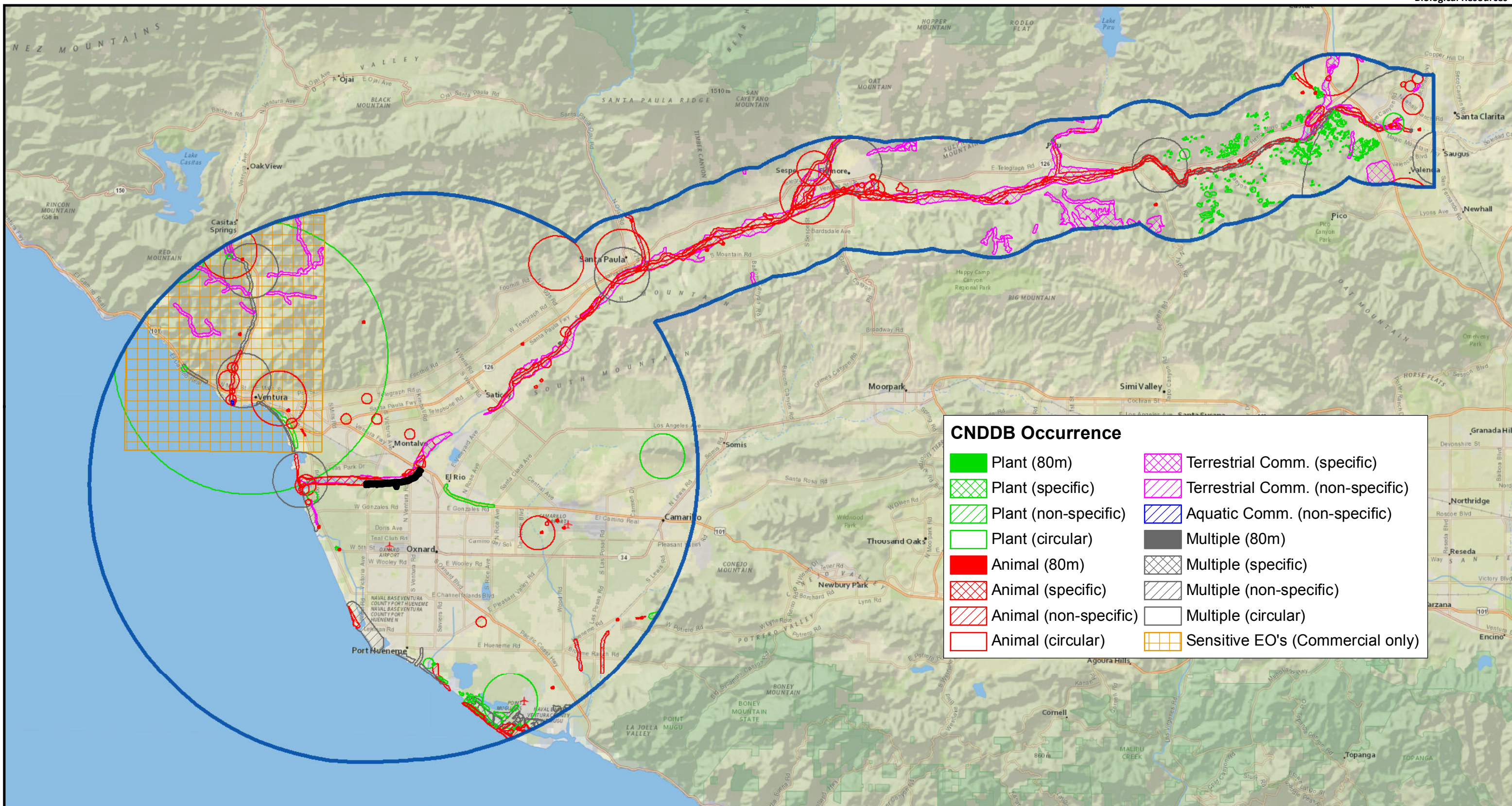
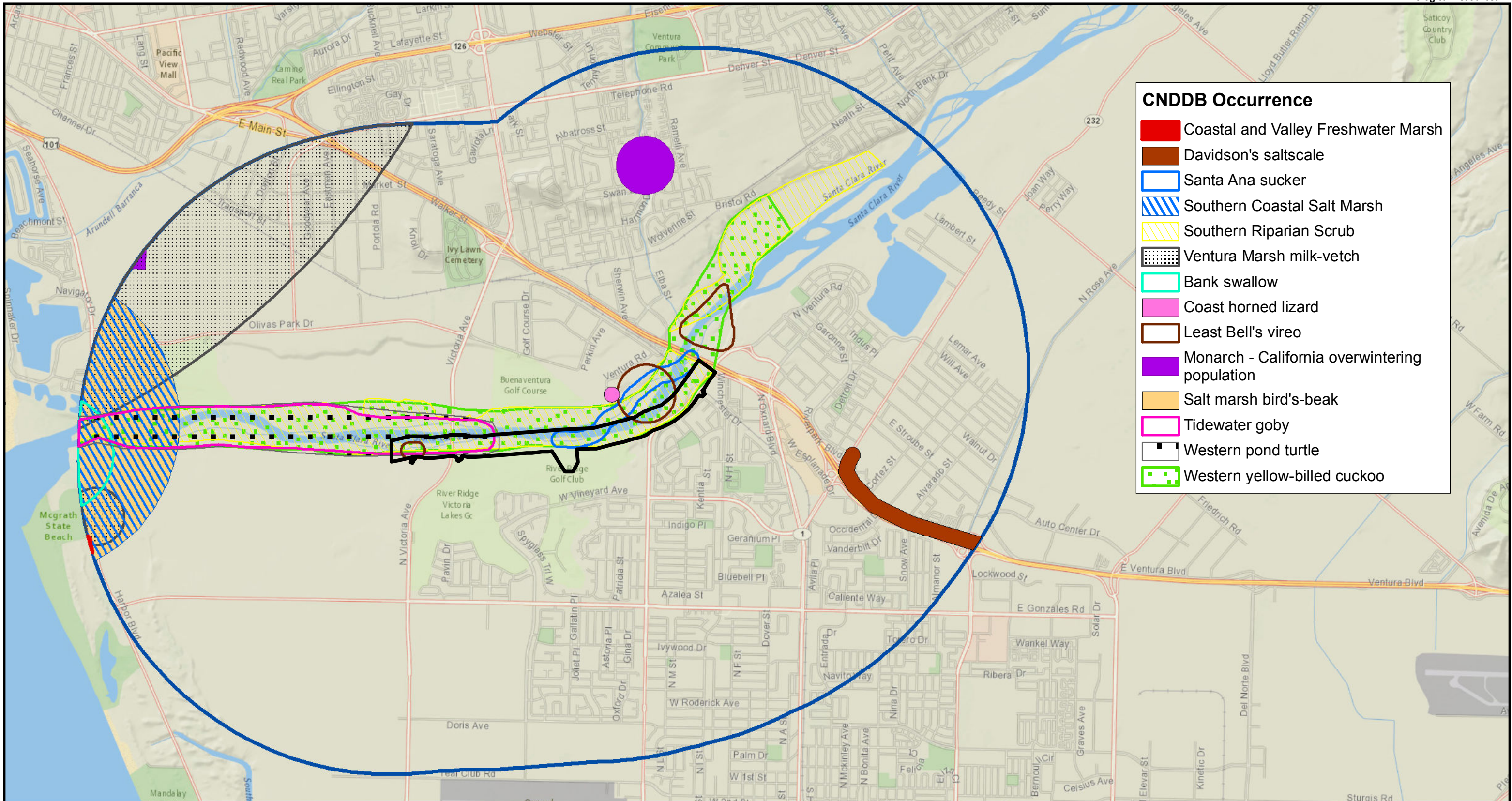


Figure 3.2-4
 Sensitive Species Occurrences
 - Regional
 Santa Clara River Levee

Study Area
 Santa Clara River Buffer

0 3 6 Miles



- CNDDB Occurrence**
- Coastal and Valley Freshwater Marsh
 - Davidson's saltscale
 - Santa Ana sucker
 - Southern Coastal Salt Marsh
 - Southern Riparian Scrub
 - Ventura Marsh milk-vetch
 - Bank swallow
 - Coast horned lizard
 - Least Bell's vireo
 - Monarch - California overwintering population
 - Salt marsh bird's-beak
 - Tidewater goby
 - Western pond turtle
 - Western yellow-billed cuckoo

- Study Area
- 2 Mile Buffer

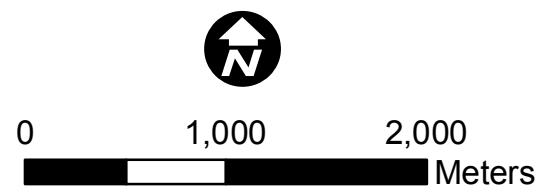


Figure 3.2-5
Sensitive Species Occurrences
- Study Area
Santa Clara River Levee

Taxa	Status	Blooming Period	Habitat Association and Elevation Limits	Potential to Occur in Survey Area
Amaranthus californicus California amaranth	Fed: none CA: none CRPR: none VC: Yes	Jul-Oct	Spreading annual; mud flats, lake shores; much of Calif. and western N. America; about sea level to 9,200 ft. elev.	Low. Low quality habitat; not detected during surveys.
Ammannia coccinea Purple ammannia	Fed: none CA: none CRPR: none VC: Yes	May-Oct	Annual; margins and shores of ponds, lakes, streams, etc.; much of central and southern Calif.; sea level to about 1,000 ft. elev.	Low. Low quality habitat; not detected during surveys.
Calochortus plummerae Plummer's mariposa-lily	Fed: none CA: S4 CRPR:4.2 VC: Yes	May-Jul	Bulb; shrublands, woodlands, lower pine forests; mountains, foothills, and valleys; Ventura to Orange Cos., inland to Riverside and San Bernardino Cos.; about 300-5,600 ft. elev.	Low. Suitable habitat present; possibly outside of geographic range; not detected during surveys.
Centromadia parryi ssp. Australis Southern tarplant	Fed: none CA: 2 CRPR: 1B.1 VC: Yes	May-Nov	Annual; seasonal wetlands incl. vernal pools, coastal marsh edges, etc.; clay or saline soil; sea level to about 1,400 ft. elev.; Santa Barbara Co to northern Baja Calif.	Low. Minimal suitable habitat; not detected during surveys.
Horkelia cuneata ssp. puberula Mesa horkelia	Fed: none CA: S2.1 CRPR: 1B.1 VC: Yes	Apr-Sep	Perennial herb; shrublands, woodlands; sandy soils, away from immediate coast; San Luis Obispo to San Diego Co., rarely inland to San Bernardino Co.; about 200-2,700 ft. elev.	Low. Suitable habitat present; not detected during surveys.
Imperata brevifolia Satintail	Fed: none CA: S2 CRPR: 2.1 VC: Yes	Sep-May	Perennial grass; meadows, riparian scrub, or mesic flats; S Calif to Utah and mainland Mexico; sea level to about 1700 ft. elev.	Low. Low quality habitat; not detected during surveys.
Juglans californica var. californica Southern California black walnut	Fed: none CA: S3.2 CRPR: 4.2 VC: No	Mar-Aug	Tree; woodlands, coastal sage scrub, chaparral; Santa Barbara Co. to San Diego Co., inland to western San Bernardino and Riverside Cos.; about 150-3,000 ft. elev.	Present. Detected at three locations near the existing levee; additional trees may be present.
Mentzelia affinis Yellow blazing star	Fed: none CA: none CRPR: none VC: Yes	Mar-May	Annual; grasslands, woodlands, desert shrublands; sandy sites; much of southern and central Calif. to Arizona and Baja Calif.; near sea level to about 4,000 ft. elev.	Low. Low quality habitat present, not detected during surveys.
Mucronea californica var. californica California spineflower	Fed: none CA: S2.2 CRPR: 4.2 VC: Yes	Apr-Jul	Annual; many habitats; sandy soils; San Luis Obispo to San Diego Cos., inland to San Bernardino and Kern Cos.; near sea level to about 4,600 ft. elev.	Low. Low quality habitat present; not detected during surveys.
Pseudognaphalim leucocephalum (Gnaphalium leucocephalum) White rabbit tobacco	Fed: none CA: S2S3.2 CRPR: 2.2 VC: No	Jul-Dec	Perennial herb; shrublands, sea level to about 7000 ft. elev.; open sand, usually on alluvium; San Luis Obispo through San Diego Cos, inland to Riverside and San Bernardino cos.	Moderate. Suitable habitat present; not detected during surveys.
Ribes aureum var. gracillimum Slender golden current	Fed: none CA: none CRPR: none VC: Yes	Dec-Aug	Shrub; foothills, washes and alluvial fans, forest margins; SW Calif through the central and north Coast Ranges; about 350-3,000 ft. elev.	Low. Suitable habitat present; not detected during recent surveys.

Table 3.2-3. Known and Potential Occurrence of Special-Status Plant Taxa in the Study Area*

Taxa	Status	Blooming Period	Habitat Association and Elevation Limits	Potential to Occur in Survey Area
Sagittaria sanfordii Sanford's arrowhead	Fed: none CA: S3.2 CRPR: 1B.2 VC: Yes	May-Aug	Perennial herb; shallow freshwater ponds, marshes, ditches, etc.; northern Calif. coast, Central Valley; historically from Orange and Ventura Cos., but evidently now extirpated; sea level to about 2,100 ft. elev.	Low. Low quality habitat present; not detected during surveys.
Stillingia linearifolia Narrow-leaved stillingia	Fed: none CA: none CRPR: none VC: Yes	Mar-May	Subshrub; open shrublands; arid sites; interior southwestern Calif. through deserts to Ariz. and New Mexico; near sea level to about 5,000 ft. elev.	Low. Low quality habitat present; not detected during surveys.

Federal Rankings:
 END – Federally Endangered
 THR – Federally Threatened
 State Rankings:
 END – State Endangered
 THR – State Threatened
 S1 – Less than 6 existing occurrences OR less than 100 individuals
 S2 – Between 6-20 existing occurrences OR between 1000-3000 individuals
 S3 – Between 21-100 existing occurrences OR between 3000-10,000 individuals
 .1 – Very threatened
 .2 – Threatened
 .3 – No current threats known
 S4 – Apparently secure within California; this rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat. NO THREAT RANK.
 (Rank may be expressed as a range of values; hence S2S3 means the rank is somewhere between the two; adding ? to the rank, such as in S2?, represents more certainty than S2S3, but less than S2)

Sources: CCH 2015, CDFW 2015a, CNPS 2010, and County of Ventura 2014a and 2014b
 CRPR Rankings:
 CRPR 1A – Presumed extinct in California
 CRPR 1B – Rare or endangered in California and elsewhere
 CRPR 2A – Presumed extinct in California, more common elsewhere
 CRPR 2B – Rare or endangered in California, more common elsewhere
 CRPR 3 – More information needed
 CRPR 4 – Limited distribution (Watch List)
 0.1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
 0.2 = Fairly endangered in California (20-80% occurrences threatened)
 0.3 = Not very endangered in California (<20% of occurrences threatened or no current threats known)
 County Rankings:
 VC – Ventura County Locally Important Species
 * Species descriptions for taxa present or that have a moderate or high potential to occur in the Study Area are located in Appendix B-6 of the EIR.

Special-Status Wildlife Species

Special-status taxa include those listed as threatened or endangered under the federal or California Endangered Species Acts, taxa proposed for listing, Species of Special Concern, and other taxa which have been identified by the USFWS, CDFW, or local jurisdictions (i.e., Ventura County) as unique or rare and which have the potential to occur within the Study Area. Figures 3.2-4 and 3.2-5 illustrate the known locations of special-status wildlife occurring within the queried area (CDFW, 2015a). The CNDDDB was queried for occurrences of special-status wildlife taxa within a five-mile radius surrounding the Study Area, and a two-mile buffer centered on the Santa Clara River extending approximately 40 miles upstream of the proposed Project, ending just east of the Highway 126 and Interstate 5 junction. The specific habitat requirements and the locations of known occurrences of each special-status wildlife taxon were the principal criteria used for inclusion in the list of taxa potentially occurring within the Study Area. There are currently 92 special-status wildlife taxa that have been documented within the general region of the Study Area. Each of these taxa was assessed for its potential to occur within the Study Area based on the following criteria:

- **Present:** Taxon (or sign) was observed in the Project site or in the same watershed (aquatic taxa only) during the most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.

- **High:** Habitat (including soils) for the taxon occurs on site and a known occurrence occurs within the Project site or adjacent areas (within 5 miles of the site) within the past 20 years; however, this taxon was not detected during the most recent surveys.
- **Moderate:** Habitat (including soils) for the taxon occurs on site and a known regional record occurs within the database search, but not within 5 miles of the site or within the past 20 years; or, a known occurrence occurs within 5 miles of the site and within the past 20 years and marginal or limited amounts of habitat occurs on site; or, the taxon's range includes the geographic area and suitable habitat exists.
- **Low:** Limited habitat for the taxon occurs on site and no known occurrences were found within the database search and the taxon's range includes the geographic area.

A total of 12 taxa were either observed or assumed to be present within, or immediately adjacent to the Study Area, based on surveys conducted in 2013/2014, and/or consultation with local experts. The remaining 80 taxa were reviewed and 71 taxa were determined to have a low, moderate or high potential to occur in the Study Area based on existing recorded occurrences, known geographic range, and/or the presence of suitable habitat. Table 3.2-4 summarizes the special-status wildlife taxa known to regionally occur and their potential for occurrence in the Study Area. A detailed list of all taxa (common and special-status) present in the Study Area is included in Appendix B-3 of this document.

Threatened, Endangered, or Special-Status Invertebrates

Three shoulderband snails (*Helminthoglypta* spp.) were detected during focused surveys for gastropods; the snails were not identified to species. Five locally important species of shoulderband snail are known from the area: Zaca shoulderband snail (*Helminthoglypta phlyctaena*), sage shoulderband snail (*Helminthoglypta salvia*), Matilija shoulderband snail (*Helminthoglypta willetti*), and Ventura shoulderband snail (*Helminthoglypta venturensis*). One rare species (CDFW Special Animal and Ventura County Locally Important Species), the Trask shoulderband snail (*Helminthoglypta traskii*), has the potential to occur in the Study Area. The slotted lancetooth snail (*Haplotrema caelatum*), a Ventura County Locally Important Species, is also known from the general area and has the potential to occur in the Study Area.

Threatened, Endangered, or Special-Status Fish

No threatened, endangered, or special-status fish species were detected in the Study Area. Although not observed during surveys in the Study Area, steelhead trout (southern California DPS) are known to occur in the Santa Clara River watershed during periods when surface water flow is present; this species is federally endangered and a California Species of Special Concern. Critical habitat for steelhead trout (southern California DPS) occurs within the Study Area. Tidewater goby, federally listed as endangered and a CDFW Species of Special Concern, is known to occur downstream of the Study Area within the Santa Clara River estuary.

The federally and State endangered and state fully protected unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), while not observed in the Study Area, has been recorded in the upper Santa Clara River watershed. The partially armored stickleback (*Gasterosteus aculeatus microcephalus*), a CDFW Special Animal and a Ventura County Locally Important Species, is known from the lower watershed; this species can be found year round, upstream in Santa Paula and Sespe Creeks. Owens sucker (*Catostomus fumeiventris*), arroyo chub (*Gila orcuttii*), and Santa Ana sucker (*Catostomus santaanae*), all California Species of Special Concern, and the prickly sculpin (*Cottus asper*), a Ventura County Locally Important Species, are all known to occur along portions of the Santa Clara River.

Threatened, Endangered, or Special-Status Reptiles

Two special-status reptiles, western pond turtle (*Actinemys pallida*) and coast horned lizard (*Phrynosoma blainvillii*), have been observed in the Study Area; both are California Species of Special Concern. A juvenile coast horned lizard was observed within the dry, sandy areas of the Santa Clara River channel, north of the weir field, in Reach 2. Western pond turtles were observed at pool habitat adjacent to the constructed rock groins in the eastern extent of Reach 2 and within a pool near a footing of the Victoria Avenue Bridge. No state or federally listed reptiles were observed in the Study Area. While not detected in the Study Area, a variety of special-status snakes are known to occur in the vicinity including two-striped garter snake (*Thamnophis hammondi*), south coast garter snake (*Thamnophis sirtalis ssp.*), and coast patched nosed snake (*Salvadora hexalepsis virgulata*); these snakes are all California Species of Special Concern. Both silvery legless lizard (*Anniella pulchra pulchra*), a California Species of Special Concern, and coastal whiptail (*Aspidoscelis tigris stejnegeri*), a California Special Animal, are known to occur in the general vicinity of the Study Area.

Threatened, Endangered, or Special-Status Amphibians

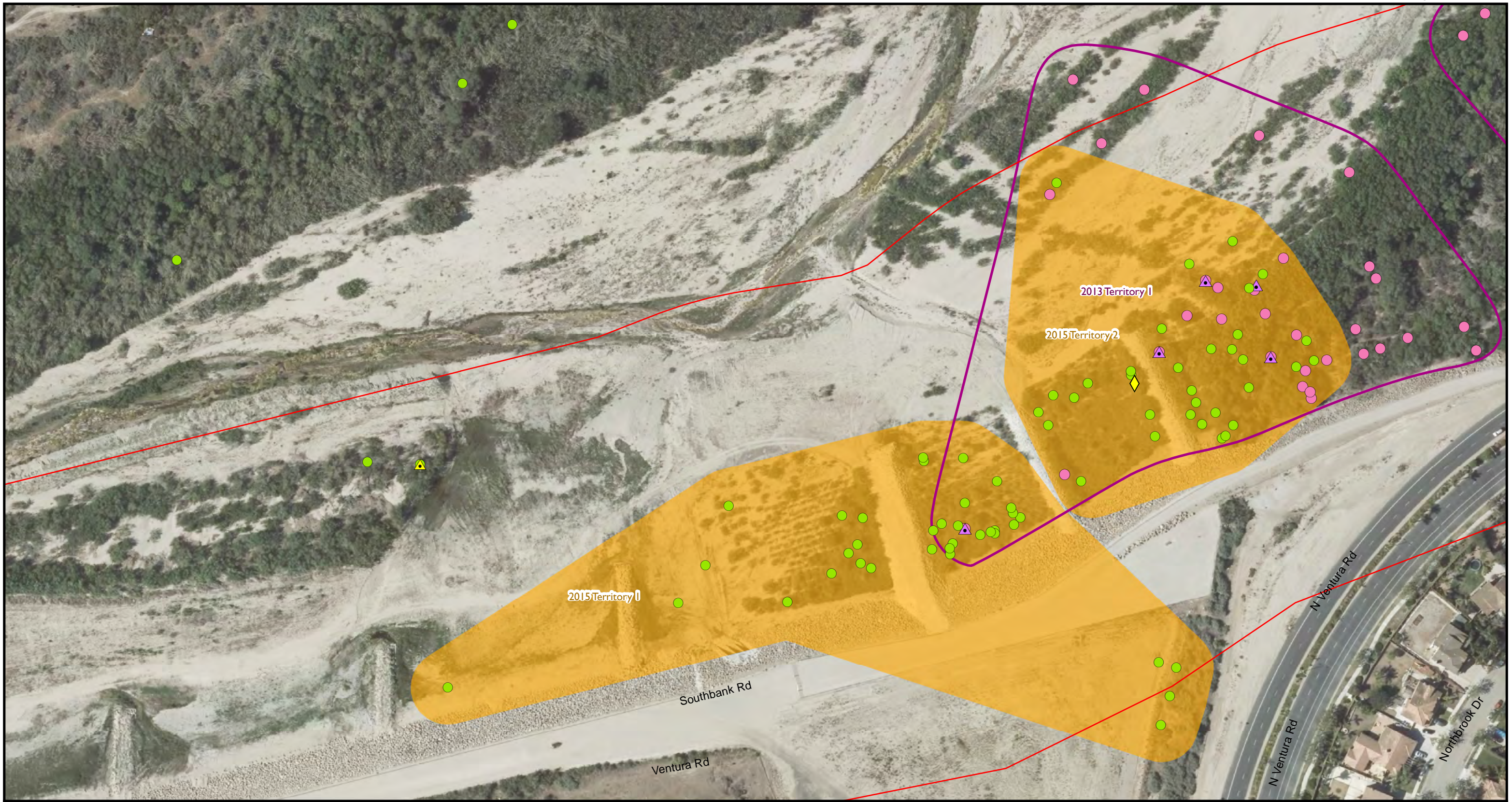
Surveys conducted in the Study Area did not detect any threatened, endangered, or special-status amphibians. Arroyo toad (*Anaxyrus californicus*), federally listed as endangered and a California Species of Special Concern, while not detected is known to occur upstream in the Piru Creek watershed; this species has a very low potential of occurrence in the Study Area. Both California red-legged frog (*Rana draytonii*), federally listed as threatened, and western spadefoot toad (*Spea hammondi*), a California Species of Special Concern, are known to occur in the Santa Clara River watershed, however the red-legged frog has low potential to occur within the proposed Project boundaries.

Threatened, Endangered, or Special-Status Birds

With the exception of protocol least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) surveys, the majority of bird sightings were made while conducting general biological surveys. Least Bell's vireo, federally and state listed as endangered, has been documented nesting in the eastern portions of the Study Area (refer to Figure 3.2-6) during surveys conducted in 2013 and 2014. Early results from surveys started in April 2015 show that least Bell's vireo are nesting within the same general areas as identified in the previous year's surveys. A singing willow flycatcher (*Empidonax traillii*), species undetermined, was detected in the eastern portion of the Study Area in 2013; the southwestern willow flycatcher subspecies, which has not been observed nesting in the Study Area, is federally and state listed as endangered. Two California Fully Protected species, white-tailed kite (*Elanus leucurus*) and peregrine falcon (*Falco peregrinus*), have been observed foraging in the Study Area. Several species listed as species of special concern by the CDFW have been identified in the Study Area, including northern harrier (*Circus cyaneus*), yellow-breasted chat (*Icteria virens*), loggerhead shrike (*Lanius ludovicianus*), and yellow warbler (*Setophaga petechial*).

Threatened, Endangered, or Special-Status Mammals

Surveys conducted in the Study Area did not detect any threatened, endangered, or special-status mammals. A suite of special-status mammals, all California Species of Special Concern, having the potential to occur in the Study Area include pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumopos perotis californicus*), San Diego black-tailed jack rabbit (*Lepus californicus bennettii*), San Diego desert woodrat (*Neotoma lepida intermedia*), and American badger (*Taxidea taxus*).



Source: Werner Biological, 2013; 2015.

- Study Area
- ▲ 2013 Least Bell's vireo fledgling
- ▲ 2015 Least Bell's vireo fledgling
- 2013 Least Bell's vireo observation
- ◆ 2015 Least Bell's vireo nests
- 2013 Least Bell's vireo territory
- 2015 Least Bell's vireo observation
- 2015 Least Bell's vireo territory

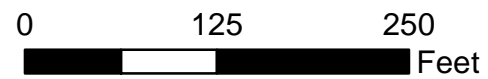


Figure 3.2-6
Mapped locations of
Least Bell's Vireo

Santa Clara River Levee
Map A



Source: Werner Biological, 2013; 2015.

- Study Area
- ▲ 2013 Least Bell's vireo fledgling
- ▲ 2015 Least Bell's vireo fledgling
- 2013 Least Bell's vireo observation
- 2015 Least Bell's vireo observation
- 2013 Least Bell's vireo territory
- 2015 Least Bell's vireo territory

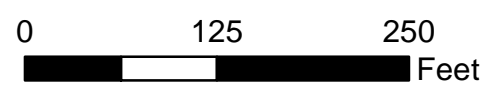
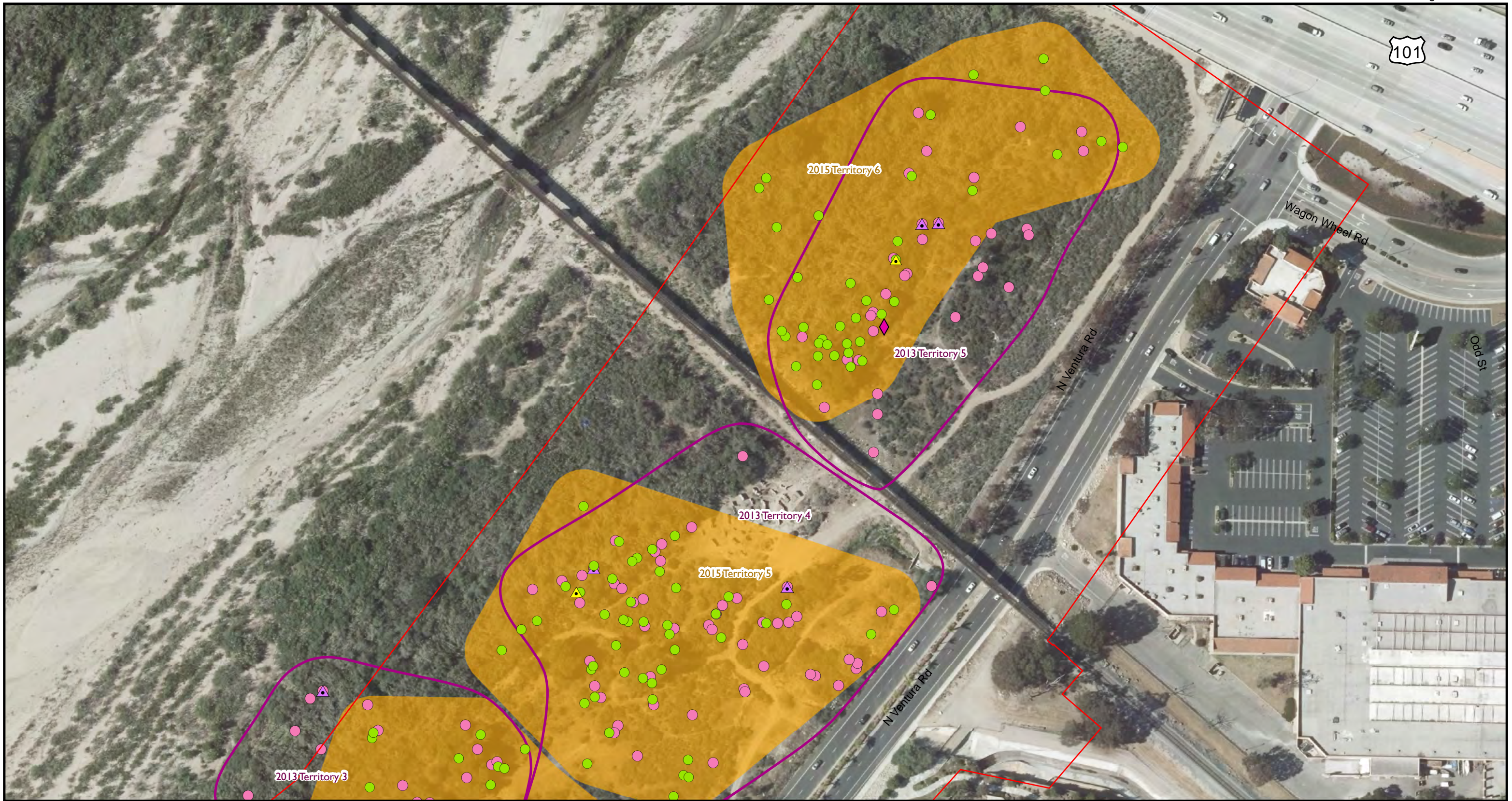


Figure 3.2-6
Mapped Locations of
Least Bell's Vireo

Santa Clara River Levee
Map B



Source: Werner Biological, 2013; 2015.

- Study Area
- ▲ 2013 Least Bell's vireo fledgling
- ◆ 2013 Least Bell's vireo nest
- 2013 Least Bell's vireo observation
- 2013 Least Bell's vireo territory
- ▲ 2015 Least Bell's vireo fledgling
- 2015 Least Bell's vireo observation
- 2015 Least Bell's vireo territory

0 125 250
Feet

Figure 3.2-6
Mapped Locations of
Least Bell's Vireo

Santa Clara River Levee
Map C

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Table 3.2-4. Known and Potential Occurrence of Special-Status Wildlife within the Study Area*					
Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
INVERTEBRATES					
<i>Cicindela hirticollis gravida</i>	Sandy beach tiger beetle	SA	Habitat preference is moist sand near the ocean; often found in depressions behind sand dunes or along the upper portions of sandy beaches beyond the normal high tide mark.	Suitable habitat for this species is not present in the Study Area. The CNDDDB reports occurrences of this species approximately 2 miles downstream just south of the Santa Clara River mouth.	Not Likely To Occur
<i>Cicindela senilis frosti</i>	Senile tiger beetle	SA	Endemic to Calif. and northern Mexico. Historically occurred in coastal salt marshes, tidal mudflats, and interior alkali mudflats from San Diego Co. north to Sonoma Co. and Lake Co.	There are no known recent records for this species in the Study Area. Suitable salt marsh or tidal flats are not present in the Study Area. The closest CNDDDB records for this species occur approximately 10 miles southeast near Point Mugu Naval Base.	Not Likely To Occur
<i>Coelus globosus</i>	Globose dune beetle	SA	Preferred habitat is fore dunes, sand hummocks; larvae spend most of the time in the sand and can occasionally be found under vegetation or debris.	Suitable habitat for this species is not present in the Study Area. The CNDDDB reports a historic occurrence of this species approximately 2.5 miles northwest of the Study Area along Ventura State Beach.	Not Likely To Occur
<i>Danaus plexippus pop. 1</i>	Monarch butterfly (California overwintering population)	SA	Winter roost sites extend along the coast from northern Mendocino to Baja Calif., Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby	Although not detected this species may occur intermittently in the Study Area; suitable winter roosting habitat is available within the eucalyptus stands present in the Study Area. The CNDDDB reports multiple occurrences of this species within 1 – 3 miles north of the Study Area	Moderate
<i>Haplotrema caelatum</i>	Slotted lancetooth snail	VC	Terrestrial; southern Calif. endemic known from Santa Barbara, Ventura, Los Angeles, and San Diego Cos.	There are no known recent records for this species in the Study Area; The Study Area is located within the known geographic distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the Study Area.	Moderate
<i>Helminthoglypta phlyctaena</i>	Zaca shoulderband snail	VC	Terrestrial; endemic known only from Santa Barbara and Ventura Counties.	There are no known recent records for this species in the Study Area; The Study Area is located within the known geographic distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the Study Area.	Moderate
<i>Helminthoglypta salviae</i>	Sage shoulderband snail	VC	Terrestrial; endemic to Ventura Co.	There are no known recent records for this species in the Study Area; The Study Area is located within the known geographic distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the Study Area.	Moderate
<i>Helminthoglypta traskii traskii</i>	Trask shoulderband snail	SA, VC	Terrestrial; southern Calif. endemic known from Ventura, Los Angeles, Orange, and San Diego Counties;	There are no known recent records for this species in the Study Area; the nearest record of this species approximately 13 miles to the southeast in La Jolla Creek in the Santa Monica Mountains; the Study Area is located	Moderate

3.2
Biological Resources

Table 3.2-4. Known and Potential Occurrence of Special-Status Wildlife within the Study Area*					
Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
			prefers coastal sage scrub and chaparral.	within the known geographic distribution for this species (Magney, 2005); suitable habitat is limited within the Study Area.	
<i>Helminthoglypta venturensis</i>	Ventura shoulderband snail	VC	Terrestrial; endemic to Ventura Co.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographical distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the Study Area.	Moderate
<i>Helminthoglypta willeti</i>	Matilija shoulderband snail	VC	Terrestrial; endemic to Ventura Co.; chaparral, coast live oak woodlands, riparian woodlands; mountainous areas.	There are no known recent records for this species in the Study Area; the nearest record of this species is in Ventura (Lake Canyon), the Ojai area, and Sisar Canyon (Magney 2005 and Hunt et al. 1993); the Study Area is located within the known geographic distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the Study Area.	Moderate
<i>Tryonia imitator</i>	Mimic tryonia (=California brackish water snail)	SA	Habitat preference includes brackish water marshes, coastal lagoons, and estuaries; species can occur in a wide range of salinities.	Suitable habitat is not present within the Study Area but is likely present downstream near the mouth of the Santa Clara River. The CNDDDB reports an occurrence of this species approximately 7 miles south in the Port Hueneme area.	Not Likely to Occur
<i>Panoquina errans</i>	Wandering (=saltmarsh) skipper		Known from coastal saltmarshes in southern Calif.; requires moist salt grass for larval development.	There are no known records for this species in the Study Area. There is no saltmarsh habitat within the Study Area; historic CNDDDB records exist approximately 8 miles southeast in the general area of Point Mugu Naval Base.	Not Likely to Occur
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE	Vernal pools.	There are no known records for this species in the Study Area; nearest CNDDDB record for this species occurs approximately 19 miles to the east in the Tierra Rejada Valley. The Study Area is located within the known geographic distribution for this species however no indication of vernal pools were identified in the Study Area.	Low
<i>Timema monikensis</i>	Santa Monica Mountains timema	VC	Terrestrial; endemic to the Transverse Ranges in scrub habitats.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic distribution for this widespread species; suitable habitat occurs in limited portions of the Study Area.	Moderate
FISH					
<i>Catostomus santaanae</i>	Santa Ana sucker	FT, CSC	Typically inhabits small, shallow streams and rivers less than 23 feet (7 meters) wide where water temperature is generally below 72 ° F (22 ° C), and where currents range from swift to sluggish (USFWS, 2000).	This species was not documented within the Study Area. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula Creek and Sespe Creek. Currently the USFWS does not	High (when flowing water is present)

Table 3.2-4. Known and Potential Occurrence of Special-Status Wildlife within the Study Area*					
Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
				include the Santa Clara River Watershed population in the threatened listing.	
<i>Catostomus fumeiventris</i>	Owens sucker	CSC	Generally found in soft-bottomed cool-run streams, lakes or reservoirs.	This species was not documented within the Study Area. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula Creek and Sespe Creek.	High (when flowing water is present)
<i>Cottus asper</i>	Prickly sculpin	VC	Occurs in coastal and inland streams; typically inhabits pools and slowly flowing waters; prefers bottoms of fine materials, sands.	This species is known to occur along portions of the Santa Clara River (United Water, 2007); the Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River channel within the Study area (during periods when flowing water is present).	High (when flowing water is present)
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE, CSC	Occurs in brackish water in shallow lagoons and in lower stream reaches where the water is fairly still but not stagnant.	This species was not documented within the Study Area. Suitable habitat is not present in the Study Area but is located approximately 1.25 miles downstream at the Santa Clara River lagoon.	Low (when flowing water is present)
<i>Gasterosteus aculeatus microcephalus</i>	Partially armored threespine stickleback	SA, VC	Subspecies occurs in freshwater habitats exclusively; prefers relatively shallow inshore waters in lakes and streams.	This species was not documented within the Study Area. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula Creek and Sespe Creek.	High (when flowing water is present)
<i>Gasterosteus aculeatus williamsoni</i>	Unarmored threespine stickleback	FE, SE, CFP	Slow-moving and backwater areas of coastal and inland streams.	This species was not documented within the Study Area. The Study Area is outside the known geographic distribution for this species; This species is known to occur in the upper Santa Clara River watershed.	Low (when flowing water is present)
<i>Gila orcuttii</i>	Arroyo chub	CSC	Los Angeles Basin southern coastal streams; slow water stream sections with mud or sand bottoms; feeds heavily on aquatic vegetation and associated invertebrates.	This species was not documented within the Study Area. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula Creek and Sespe Creek.	High (when flowing water is present)
<i>Oncorhynchus mykiss</i>	Steelhead trout–southern California DPS	FE, CSC	Clear-flowing streams and rivers; typically inhabit deep pools with overhanging banks; anadromous; adults spawn in runs and riffles in gravel and small cobble substrates.	This species was not documented within the Study Area. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present).	High (when flowing water is present)

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Table 3.2-4. Known and Potential Occurrence of Special-Status Wildlife within the Study Area*					
Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
AMPHIBIANS					
<i>Aneides lugubris</i>	Arboreal salamander	VC	Coastal live-oak woodlands, yellow pine and black oak forests in foothills; typically found on ground under leaf litter, rocks, logs; also climbs trees; not dependent on water.	This species is known to occur throughout the Coast Ranges from Humboldt Co. to Baja Calif.; there are no known records for this species in the Study Area; the Study Area is located within the known geographic distribution for this species.	Moderate
<i>Anaxyrus californicus</i>	Arroyo toad	FE, CSC	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash; rivers with sandy banks, willows, cottonwoods, and/or sycamores.	Although not documented from the Santa Clara River, this species has been recorded upstream in the Piru Creek watershed; the Study Area is located outside of the known current geographic distribution for this species; suitable habitat occurs within portions of the Study Area.	Low
<i>Rana boylei</i>	Foothill yellow-legged frog	CSC	Prefers partly shaded, shallow streams with a rocky substrate; requires a minimum of 15 weeks of permanent water for metamorphosis.	Although not documented from the Study Area or surrounding areas, this species has historically been recorded upstream within the upper Sespe Creek Watershed (occurrence was in 1921); the Study Area is located within the historic geographic distribution for this species; suitable habitat occurs within portions of the Study Area when flowing water is present for extended periods of time.	Not Likely to Occur
<i>Rana draytonii</i>	California red-legged frog	FT, CSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation; requires 11-20 weeks of permanent water for larval development; must have access to aestivation habitat.	Although not documented from the Study Area, this species has been recorded upstream within the headwaters of Piru Creek and in the upper Santa Clara River watershed. The Study Area is located within of the known geographic distribution for this species; suitable but limited habitat occurs within portions of the Study Area when flowing water is present for extended periods of time.	Low
<i>Spea hammondi</i>	Western spadefoot	CSC	Occurs in numerous habitat types, primarily in grasslands but can be found in valley-foothill hardwood woodlands, sage scrubs, chaparral where pooled/pounded water, supporting typically clay-rich soils, remains through early spring (April/May); in some areas, vernal pools, stock ponds, and road pools are essential for breeding, egg-laying, and larval development.	There are no known records for this species in the Study area or surrounding areas; the Study Area is located within the known geographic distribution for this species; suitable habitat does occur within the Study Area. The closest CNDDDB record for this species is approximately 19 miles northeast near the City of Moorpark.	Moderate
<i>Taricha torosa torosa</i>	Coast Range newt	CSC	Breeds in ponds, reservoirs, streams; terrestrial individuals occupy various adjacent upland habitats, including grasslands, woodlands, and forests.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic distribution for this widespread species; limited breeding habitat is available (dependent on rainfall) however suitable upland habitat occurs within portions of the	Low

Table 3.2-4. Known and Potential Occurrence of Special-Status Wildlife within the Study Area*					
Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
				Study Area. The closes known CNDDDB record for this species is approximately 17 miles north.	
REPTILES					
<i>Actinemys pallida</i>	Western pond turtle	CSC	Inhabits permanent or nearly permanent bodies of water in various habitat types; requires basking sites such as partially submerged logs, vegetation mats, or open mud banks.	This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when ponded/flowing water is present).	Present
<i>Anniella pulchra pulchra</i>	Silvery legless lizard	CSC	Sandy or loose loamy soils under sparse vegetation; soil moisture is essential; prefer soils with high moisture content.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic distribution for this widespread species; suitable habitat occurs throughout the Study Area. There are multiple CNDDDB records for this species approximately 2.5 miles south.	Moderate
<i>Arizona elegans occidentalis</i>	California glossy snake	VC	Generally found in arid scrub, rocky washes, grasslands, and chaparral.	There are no known records for this species in the Study Area; the Study Area is located within the known geographic distribution for this secretive species; suitable habitat occurs within the Study Area.	Low
<i>Aspidoscelis tigris stejnegeri</i>	Coastal whiptail	SA	Found in deserts and semi-arid areas with sparse vegetation and open areas; also found in woodland and riparian habitats; substrates may be firm soil, sandy, or rocky.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic distribution for this widespread species. Suitable habitat occurs throughout the Study Area. The CNDDDB reports an occurrence of this species approximately 6 miles north of the Study Area.	Moderate
<i>Lampropeltis zonata pulchra</i>	San Diego mountain kingsnake	CSC, VC	Occurs in a variety of habitats, spends most of its time underground under objects or in crevices. Active during the day when near shaded streams on warm days.	There are no known records for this species in the Study Area; the Study Area is located just outside the known geographic distribution for this secretive species; suitable habitat occurs within the Study Area.	Low
<i>Phrynosoma blainvillii</i>	Coast horned lizard	CSC	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate zones; prefers friable, rocky, or shallow sandy soils; requires native ant food source.	A juvenile coast horned lizard was observed within the dry, sandy areas of the Santa Clara River channel, north of the weir field in Reach 2, during surveys conducted in 2013. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs within the Study Area.	Present
<i>Salvadora hexalepsis virgultea</i>	Coast patch-nosed snake	CSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, rocky areas; broad generalist.	There are no known records for this species within 20 miles of the Study Area; the Study Area is located within the known geographic distribution for this species; suitable habitat occurs within the Study Area.	Low
<i>Thamnophis hammondi</i>	Two-striped garter snake	CSC	Highly aquatic; found in or near permanent fresh water; often along	There are no known records for this species in the Study Area; nearest CNDDDB record for this species occurs approximately 7 miles to the north	Moderate

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Biological Resources

Table 3.2-4. Known and Potential Occurrence of Special-Status Wildlife within the Study Area*					
Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
			streams with rocky beds and riparian growth.	in the vicinity of the Ventura River. The Study Area is located within the known geographic distribution for this species. Pockets of suitable habitat occur within the limited perennial pool habitats in the Study Area; suitable habitat is present throughout the Santa Clara River in the Study Area when flows are present.	
<i>Thamnophis sirtalis</i> ssp.	South coast garter snake	CSC	Inhabits scrub, chaparral, annual and native grassland, freshwater marsh and agriculture (USACE and CDFG, 2010).	There are no known records for this species in the Study Area; the Study Area is located within the known geographic distribution for this species. Pockets of suitable habitat occur within the limited perennial pool habitats in the Study Area; suitable habitat is present throughout the Santa Clara River in the Study Area when flows are present. The CNDDDB reports an occurrence of this species approximately 7 miles upstream just south of the Santa Paula area.	Moderate
BIRDS					
<i>Accipiter cooperii</i> (nesting)	Cooper's hawk	WL	Woodland, chiefly of open, interrupted, or marginal type; nest sites mainly in riparian growths of deciduous trees.	This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable nesting and foraging habitat occurs throughout the Study Area. The Study Area is located within the known geographic distribution for this species.	Present
<i>Accipiter striatus</i> (nesting)	Sharp-shinned hawk	WL	Prefers, but not restricted to riparian habitats; breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats; requires north-facing slopes with perches.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic year-round distribution for this species. Suitable breeding habitat does not occur, however, suitable foraging habitat occurs throughout the Study Area. A review of online eBird data shows an occurrence of this species immediately north of the Study Area at the Buenaventura Golf Course.	High
<i>Agelaius tricolor</i> (nesting colony)	Tricolored blackbird	CSC, BCC	Highly colonial species; requires open water, protected nesting substrate, and foraging areas with insect prey within a few kilometers of colony.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Very limited suitable breeding and foraging habitat occurs throughout the Study Area. The closest CNDDDB record for this species is approximately 6 miles north. There are multiple eBird records for this species approximately 2 miles west in the general vicinity of the Santa Clara River mouth.	High
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	WL	Resident in southern Calif. coastal sage scrub and sparse mixed chaparral; frequents relatively steep, often rocky hillsides with grass and forb patches.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited suitable breeding and foraging habitat occurs within the upland terrace in the eastern extent of the Study Area.	Moderate
<i>Aquila chrysaetos</i>	Golden eagle	CFP	Forages in open grasslands, desert scrub and agricultural fields. Nests on	There are no known records for this species in the Study Area. Suitable nesting habitat for this species is not present but may occur in nearby	Not Likely To Occur

Table 3.2-4. Known and Potential Occurrence of Special-Status Wildlife within the Study Area*					
Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
			ledges on cliff faces, rock outcrops and occasionally in large trees.	areas. Suitable foraging habitat is present within limited portions of the Study Area. The CNDDDB reports historic occurrences of this species from the Santa Monica Mountains approximately 15 miles southeast.	(nesting)/ Moderate (Soaring)
<i>Ardea herodias</i> (rookery sites)	Great blue heron	SA	Rookery sites typically occur in groves of large trees within proximity to aquatic foraging areas of streams, wetlands, and grasslands.	This species was documented in the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable rookery habitat occurs within the western half of the Study Area.	Present (No rookery observed)
<i>Asio flammeus</i> (nesting)	Short-eared owl	CSC	Usually occurs in open areas with few trees, such as grasslands, prairies, dunes, meadows, agricultural fields, emergent wetlands; requires dense vegetation for cover.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic year-round distribution, however, is outside of the known breeding range for this species. Suitable foraging habitat occurs throughout the Study Area. There is a 2008 eBird record for this species approximately 2 miles west, just north of the Santa Clara River mouth.	Low
<i>Athene cunicularia</i> (burrowing sites & some wintering sites)	Burrowing owl	BCC, CSC	Open, dry perennial or annual grasslands, deserts, and scrublands characterized by low-growing vegetation; subterranean nester, dependent upon burrowing mammals, particularly Calif. ground squirrels.	The Study Area is located within the known geographic distribution for this species; suitable habitat occurs within limited portions of the Study Area. There is a 2002 eBird record for this species in the Santa Clara River near the Victoria Avenue Bridge in the western extent of the Study Area; nearest CNDDDB record for this species occurs approximately 2 miles to the west near McGrath State Beach.	Moderate
<i>Buteo regalis</i>	Ferruginous hawk	WL	Forages in grasslands and agricultural fields.	There are no known records for this species in the Study Area. The nearest CNDDDB record for this species occurs approximately 9 miles to the southeast near Point Mugu Naval Base. A review of online eBird data shows an occurrence of this species just north of the Study Area near Olivas Park Drive. Suitable nesting habitat is not present in the Study Area although limited foraging habitat is present.	Low
<i>Calypte costae</i>	Costa's hummingbird	SA	Primarily occurs in desert wash, edges of desert riparian and valley-foothill riparian, coastal scrub, desert scrub, low-elevation chaparral.	This species was documented in the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic range for this species; suitable breeding and foraging habitat occurs throughout the Study Area.	Present
<i>Carduelis lawrencei</i> (nesting)	Lawrence's goldfinch	BCC, SA	Nests in open oak or other arid woodland and chaparral near water; nearby herbaceous habitats used for foraging; closely associated with oaks.	There are multiple eBird records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited suitable breeding may occur when flows are present in the Santa Clara River; foraging habitat occurs throughout the Study Area.	High
<i>Chaetura vauxi vauxi</i> (nesting)	Vaux's swift	CSC	Breeds in coniferous and mixed coniferous forests; requires large-diameter, hollow trees for breeding and	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Suitable breeding habitat does not occur in the Study Area; foraging habitat occurs within pool habitats in the Study Area and in the Santa	Low

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Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
			roosting; forages in areas of open water where insect prey congregates.	Clara River when flowing water is present. There are multiple eBird records for this species approximately 2 miles west in the general vicinity of the Santa Clara River mouth.	
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	FE, CSC	Preferred habitat is sandy beaches, pond levees, and shorelines of large alkaline lakes; requires friable soil for nesting.	There are no known records for this species in the Study Area and suitable habitat for this species is not present in the Study Area. The closest CNDDDB record for this species, although not recent, is approximately 2.0 miles to the west along McGrath State Beach. There are multiple eBird records for this species approximately 2 miles west along McGrath State Beach and from beaches immediately to the north.	Not Likely to Occur
<i>Circus cyaneus</i> (nesting)	Northern harrier	CSC	Prefer open country, grasslands, steppes, wetlands, meadows, agriculture fields; roost and nest on ground in shrubby vegetation often at edge of marshes.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species; suitable breeding and foraging habitat occurs throughout the Study Area. There are multiple eBird records for this species approximately 2 miles west near the mouth of the Santa Clara River.	Moderate
<i>Coccyzus americanus occidentalis</i> (nesting)	Western yellow-billed cuckoo	FC, SE	Nests along the broad, lower flood-bottoms of larger river systems; also nests in riparian forests and riparian jungles of willow often mixed with cottonwoods, with an understory of blackberry, nettles, or wild grape (USACE and CDFG, 2010).	There is an eBird record for this species, from 2008, within the Study Area. The CNDDDB reports historic records for this species within the Study Area; the Study Area is located within the known geographic distribution for this species. Breeding and foraging habitat is present in the Study Area.	Low
<i>Elanus leucurus</i> (nesting)	White-tailed kite	CFP	Typically nests at lower elevations in riparian trees, including oaks, willows, and cottonwoods; forages over open country.	This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and limited foraging habitat occurs in the Study Area.	Present
<i>Empidonax traillii extimus</i> (nesting)	Southwestern willow flycatcher	FE, SE	Riparian woodlands in southern Calif.	There are no known records for this species in the Study Area; critical habitat for this species is mapped within the Study Area. The nearest CNDDDB record for this species occurs approximately 8.5 miles upstream in the Santa Clara River near the Santa Paula area. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat occurs throughout the Study Area.	High (Migrants)
<i>Eremophila alpestris</i>	California horned lark	WL	Occurs in open habitats, forages in bare dirt in short and/or sparse grassland and areas of scattered shrubs.	This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable foraging habitat occurs within the upland terrace in the eastern extent of the Study Area.	Present

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Falco columbarius</i> (non-breeding/ wintering)	Merlin	WL	Wide-variety of habitats including marshes, deserts, seacoasts, open woodlands, fields.	There are no known records for this species in the Study Area or surrounding areas. This species is a winter resident that does not breed in Calif.; the Study Area is located within the known geographic winter distribution for this species. Suitable foraging habitat occurs throughout the Study Area. There is a 2009 eBird record for this species just north of the Study Area at Buenaventura Golf Course.	Moderate
<i>Falco mexicanus</i> (nesting)	Prairie falcon	BCC, WL	Rare in southern Calif.; nests along cliff faces or rocky outcrops; forages over open spaces, agricultural fields.	There are no known records for this species in the Study Area or surrounding areas. This species has been documented north of the Study Area in the Matilija Creek riparian corridor above Matilija Dam (Hunt and Associates, 2009). The Study Area is located within the known geographic year-round distribution for this species; suitable nesting habitat does not occur. Limited suitable foraging habitat occurs within the Study Area. There are eBird records for this species approximately 1.5 miles west and 0.5 miles east.	Low
<i>Falco peregrinus anatum</i>	American peregrine falcon	BCC, CFP	Occurs in various open habitats, especially where suitable nesting cliffs present.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Suitable breeding habitat does not occur within the Study Area but may be present in nearby areas; foraging habitat occurs throughout the Study Area.	Low
<i>Gymnogyps californianus</i>	California condor	FE, SE, CFP	Nests in caves, crevices, behind rock slabs, or on large ledges on high sandstone cliffs; requires vast expanses of open savannah, grasslands, and foothill chaparral with cliffs, large trees and snags for roosting and nesting.	There are no known records for this species in the Study Area. This species is known from the upper Sespe Creek watershed approximately 14.5 miles northeast; suitable nesting habitat does not occur; limited foraging habitat occurs within portions of the Study Area.	Low (soaring)
<i>Icteria virens</i> (nesting)	Yellow-breasted chat	CSC	Inhabits riparian thickets of willow and other brushy tangles near water courses; nests in low, dense riparian vegetation; nests and forages within 10 feet of ground.	This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat exist throughout the Study Area.	Present
<i>Lanius ludovicianus</i> (nesting)	Loggerhead shrike	BCC, CSC	Broken woodland, savannah, pinyon-juniper woodland, Joshua tree woodland, riparian woodland, desert oases, scrub, and washes; prefers open country for hunting with perches for scanning and fairly dense shrubs and brush for nesting.	This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat throughout the Study Area.	Present

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Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Pandion haliaetus</i>	Osprey	WL	Forages and nests along rivers, lakes, and reservoirs.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Suitable foraging habitat occurs throughout the Study Area. There are multiple eBird records approximately 2 miles west within the general vicinity of the Santa Clara River mouth.	Moderate
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	SE	Breeds on the southern coast from Santa Barbara to San Diego Co. Open fields, meadows, salt marshes, prairies, dunes, shores.	There are no known recent records for this subspecies in the Study Area. Although the Study Area is located outside the recognized geographic range for this species, there are recent eBird records for this species approximately 2 miles west and just north of the Santa Clara River mouth. Very limited suitable habitat may be present in the Study Area. The CNDDDB reports a historic occurrence approximately 2 miles east along McGrath State Beach; recent occurrences are reported approximately 7 miles southeast of the Study Area around Ormond Beach.	Low
<i>Pelecanus occidentalis californicus</i>	California brown pelican	CFP	Brown Pelicans live year-round in estuaries and coastal marine habitats along both the east and west coasts. They breed between Maryland and Venezuela, and between southern Calif. and southern Ecuador—often wandering farther north after breeding as far as British Columbia or New York. On the West Coast they breed on dry, rocky offshore islands. When not feeding or nesting, they rest on sandbars, pilings, jetties, breakwaters, mangrove islets, and offshore rocks. (Cornell, 2012)	There are no known recent records for this species in the Study Area. The closest CNDDDB record for this species is approximately 10 miles southeast near Point Mugu Naval Base. There are eBird records for this species approximately 2 miles west near McGrath State Beach and 2.5 miles northwest at the Ventura Harbor.	Low (soaring)
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	FT, CSC, BCC	Various sage scrub communities, often dominated by Calif. sage and buckwheat; generally avoids nesting in areas with a slope of greater than 40%, and typically less than 820 feet in elevation (USACE and CDFG, 2010).	There are no known records for this species in the Study Area or surrounding areas; nearest CNDDDB record for this species occurs approximately 10 miles to the southeast in the Camarillo area. The Study Area is located within the known geographic distribution for this species. There is a single eBird record for this species at the Ventura Settling Ponds, approximately 2 miles west, just north of the Santa Clara River mouth.	Low (Dispersing)
<i>Rallus longirostris levipes</i>	Light-footed clapper rail	FE, SE, CFP	Generally occur in salt marshes with adjacent tidal sloughs where pickleweed and cord grass are the dominant vegetation.	There are no known records for this species in the Study Area or surrounding areas; nearest CNDDDB record for this species occurs approximately 9.5 miles to the southeast near Point Mugu Naval Base.	Not Likely to Occur

Table 3.2-4. Known and Potential Occurrence of Special-Status Wildlife within the Study Area*					
Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
				Suitable salt marsh habitat is not present in the Study Area. There is a single eBird record for this species approximately 2 miles west.	
<i>Riparia riparia</i> (nesting)	Bank swallow	ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert; requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, or the ocean to dig a nesting hole (USACE and CDFG, 2010).	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited suitable breeding and suitable foraging habitat occurs within portions of the Study Area. The CNDDDB reports a historic occurrence of this species approximately 2 miles downstream at the mouth of the Santa Clara River; there are multiple eBird records in this same general area.	Low
<i>Selasphorus sasin</i>	Allen's hummingbird	SA	Most commonly breeds in coastal scrub, valley-foothill hardwood, and valley-foothill riparian habitats; occurs in a variety of woodland and scrub habitat as a migrant.	This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat throughout the Study Area.	Present
<i>Setophaga petechial</i> (nesting)	Yellow warbler	CSC	Riparian plant associations; prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging.	This species was documented within the Study Area during surveys conducted in 2013/14. The Study Area is located within the known geographic distribution for this species; suitable breeding and foraging habitat occurs in the Study Area.	Present
<i>Setophaga occidentalis</i>	Hermit warbler	SA	Generally occurs in tall coniferous forests.	This species was documented immediately upstream of the Study Area during surveys conducted in 2013/14 and is assumed to be present in the Study Area as a migrant. The Study Area is outside the known breeding geographic distribution for this species; suitable foraging habitat occurs throughout the Study Area.	Present
<i>Vireo bellii pusillus</i> (nesting)	Least Bell's vireo	FE, SE, BCC	Summer resident of southern Calif. in low riparian habitats in vicinity of water or dry river bottoms; found below 2000 ft.; nests placed along margins of bushes or on twigs projecting into pathways, usually willow, mesquite, <i>Baccharis</i> spp.	This species was detected during recent focused surveys in 2013 and 2015 as well as during general surveys in 2014. The Study Area is located within the known geographic breeding distribution for this subspecies; suitable habitat occurs throughout the Study Area.	Present
MAMMALS					
<i>Antrozous pallidus</i>	Pallid bat	CSC	Desert, grassland, shrubland, woodland, forest; most common in open, dry habitats with rocky areas for roosting; very sensitive to disturbance of roosting sites.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited roosting habitat is present in the Study Area. Suitable foraging habitat occurs throughout the Study Area. There is a historic CNDDDB record approximately 3 miles north.	Moderate

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Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
<i>Bassariscus astutus</i>	Ringtail	CFP	Occurs in chaparral, coastal sage scrub, riparian scrub, oak woodlands, and riparian woodlands in proximity to permanent water.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species; suitable habitat occurs throughout the Study Area.	Low
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	CSC	Variety of habitats, including coastal scrub, chaparral, and grassland; attracted to grass-chaparral edges.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Suitable habitat occurs in discrete portions of the Study Area. The closest CNDDDB record for this species occurs approximately 8 miles north.	Moderate
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	CSC	Known in Calif. only from San Diego Co. and only as a summer resident. Calif. records largely have been in urban habitat in San Diego.	There are no known records for this species in the Study Area; the Study Area is outside the reported geographical distribution of this species. Suitable roosting habitat is present within many of the trees in the Study Area, should this species occur. The closest CNDDDB record for this species, from 1994, is approximately 4.5 miles north.	Low
<i>Euderma maculatum</i>	Spotted bat	CSC	Occupies a wide variety of habitats from arid deserts and grasslands, to mixed conifer forests; feeds over water and along washes; needs rock crevices in cliffs or caves for roosting (USACE and CDFG, 2010).	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited suitable breeding habitat may occur within the Study Area. Suitable foraging habitat occurs throughout the Study Area.	Moderate
<i>Eumops perotis californicus</i>	Western mastiff bat	CSC	Many open, semi-arid to arid habitats, including coniferous and deciduous woodland, coastal scrub, grassland, chaparral; roosts in crevices in cliff faces, high buildings, trees, tunnels.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic distribution for this species. Suitable roosting habitat is present within the Study Area. Suitable foraging habitat occurs throughout the Study Area. The CNDDDB reports a historic occurrence of this species approximately 7 miles north.	Moderate
<i>Lasiurus cinereus</i>	Hoary bat	SA	Prefers deciduous and coniferous woodlands; primarily roosts in tree foliage.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Suitable roosting habitat is present within the Study Area; suitable foraging habitat occurs throughout the Study Area. The CNDDDB reports historic occurrences of this species approximately 16 miles north and 18 miles east.	Low
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	CSC	Intermediate canopy stages of shrub habitats and shrub, tree, herbaceous edges; primarily coastal sage scrub habitats.	Although not detected in the Study Area, this species is known from the Santa Clara River Valley. The Study Area is located within the known geographic distribution for this subspecies; suitable habitat is present throughout the Study Area.	High
<i>Macrotus californicus</i>	California leaf-nosed bat	CSC	Prefers caves, mines and rock shelters in Sonoran desert scrub.	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species.	Low

Table 3.2-4. Known and Potential Occurrence of Special-Status Wildlife within the Study Area*					
Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	Common Name				
				Very limited suitable habitat may be present in the Study Area; suitable foraging habitat occurs throughout the Study Area.	
<i>Microtus californicus stephensi</i>	South coast marsh vole	CSC	Occurs in a narrow band of wetland communities and associated grasslands in the immediate coastal zone from southern Ventura Co. to northern Orange Co.	There are no known records for this species in the Study Area; the Study Area is just north of the known geographical distribution of this species. The closest CNDDDB record for this species is approximately 10 miles southeast from the Point Mugu Naval Base, the reported northern extent for this species.	Not Likely to Occur
<i>Myotis ciliolabrum</i>	Western small-footed myotis	SA	Occurs in a wide variety of arid upland habitats at elevations ranging from sea level to 2,700 meters (8,860 feet); day roosts include rock crevices, caves, tunnels and mines, and, sometimes, buildings and abandoned swallow nests. (CDFW, 2015e)	There are no known recent records for this species in the Study Area; the Study Area is located within the known geographic range for this species. Limited suitable roosting habitat may be present in the Study; suitable foraging habitat occurs throughout the Study Area.	Low
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	CSC	Coastal scrub; prefers moderate to dense canopies; particularly abundant in rock outcrops, rocky cliffs, and slopes.	Although not detected in the Study Area, this species is known from the Santa Clara River Valley. The Study Area is located within the known geographic distribution for this species; suitable habitat occurs within portions of the Study Area. The closest CNDDDB records for this species occur approximately 13 and 16 miles northwest.	Moderate
<i>Taxidea taxus</i>	American badger	CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils; require sufficient food source, friable soils, and open, uncultivated ground; prey on burrowing rodents.	There are no known records for this species in the Study Area; the Study Area is located within the known geographic distribution for this species. Suitable habitat occurs within portions of the Study Area. The CNDDDB reports multiple occurrences of this species approximately 5 miles upstream in the Santa Paula area.	Moderate

Federal Rankings:

FE = Federally Endangered
 FT = Federally Threatened
 FC = Federal Candidate for Listing
 BCC = USFWS Bird of Conservation Concern

County Rankings:

VC = Ventura County Locally Important Species

Other Rankings:

ABC = American Bird Conservancy: U.S. Watch List of Birds of Conservation Concern (nesting)

State Rankings:

SE= State Endangered

ST = State Threatened

CFP = California Fully Protected

CPF = California Protected Fur-bearer

SA = CDFW Special Animal

WL = CDFW Watch List

CSC = California Species of Special Concern

* Species descriptions for taxa that are present or have a moderate or high potential to occur in the Study Area are located in Appendix B-6 of the EIR.

Wildlife Corridors and Linkages

The ability for wildlife to move freely among populations is important to long-term genetic variation and demography. Fragmentation and isolation of natural habitat may cause loss of native species diversity in fragmented habitats. In the short term, wildlife movement may also be important to individual animals' ability to occupy home ranges, if a species range extends across a potential movement barrier. These considerations are especially important for rare, threatened, or endangered species, and wide-ranging species such as large mammals, which exist in low population densities.

The majority of the length of the main stem of the Santa Clara River is connected by a nearly continuous strip of active channel. From east of Piru on downstream, riparian habitat and alluvial scrub habitats are distributed in various-sized patches that are, for the most part, only connected by the active channel. The active channel is a key corridor for aquatic and water-dependent species throughout the length of the river. Maintaining continuity of flows within the river is especially critical for fish species such as the southern steelhead. The river channel is also important in the dispersal of many amphibians and plant species. [VCWPD, 2009]

Although it has been fragmented by both natural and human processes and activities, the riparian vegetation along the river is an important corridor for movement of many species, especially birds. The habitats along the river are used by migratory birds moving up and down the Pacific coast during spring and fall migrations. More importantly, the riparian corridor functions as both habitat and a route for east/west dispersal for riparian breeding species such as the least Bell's vireo and southwestern willow flycatcher. Local resident species, including raptors and large mammals, move up and down the river into adjacent uplands habitat along the riparian corridor. [VCWPD, 2009]

Ultimately, linkages and corridors facilitate regional animal movement. Corridors offer wildlife unobstructed terrain for foraging and for dispersal of young individuals. Riparian corridors like the Santa Clara River remain a common pathway utilized by many species because they typically provide cover, foraging opportunities, and water. However, as the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not restrict their movements to some obvious landscape element, such as a riparian corridor. For example, radio-tracking and tagging studies of newts, California red-legged frogs, and western pond turtles found that long-distance dispersal involved radial or perpendicular linear movements away from a water source with little regard to the orientation of the assumed riparian "movement corridor," but towards suitable riparian or upland wintering habitat (Fellers and Kleeman, 2007; Semlitsch, 1998; Reese and Welsh, 1997). In general, the following corridor functions should be considered when evaluating impacts to wildlife movement corridors:

- a. **Movement corridors** are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that, for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits, but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.
- b. **Dispersal corridors** are relatively narrow, linear landscape features embedded in a dissimilar matrix that links two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of

a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.

- c. **Habitat linkages** are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll, 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.
- d. **Travel routes** are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors within larger natural habitat areas that are used frequently by animals to facilitate movement and provide access to water, food, cover, den sites, or other necessary resources. A travel route is generally preferred by a species because it provides the least amount of topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll, 1997).
- e. **Wildlife crossings** are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are man-made and include culverts, underpasses, drainage pipes, bridges, and tunnels constructed to provide wildlife access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent “choke points” along a movement corridor because usable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll, 1997).

Considering smaller spatial scales or single habitat types, habitat fragmentation is no less important an issue. At these spatial scales, several studies have documented the negative effects on population structure, home range size, and genetic connectivity resulting from dirt roads, pipeline corridors, transmission line corridors, and other seemingly innocuous features traversing formerly undisturbed habitat (Mader, 1984; Swihart and Slade, 1984; Dunning et al., 1992).

3.2.2 Applicable Regulations, Plans, and Standards

3.2.2.1 Federal

Federal Endangered Species Act

Federal Endangered Species Act provisions protect federally listed threatened and endangered species and their habitats from unlawful take and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the ESA, “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct.” The U.S. Fish & Wildlife Service’s (USFWS) regulations define harm to mean “an act which actually kills or injures wildlife.” Such an act “may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR § 17.3).

Critical habitat is defined in Section 3(5)(A) of the ESA as “(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features (I) essential to the conservation of the species, and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species.” The effects analyses for designated critical habitat must consider the role of the critical habitat in both the continued survival and the eventual recovery

(i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. USFWS*. Activities that may result in “take” of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species December 6, 2007 (72 FR 69034). Candidate species are not afforded any legal protection under ESA; however, candidate species typically receive special attention from Federal and State agencies during the environmental review process.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter or “take” any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. “Take” is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the Migratory Bird Treaty Act. The Federal Migratory Bird Treaty Act (MBTA) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Bald and Golden Eagle Protection Act of 1940 (16 USC 668)

The Bald Eagle Protection Act of 1940 (16 U.S.C. 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: “disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (72 FR 31132; 50 CFR 22.3).

The USFWS is the primary federal authority charged with the management of golden eagles in the United States. A permit for take of golden eagles, including take from disturbance such as loss of foraging habitat, may be required for the Project. USFWS guidance on the applicability of current Eagle Act statutes and mitigation is currently under review. On November 10, 2009, the USFWS implemented new rules (74 FR 46835) governing the “take” of golden and bald eagles. The new rules were released under the existing Bald and Golden Eagle Act which has been the primary regulation protecting unlisted eagle populations since 1940. All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment. If a permit is required, due to the current uncertainty on the status of golden eagle populations in the western United States, it is expected permits would only be issued for safety emergencies or if conservation measures implemented in accordance with a permit would result in a reduction of ongoing take or a net take of zero.

Federally Regulated Habitats

Areas meeting the regulatory definition of “Waters of the U.S.” (Jurisdictional Waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the Clean Water Act of 1972 (CWA) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate

waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as “Waters of the U.S.,” tributaries of waters otherwise defined as “Waters of the U.S.,” the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to “Waters of the U.S.” (33 CFR, Part 328, Section 328.3). Wetlands on non-agricultural lands are identified using the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). The Study Area falls within the South Pacific Division of the USACE, and is under the jurisdiction of the Los Angeles District.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit would be effective in the absence of State water quality certification pursuant to Section 401 of the Clean Water Act. As a part of the permit process the USACE works directly with the USFWS to assess potential Project impacts on biological resources.

National Environmental Policy Act

The National Environmental Policy Act of 1969 (NEPA) requires all Federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and utilize public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA with other planning requirements and prepare appropriate NEPA documents to facilitate better environmental decision making. NEPA requires Federal agencies to review and comment on Federal agency environmental plans/documents when the agency has jurisdiction by law or special expertise with respect to any environmental impacts involved (42 U.S.C. 4321- 4327) (40 CFR 1500-1508).

3.2.2.2 State

California Environmental Quality Act

The California Environmental Quality Act (CEQA) establishes State policy to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by State lead agencies. Regulations for implementation are found in the State CEQA Guidelines published by the Resources Agency. These guidelines establish an overall process for the environmental evaluation of projects.

California Endangered Species Act

Provisions of the California Endangered Species Act protect State-listed Threatened and Endangered species. The CDFW regulates activities that may result in “take” of individuals (“take” means “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the California Fish and Game Code.

California Fully Protected Species and Species of Special Concern

The California Fish and Game Code contains lists of vertebrate species designated as “fully protected” (California Fish & Game Code §§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to Federal and State-listed species, the CDFW also has produced a list of Species of Special Concern to serve as a “watch list.” Species on this list are of limited distribution or the extent of their

habitats has been reduced substantially, such that threat to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Native Plant Protection Act (Fish & Game Code 1900-1913)

California's Native Plant Protection Act (NPPA) requires all State agencies to utilize their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The Applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

Section 3503 & 3503.5 of the Fish and Game Code

Birds of prey are protected in California under the State Fish and Game Code. Section 3503.5 states it is "unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Under Sections 3503 and 3503.5 of the State Fish and Game Code, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated in the Migratory Bird Treaty Act, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the Migratory Bird Treaty Act, or the taking of any non-game bird pursuant to Fish and Game Code Section 3800 are prohibited.

Porter-Cologne Water Quality Control Act

Regional water quality control boards regulate the "discharge of waste" to "waters of the State." All projects proposing to discharge waste that could affect waters of the State must file a waste discharge report with the appropriate regional board. The board responds to the report by issuing waste discharge requirements (WDR) or by waiving WDRs for that project discharge. Both of the terms "discharge of waste" and "waters of the State" are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other "discharge." Isolated wetlands within California, which are no longer considered "waters of the United States" as defined by Section 404 of the CWA, are addressed under the Porter-Cologne Act.

State-Regulated Habitats

The State Water Resources Control Board (SWRCB) is the State agency (together with the Regional Water Quality Control Boards [RWQCB]) charged with implementing water quality certification in California pursuant to Section 401 of the CWA. The Project falls under the jurisdiction of the Los Angeles (Region 4) RWQCB.

The CDFW extends the definition of stream to include "intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS-defined), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered

streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife” (CDFW, 1994).

Activities that result in the diversion or obstruction of the natural flow of a stream; or which substantially change its bed, channel, or bank; or which utilize any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW.

3.2.2.3 Local

County of Ventura General Plan

This plan sets forth goals and policies directed at recognizing the interdependence of all life forms and the ecological needs for a stable and well-balanced environment so that a healthy coexistence between human and natural biological communities can be assured.

Goal: Preserve and protect significant biological resources in Ventura County from incompatible land uses and development. Significant biological resources include endangered, threatened or rare species and their habitats, wetland habitats, coastal habitats, wildlife migration corridors and locally important species/communities.

1.5.2 Policies:

1. Discretionary development which could potentially impact biological resources shall be evaluated by a qualified biologist to assess impacts and, if necessary, develop mitigation measures.
2. Discretionary development shall be sited and designed to incorporate all feasible measures to mitigate any significant impacts to biological resources. If the impacts cannot be reduced to a less-than-significant level, findings of overriding considerations must be made by the decision-making body.
3. Discretionary development that is proposed to be located within 300 feet of a marsh, small wash, intermittent lake, intermittent stream, spring, or perennial stream (as identified on the latest USGS 7½ minute quad map), shall be evaluated by a County approved biologist for potential impacts on wetland habitats. Discretionary development that would have a significant impact on significant wetland habitats shall be prohibited, unless mitigation measures are adopted that would reduce the impact to a less-than-significant level; or for lands designated “Urban” or “Existing Community”, a statement of overriding considerations is adopted by the decision-making body.
4. Discretionary development shall be sited a minimum of 100 feet from significant wetland habitats to mitigate the potential impacts on said habitats. Buffer areas may be increased or decreased upon evaluation and recommendation by a qualified biologist and approval by the decision-making body. Factors to be used in determining adjustment of the 100 foot buffer include soil type, slope stability, drainage patterns, presence or absence of endangered, threatened or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area. The requirement of a buffer (setback) shall not preclude the use of replacement as mitigation when there is no other feasible alternative to allowing a permitted use, and if the replacement results in no net loss of wetland habitat. Such replacement shall be “in kind” (i.e. same type and acreage), and provide wetland habitat of comparable biological value. On-site replacement shall be preferred wherever possible. The

replacement plan shall be developed in consultation with the California Department of Fish and Wildlife.

5. The California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, National Audubon Society and the California Native Plant Society shall be consulted when discretionary development may affect significant biological resources.
6. Based on the review and recommendation of a qualified biologist, the design of road and floodplain improvements shall incorporate all feasible measures to accommodate wildlife passage.

The Ventura County General Plan also identifies locally important species as significant biological resources to be protected from incompatible land uses and development (Goal 1.5.1). To ensure consistent identification of Locally Important Species, standard criteria for locally important plants and animals were established in the Biological Resources Section of the Initial Study Assessment Guidelines. The Planning Division also maintains a list of plants and animals that meet the criteria for Locally Important Species.

3.2.2.4 Other Applicable Regulations, Plans, and Standards

California Native Plant Society (CNPS) Rare Plant Program

The mission of the CNPS Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California's rare and endangered plants, and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern, it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (listing status, habitat, distribution, threats, etc.) are entered into the online CNPS Inventory and given a California Rare Plant Rank (CRPR). In 2011, the CNPS officially changed the name "CNPS List" to "CRPR." The Program currently recognizes more than 1,600 plant taxa (species, subspecies and varieties) as rare or endangered in California.

Vascular plants listed as rare or endangered by the CNPS, but which might not have designated status under State endangered species legislation, are defined by the following CRPR:

- CRPR 1A - Plants considered by the CNPS to be extinct in California
- CRPR 1B - Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2 - Plants rare, threatened, or endangered in California, but more numerous elsewhere
- CRPR 3 - Plants about which we need more information – a review list
- CRPR 4 - Plants of limited distribution – a watch list

In addition to the CRPR designations above, the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 1 to 3 ranking, with 1 being the most endangered and 3 being the least endangered and are described as follows:

- 0.1 – Seriously threatened in California (high degree/immediacy of threat)
- 0.2 – Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3 – Not very threatened in California (low degree/immediacy of threats or no current threats known)

3.2.3 Environmental Impacts and Mitigation Measures

Consistent with the requirements of CEQA, the significance of potential impacts is evaluated through the application of the significance criteria described in Section 3.2.3.1. The objective of the biological resources analysis is to identify potential adverse effects and significant impacts on biological resources. While avoidance is the preferred approach for the management of biological resources, it is not always possible to avoid impacts to biological resources. If impacts can be avoided through project design, establishment of exclusion zones, or other means, then specific mitigation measures may be unnecessary. However, appropriate mitigation measures to avoid or minimize impacts are identified including procedures if significant biological resources are discovered during construction or operation.

Construction of the proposed Project includes the raising of the existing levee, filling of the River Ridge Golf Course swale (Reach 2, Option 1B), and the construction of floodwalls (Reaches 2, 3, and 4). The construction and maintenance of these structures include a number of impacts to biological resources. The specific impacts depend on the species, their habitat, hydrology, and other resources present at the Project site. The following discussion provides an overview of the direct, indirect, and operational impacts that are expected to occur with the construction and maintenance of the proposed Project.

The proposed Project includes two different options; both options will be analyzed as part of the EIR. Option 1B, ~~the preferred option~~, reduces the extent of levee improvements. It includes an earthen raised levee within Reaches 1 and 3, filling of the River Ridge Golf Course Swale in Reach 2 (no levee improvements would occur in Reach 2), and a floodwall along N. Ventura Road within Reaches 3 and 4. The second option, Option 1A (preferred option), would include an earthen raised levee within Reach 1 and the majority of Reach 2, a floodwall in front of the River Ridge Golf Course maintenance facilities in Reach 2, an earthen raised levee within the entirety of Reach 3, and the same floodwall, described above under Option 1B, along N. Ventura Road within Reach 4. Option 1A does not include the filling of the River Ridge Golf Course Swale. For additional details on the proposed Project options refer to Sections 2.5.1 and 2.5.2 of the Project Description.

3.2.3.1 Criteria for Determining Impact Significance

Evaluating the significance of potential impacts to biological resources depends on characterizing existing conditions at the Project site and determining the direct and indirect effects to target species and their habitats. An impact that results in the long-term loss or degradation of sensitive habitat, or that adversely affects the population of a special-status species is generally considered significant.

The level of significance of impacts to biological resources is based on Appendix G of the State CEQA Guidelines, which states that a proposed project would have a significant impact on the environment if it exceeds one or more of the following thresholds:

- Conflicts with adopted local, regional, State, or federal environmental plans and goals of the community where it is located;
- Substantially affects a rare or endangered species of animal or plant, or the habitat of such species;
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species; or
- Substantially diminishes habitat for fish, wildlife, or plants.

Impacts are classified as unavoidable and significant, not significant with mitigation incorporated, not significant, or no impact, depending on the size, type, and timing of the impact and the biological resources involved. Disturbance of habitats and/or species is considered significant if it affects biological resources in the following ways:

3.2

Biological Resources

- Substantially reduces or eliminates species diversity or abundance;
- Substantially reduces or eliminates quantity or quality of nesting areas;
- Substantially limits reproductive capacity through loss of individuals or habitat;
- Substantially fragments, eliminates, or otherwise disrupts foraging areas and/or access to food sources;
- Substantially limits or fragments the geographic range or dispersal routes of species; or
- Substantially interferes with natural processes, such as fire or flooding, upon which the habitat depends.

The Ventura County impact threshold criteria for species (Ventura County, 2011) further states that a direct or indirect physical impact would occur if a project would directly or indirectly:

- Reduce a species' population,
- Reduce a species' habitat,
- Increase habitat fragmentation, or
- Restrict reproductive capacity.

Additionally, the following types of impacts to plant and animal species or their habitats are considered potentially significant:

- Loss of one or more individuals, occupied habitat or Critical Habitat designated by the U.S. Fish and Wildlife Service of a species officially listed as Endangered, Threatened or Rare under the federal Endangered Species Act (Title 50, Code of Federal Regulations Sections 17.11 or 17.12) or California Endangered Species Act (Sections 670.2 or 670.5, Title 14, California Code of Regulations), a *Candidate Species*, or a *California Fully Protected Species*.
- Impacts that would eliminate or threaten to eliminate one or more *element occurrences* of a special-status species not otherwise listed under the federal Endangered Species Act or California Endangered Species Act, or a *Candidate Species*, or *California Fully Protected Species*.
- Impacts that would threaten the viability of a habitat that sustains a population of a special-status species.
- Impacts that would restrict the reproductive capacity of a special-status species.
- Take of birds protected under the California Fish and Game Code (Sections 3503.5, 3511, and 3513) and the federal Migratory Bird Treaty Act (MBTA), where take is defined in the Fish and Game Code and MBTA.
- Increases in noise and/or nighttime lighting to a level above ambient levels that would adversely affect a special-status species.
- Increases in human access, predation or competition from domestic animals, pests or exotic species, or other indirect impacts, to levels that would adversely affect special-status species.
- Impacts severe enough to substantially reduce the habitat of a wildlife species or cause a wildlife population to decline substantially or drop below self-sustaining levels, pursuant to Section 15065 of the CEQA Guidelines, Mandatory Findings of Significance.

Impacts to biological resources would not be considered significant if there is little or no importance to a given habitat or if disturbance would not create a significant impact to habitats or species.

The following types of impacts to ecological communities are considered potentially significant:

Sensitive Plant Communities

- Construction, grading, clearing, or other activities that would temporarily or permanently remove sensitive plant communities. Temporary impacts to sensitive plant communities would be considered significant unless the sensitive plant community is restored once the temporary impact is complete.
- Indirect impacts resulting from project operation at levels that would degrade the health of a sensitive plant community.

Waters and Wetlands

- Removal of vegetation; grading; obstruction or diversion of water flow; change in velocity, siltation, volume of flow, or runoff rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; and/or any disturbance of the substratum.
- Disruptions to wetland or riparian plant communities that would isolate or substantially interrupt contiguous habitats, block seed dispersal routes, or increase vulnerability of wetland species to exotic weed invasion or local extirpation. An example would be disruption of adjacent upland vegetation to a level that would adversely affect the ecological function of the wetland, such as where such vegetation play a critical role in supporting riparian-dependent wildlife species (e.g., amphibians), or where such vegetation aids in stabilizing steep slopes adjacent to the riparian habitat, which reduces erosion and sedimentation potential.
- Interference with ongoing maintenance of hydrological conditions in a water or wetland. The hydrology of wetlands systems must be maintained if their functions and values are to be preserved. Adverse hydrological changes might include altered freshwater input; changes in the watershed area or run-off quantity, quality or velocity; drawing down of the groundwater table to the detriment of groundwater-dependent habitat; substantial increases in sedimentation; introduction of toxic elements or alteration of ambient water temperature.
- The project does not provide an adequate buffer for protecting the functions and values of existing waters or wetlands. The buffer is measured from the top-of-bank or edge of wetland or riparian habitat, whichever is greater. Ventura County General Plan Policy 1.5.2-4 requires a minimum buffer of 100 feet from significant wetland habitat. In accordance with this policy, buffer areas may be increased or decreased upon evaluation and recommendation by a qualified biologist and approval by the decision-making body. Factors to be used in determining adjustment of the 100 foot buffer include soil type, slope stability, drainage patterns, presence or absence of endangered, threatened, or rare plants or animals, and compatibility of the proposed development with the wildlife use of the wetland habitat area.

Environmentally Sensitive Habitat Areas (ESHA - Applies to Coastal Zone Only)

- Construction, grading, clearing, or other activities and uses that would temporarily or permanently remove ESHA or disturb ESHA buffers. (ESHA buffers are within 100 feet of the boundary of ESHA as defined in Section 8172-1 of the Coastal Zoning Ordinance).
- Indirect impacts resulting from project operation at levels that would degrade the health of an ESHA.

3.2.3.2 Direct and Potential Indirect Impacts

CEQA defines direct impacts as those impacts that result from a project and occur at the same time and place. These include but are not limited to the removal of vegetation and disturbance to wildlife from construction activities. Indirect impacts are caused by a project, but can occur later in time or are farther removed in distance while still reasonably foreseeable and related to the project. Indirect impacts can include the disruption of the native seed bank, the spread of invasive plant species, the disruption of

3.2
Biological Resources

prey base, or increased predation through alterations of the physical landscape from project features (i.e., increased levee tops and floodwalls) that provide perch sites or shelter for predators. Indirect impacts may also include increased traffic and human disturbance related to maintenance of the new structures. General impacts to plants and wildlife are summarized in Table 3.2-5.

Activity	Impacts
Earth moving, grading, habitat/vegetation removal	<ul style="list-style-type: none"> • Direct mortality to plants and small or less mobile species • Crushing of burrows or fossorial animals, disruption of soil surfaces, compaction of soils, and displacement of native species • Reduced use of area as a foraging or movement corridor • Fugitive dust and habitat loss • Creation of barriers disrupting movement • Displacement of breeding birds and the abandonment of active nests (during breeding season) • Loss of eggs and nestlings including ground nesting birds • Loss of foraging habitat • Brush fires • Spread of exotic weeds
Noise and vibration	<ul style="list-style-type: none"> • Interference with breeding or foraging activities and movement patterns • Avoidance of areas during construction • Interference with hearing resulting in increased predation • Abandonment of burrows or habitat
Man-made sources of light	<ul style="list-style-type: none"> • Disturbance or mortality to species that prey on insects attracted to light sources • Collisions with vehicles at night
Access roads	<ul style="list-style-type: none"> • Crushing of burrows, disruption of soil surfaces, compaction of soils, and displacement of native species • Establishment of ruts or depressions that can alter soil conditions and hydrology • Alteration of physical characteristics of soil underneath roads (placement of roads increases compaction up to 200 times relative to undisturbed sites) • Effect on animal behavior by altering home range use, affecting movement patterns, reducing reproductive success, altering escape response, and increasing physiological stress
Traffic	<ul style="list-style-type: none"> • Accidental mortality of small diurnal animals from vehicle collision • Secondary vehicular mortality of opportunistic predators feeding on road kill
Waste	<ul style="list-style-type: none"> • Ingestion of microtrash (i.e., broken glass, paper and plastic waste, and small pieces of metal) or ethylene glycol antifreeze (particularly California condors)

Project impacts are generally considered permanent if they involve the conversion of land to a new use, such as with the construction of new roads, filling of swales, and installation of floodwalls. Temporary impacts are usually considered to be those activities that are of short duration (i.e., six to 12 months) and that do not result in a permanent land use conversion. Temporary project impacts are those effects that include ground disturbance activities restricted solely to the construction phase, such as trimming of vegetation, grading of temporary roads and clearing vegetation within staging areas. These effects would be considered temporary provided the areas are subject to restoration at the conclusion of construction. Noise, human disturbance, vehicle traffic, and construction activities are also considered temporary impacts.

Construction of the proposed Project would occur for a period of approximately 27 months. This time frame exceeds the typical definition of temporary impacts as it relates to certain species of plants or wildlife. For example, construction activity that results in repeated disturbance to an area for a period of over two years could result in permanent effects to plants or wildlife that are fragile, short lived, or have unique dispersal or nesting requirements.

Operational impacts include both direct and potential indirect impacts to biological resources. Ongoing O&M impacts would occur during routine inspection and maintenance of levee and floodwalls and would include such activities as routine inspection of Project-related facilities and emergency repairs. Operational impacts would also include weed abatement and vegetation management activities including but not limited to mechanical removal or mowing, hand removal, or herbicide treatment. These impacts would remain an ongoing source of disturbance for many plants and wildlife species that occur.

Sensitive Vegetation Communities

Impact BIO-1: The Project would result in temporary and permanent losses of native vegetation.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Construction of Option 1B would result in ~~7.8994~~ acres of permanent and ~~6.0985~~ acres of temporary disturbance to land cover types and vegetation communities including developed areas, maintained landscape, ruderal areas, eucalyptus groves, arroyo willow thickets, mulefat thickets, giant reed breaks, Fremont cottonwood forest, quailbush scrub, myoporum stands, coyote brush scrub, and vegetation management zone, listed from highest to lowest combined acreage(see Figure 3.2-2 and Table 3.2-6); the majority of Project-related impacts (permanent and temporary) would occur within developed areas on the land side of the levee away from the Santa Clara River. Impacts would include a total of 0.51 acres of permanent and 0.467 acres of temporary impacts to native vegetation. Impacts to native vegetation would largely be related to the construction of the flood wall in Reach 4, and to a lesser extent the levee modifications in Reaches 1 and 3. Listed from highest to lowest acreage, native communities impacted include arroyo willow thickets, mulefat thickets, Fremont cottonwood forest, quailbush scrub, coyote brush scrub, and California sagebrush scrub. Vehicle access and staging for the Project would occur on existing levee roads, developed lands, ruderal habitats, or landscaped areas.

Vegetation Communities	Approximate Acres [∞]	
	Permanent	Temporary
Arroyo willow thickets*	0.33	0.11
California sagebrush scrub	0.00	0.02
Coyote brush scrub	0.01	0.056
Eucalyptus groves	0.534	0.413
Fremont cottonwood forest*	0.04	0.10
Giant reed breaks	0.09	0.056
Mulefat Thicket†	0.03	0.17
Myoporum stands	0.08	0.17
Quailbush scrub	0.11	0.02
Land Cover Types		
Developed	4.224	3.1382
Maintained landscape	1.978	0.67
Vegetation Management Zone	0.00	0.01
Ruderal	0.4954	1.1822
Total	7.8994	6.0985

* Generally meet the habitat requirements of southern cottonwood willow riparian forest, a community considered sensitive by the CDFW.

† Generally meets the requirements of southern riparian scrub, a community considered sensitive by the CDFW.

∞ Includes acreages for the impacts related to all reaches (Reaches 1- 4)

The construction of Option 1B would involve the raising of the levee in the western extent of the Project (Reach 1) and within the majority of Reach 3. Within Reaches 1 and 3, to raise the levee, approximately 6,090 CY of the existing levee material would be excavated to prepare the foundation. All excavation and levee raising activities within Reaches 1-3 would occur primarily on the top and the land side of the existing levee away from the Santa Clara River. In Reaches 1-3, rock riprap would be placed on the river face of the new levee top, and vegetation thinning would occur from the new levee top down the river face 20 feet; the remainder of the river face down to the levee toe would be preserved in its current condition. In preparation for the construction of the floodwall in Reach 4, approximately 1,700 CY of exposed and buried riprap would be removed; portions of the buried riprap are vegetated.

Riparian habitats, including ephemeral and perennial streams, are biologically productive and diverse, and are the exclusive habitat of several threatened or endangered wildlife species and many other special-status species. Riparian and wetland habitats are highly productive ecosystems that also provide drinking water sources and foraging, nesting, and cover habitat for a diverse assemblage of wildlife species, both within the riparian habitats and adjacent upland habitats. Many wildlife species are wholly dependent on riparian habitats throughout their life cycles, and many others use riparian habitats only during certain seasons or life history phases. For example, certain mammals require drinking water or cool shaded cover during summer but otherwise may live in upland habitats. Numerous amphibians breed in aquatic habitats but spend most of their lives in uplands.

In an otherwise arid landscape, primary productivity in riparian habitats is high due to year-round soil moisture. High plant productivity leads to increased habitat structural diversity and high food availability for herbivorous and (in turn) predatory animals. Insect productivity is also high, among both aquatic and terrestrial species. Insect numbers are very high during warm months, and serve as a prey base for a diverse breeding bird fauna, including several special-status birds. Habitat structure in riparian vegetation is also more diverse than in most regional uplands. Riparian woodlands tend to have multiple-layered herb, shrub and tree canopies, whereas most upland shrublands are relatively simple in structure. The varied vertical habitat structure provides a greater diversity of nesting and feeding sites for birds compared with non-riparian communities. Similarly, mammal diversity is greater in riparian communities due to high biological productivity, denning site availability, thermal cover, and water availability.

Direct and potential indirect impacts to native vegetation would occur as described above in Table 3.2-5 (Construction and Operational Impacts to Plants and Wildlife). Construction of the proposed Project would remove vegetation, alter soil conditions, and result in the loss of native seed banks within a small portion of the Study Area. Construction activities could also result in the spread of noxious weeds within the proposed Project site and adjacent habitats. Removal of the existing levee materials and associated vehicle travel on the levee roads and other paved streets could result in increased fugitive dust to native vegetation in adjacent areas. Wind-blown dust can degrade soils and vegetation over a wide area (Okin et al., 2001). Dust can have deleterious physiological effects on plants and may affect their productivity and nutritional qualities (Sharifi et al., 1997). Fugitive dust can kill plants by burial and abrasion, interrupt natural processes of nutrient accumulation, and allow the loss of soil resources. The destruction of plants and soil crusts by windblown dust exacerbates the erodibility of soil and accelerates the loss of nutrients (Okin et al., 2001).

Operational impacts would be similar to those currently underway for the existing levee and would occur during routine inspection and maintenance of the levee. These impacts could include trampling or crushing of native vegetation by foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human

presence on foot or equipment. In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the proposed Project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. These BMPs address stabilizing exposed soil (BMP 26), non-native vegetation removal (BMPs 9 and 23), and preventing dust emissions (BMP 24).

In arid regions such as Southern California, riparian habitats play a particularly crucial role in maintaining biodiversity because up to 80 percent of vertebrate species rely on them for at least part of their lifecycle (Knopf et al., 1988) and because of the central role riparian habitats play in a variety of ecological functions (Rottenborn, 1999; Fischer and Fisichenich, 2000). Within the region, large areas of riparian habitat have been lost to development.

Along the 2.0-mile SCR-3 Project length, and within the 198.62-acre Study Area, Option 1B would permanently affect 0.51 acre and temporarily affect 0.468 acre of native habitat. Of these impacts, 0.39 acre and 0.38 acre of permanent and temporary impact, respectively, would occur in riparian habitat. Because of their suitability to support several special-status species, the loss of this habitat associated with Option 1B would be considered a significant adverse impact for which mitigation would be required (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Construction of Option 1A would result in 12.413 acres of permanent and ~~7.396~~6.63 acres of temporary disturbance to vegetation communities and land cover types including arroyo willow thickets, coyote brush scrub, eucalyptus groves, developed areas, and maintained landscape (see Figure 3.2-2 and Table 3.2-7); the majority of Project-related impacts (permanent and temporary) would occur within developed areas on the land side of the existing levee away from the Santa Clara River. Impacts would include a total of 0.91 acres of permanent and 0.945 acres of temporary impacts to native vegetation. Impacts to native vegetation would largely be limited to the construction of the flood wall in Reach 4 and the raising of the levee in Reaches 1-3; listed from highest to lowest acreage, native communities impacted include mulefat thickets, arroyo willow scrub, coyote brush scrub, Fremont cottonwood forest, quailbush scrub, black cottonwood forest, and California sagebrush scrub.

Option 1A proposes to raise the levee within the majority of Reaches 1-3. A floodwall would be

Table 3.2-7. Vegetation Community and Land Cover Acreages within Option 1A

Vegetation Communities	Approximate Acres [∞]	
	Permanent	Temporary
Arroyo willow thickets†	0.40	0.17
Black cottonwood forest*	0.08	0.00
California sagebrush scrub	0.05	0.02
Coyote brush scrub	0.11	0.056
Eucalyptus groves	0.3940	0.268
Fremont cottonwood forest*	0.04	0.10
Giant reed breaks	0.11	0.056
Mulefat Thicket†	0.13	0.58
Myoporum stands	0.04	0.14
Quailbush scrub	0.11	0.02
Land Cover Types		
Developed	10.08	3.954-63
Maintained landscape	0.38	0.18
Ruderal	0.502	1.104
Vegetation management zone	0.00	0.01
Total	12.413	6.637-39

* Generally meet the habitat requirements of southern cottonwood willow riparian forest, a community considered sensitive by the CDFW.

† Generally meets the requirements of southern riparian scrub, a community considered sensitive by the CDFW.

∞ Includes acreages for the impacts related to all reaches (Reaches 1- 4).

installed over approximately 375 feet adjacent to the River Ridge Golf Course maintenance yard and along 400 feet of the eastern extent of Reach 3. To raise the levee, approximately 28,500 cubic yards (CY) of the existing levee material would be excavated to prepare the foundation, along with removal of general debris, vegetation and abandoned facilities. All excavation and levee raising activities within Reaches 1-3 would occur primarily on the top and the land side of the existing levee away from the Santa Clara River. In Reaches 1-3, rock riprap would be placed on the river face of the new levee top, and vegetation thinning would occur from the new levee top down the river face 20 feet; the remainder of the river face down to the levee toe would be preserved in its current condition. Construction of the floodwall in Reach 4 would be the same as described under Option 1B.

Direct, potential indirect, and operational impacts to native vegetation would be the same as described above under Option 1B. Along the 2.0-mile SCR-3 Project length, within the 198.62-acre Study Area, Option 1A would permanently affect 0.91 acre and temporarily affect 0.945 acre of native habitat. Of these impacts, 0.64 acre and 0.85 acre of permanent and temporary impact, respectively, would occur in riparian habitat. The loss of riparian habitat associated with Option 1A would be considered a significant adverse impact for which mitigation would be required (Class II).

Mitigation Measures

Implementation of Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), and BIO-1e (*Implement Biological Construction Monitoring*), presented below, would minimize impacts to sensitive vegetation communities. These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts, development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground-disturbing and other construction-related activities. As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed below in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would reduce impacts to sensitive vegetation communities to a less-than-significant level (Class II).

BIO-1a Implement a Worker Environmental Education Program. Prior to any Project activities on the site (i.e., surveying, mobilization, fencing, grading, or construction), a Worker Environmental Education Program (WEEP) shall be prepared and implemented by a qualified biologist(s). The WEEP shall be finalized and administered prior to construction mobilization, and implemented throughout the duration of the construction activities, such as when new contractor employees or subcontractors begin working on site.

- The WEEP shall include, at a minimum, the following items:
 - Training materials and briefings shall include but not be limited to: a discussion of the Federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act; the consequences of non-compliance with these acts; identification and values of plant and wildlife species and significant natural plant community habitats; hazardous substance spill prevention and containment measures; a contact person and phone number in the event wildlife needs to be relocated or dead or injured wildlife is discovered; and a review of mitigation requirements.

- A discussion of measures to be implemented for avoidance of the sensitive resources discussed above and the identification of an onsite contact in the event of the discovery of sensitive species on the site; this shall include a discussion on microtrash.
- Protocols to be followed when road kill is encountered in the work area or along access roads and the identification of an onsite representative to whom the road kill will be reported. Road kill shall be reported to the appropriate local animal control agency within 24 hours.
- Maps showing the known locations of special-status wildlife, populations of rare plants and sensitive vegetation communities, seasonal depressions and known waterbodies, wetland habitat, exclusion areas, and other construction limitations (e.g. limited operating periods, etc.). These features shall be included on the Project plans and specifications drawings.
- Literature and photographs or illustrations of potentially occurring special-status plant and/or wildlife species shall be provided to all Project contractors and heavy equipment operators.
- Evidence that all onsite construction and security personnel have completed the WEEP prior to the start of site mobilization. A special hardhat sticker or wallet size card shall be issued to all personnel completing the training, which shall be carried with the trained personnel at all times while on the Project site. All new personnel shall receive this training and may work in the field for no more than 5 days without participating in the WEEP, accompanied by staff that has undergone the training. A log of all personnel who have completed the WEEP training shall be kept on site.
- The contract specification books shall include all Project conditions as they relate to biological resources and shall be kept on site at all times (e.g., in the break room, construction foreman's vehicle, construction trailer, etc.) for the duration of the construction. This information shall be easily accessible for personnel in all active work areas.
- Develop a standalone version of the WEEP, that covers all previously discussed items above, and that can be used as a reference for maintenance personnel during Project operations.
- An environmental monitor shall be retained during construction of the ~~proposed~~ Project and shall be directly involved with the implementation and enforcement of the WEEP. A log of all personnel who have completed the WEEP training shall be kept on site.

BIO-1b **Implement Best Management Practices (BMPs).** BMPs shall be implemented as standard operating procedures during all ground disturbance and construction-related activities to avoid or minimize Project impacts on biological resources. These BMPs shall include, but are not limited to, the following:

- Compliance with BMPs shall be documented and provided in a written report upon conclusion of construction activities. The report shall include a summary of the construction activities completed, a review of the sensitive plants and wildlife encountered, a list of compliance actions and any remedial actions taken to correct the actions, and the status of ongoing mitigation efforts.
- Prior to ground disturbance of any kind, the Project work areas shall be clearly delineated by stakes, flags, or other clearly identifiable system.

- Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.
- Speed limit signs, imposing a speed limit of 15 miles per hour, shall be installed throughout the Project site prior to initiation of site disturbance and/or construction. To minimize disturbance of areas outside of the construction zone, all Project-related vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas shall be included in pre-construction surveys and to the extent possible, be established in locations disturbed by previous activities or within designated permanent impact areas to prevent further impacts. Off-road traffic outside of designated Project areas shall be prohibited.
- No vehicles or equipment shall be refueled within 100 feet of an ephemeral drainage or wetland unless a bermed and lined refueling area is constructed. Spill kits shall be maintained on site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven and/or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of materials.
- All general trash, food-related trash items (e.g., wrappers, cans, bottles, food scraps, cigarettes, etc.) and other human-generated debris shall be stored in animal proof containers and/or removed from the site each day. No deliberate feeding of wildlife shall be allowed.
- All pipes and culverts removed from the existing levee (that remain on-site after removal) or brought on-site as part of new construction, with a diameter of greater than 4 inches, shall be capped or taped closed. Prior to capping or taping the pipe/culvert shall be inspected for the presence of wildlife by a qualified biologist. If encountered, wildlife shall be allowed to escape unimpeded.
- No firearms shall be allowed on the Project site, unless otherwise approved for security personnel.
- To prevent harassment or mortality of listed, special-status species and common wildlife, or destruction of their habitats, no domesticated animals of any kind shall be permitted in any Project area with the exception of sheep grazing for weed management.
- Use of chemicals, fuels, lubricants, or biocides shall be in compliance with all local, state and federal regulations, and shall include secondary containment. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. Use of rodenticides is restricted as described in the existing VCWPD Integrated Pest Management Program.
- Any contractor or employee that inadvertently kills or injures a special-status animal, or finds one either dead, injured, or entrapped, shall immediately report the incident to the onsite representative identified in the WEEP. The representative shall contact the USFWS, CDFW, and VCWPD by telephone by the end of the day, or at the beginning of the next working day if the agency office is closed. In addition, formal notification shall be provided in writing within three working days of the incident or finding. Notification shall include the date, time, location and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to CDFW or USFWS for care, analysis, or disposition.

- Avoidance of vegetation removal or any other construction activities outside of the ~~proposed~~-Project boundaries. All Project impact areas must be clearly flagged prior to initiating work. In areas of temporary impacts where no excavation is required, native vegetation shall be cut to ground level and the root system left intact to permit resprouting following work. All non-native vegetation within the temporary impact area shall be removed initially, and any regrowth eliminated throughout construction, the habitat restoration period (see BIO-1c), and during the ~~O&M phase~~5-year plant establishment period.
- Avoidance and minimization of construction activities resulting in impacts to streambeds and banks of any ephemeral drainage.
- All excavation, steep-walled holes or trenches in excess of 6 inches in depth shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth dirt fill or wooden planks. Trenches shall also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped wildlife. Any wildlife discovered shall be allowed to escape before construction activities are allowed to resume, or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required).

BIO-1c **Compensation for Temporary Impacts to Sensitive Vegetation Communities.** To compensate for temporary impacts to sensitive vegetation communities within the ~~proposed~~-Project construction footprint, ~~the VCWPD shall restore~~ all temporary impact areas shall be restored south of the existing levee in Reaches 1 – 3 and north of the floodwall in Reach 4. The intent of this mitigation measure is for VCWPD to restore temporarily disturbed areas to pre-construction conditions, or better, for arroyo willow and mulefat thickets, Fremont and black cottonwood forest, and coyote brush, sagebrush, and quailbush scrub habitats (refer to Final EIR Figure 3.2-2).

The plans and specifications for the ~~proposed~~-Project shall include, at a minimum, the following items:

- Engineering drawings depicting locations and vegetation types within the temporary disturbance areas immediately prior to Project implementation.
- Description of site preparation work, such as scarification of compacted soils, removal of debris, minor grading for proper drainage, etc.
- The plant species, quantities, and type of stock (e.g. container size, seed) for each of the vegetation communities. Seed and source material will be from genetic stock appropriate to the lower Santa Clara River watershed, if available.
- A description of planting methods for all materials.
- Detailed irrigation system plans and specifications, with criteria for soil moisture conditions to be maintained throughout the plant establishment period.
- Erosion controls and other best management practices for all restoration work.
- Methods for non-native species control and herbivory control.
- Detailed schedule of actions for the 5-year mitigation period.

The temporary impact areas shall be revegetated to 50 percent of their pre-construction cover and diversity values within three (3) years, and 90 percent within 5 years. ~~The VCWPD shall conduct~~ Quantitative vegetation community characterization studies shall be conducted prior to construction, to establish the target values for years 3 and 5. These studies shall be conducted by qualified biologists knowledgeable in the area of habitat restoration specific to the on-site vegetation communities.

Qualified biologist(s) shall conduct monitoring within the on-site vegetation communities during the restoration period. Monitoring shall include, at a minimum:

- Qualitative Monitoring – Qualitative monitoring surveys will be performed monthly in all restored/revegetated areas for the first year following planting in any phase of the Project. Qualitative monitoring will be on a quarterly schedule thereafter, until final completion and approval by the appropriate regulatory agencies. Qualitative surveys will assess native plant species performance, including growth and survival, germination success, reproduction, and plant fitness and health as well as pest or invasive plant problems. The monitoring reports will describe site progress toward achieving success criteria, conditions, and all observations pertinent to eventual success, and make recommendations as appropriate regarding remedial work, maintenance, etc. Qualitative monitoring will also include noting wildlife species present (or sign) during each of the monitoring visits.
- Quantitative Monitoring – Quantitative monitoring will occur annually for years one to five or until the success criteria are met. The biologist(s) will collect data using standard scientific methods to estimate cover and density of each plant species within the revegetated areas. These data will describe native species growth performance, native and non-native species coverage, seed mix germination, native species recruitment and reproduction, and species diversity. Based on these results, the biologist(s) will make recommendations for maintenance or remedial work on the site.

Reporting – Reporting will comprise annual progress reports prepared by the biologist(s) summarizing the qualitative and quantitative data collected, and recommended or conducted remedial measures to ensure compliance with success criteria. Reports will include aerial photo maps showing restoration areas, transect locations, and photo documentation locations, an explanation of the methods used to perform the work, including the number of acres treated for removal of non-native plants, and any other pertinent information. Reports will be sent to each of the appropriate regulatory agencies (i.e., USACE, CDFW, USFWS) until the established success criteria have been met.

BIO-1d **Compensation for Permanent Impacts to Sensitive Vegetation Communities.** To compensate for permanent impacts to sensitive vegetation communities within the construction footprint of the Project, ~~the VCWPD shall enhance~~ similar habitats shall be enhanced in the vicinity of the Project. Enhancement includes removing non-native species and increasing native plant cover. The enhancement mitigation ratios for permanent impacts are 3:1 for arroyo willow and mule fat thickets, as well as Fremont and black cottonwood forest; a ratio of 1:1 shall be applied to coyote brush, California sagebrush, and quailbush scrub habitats.

~~The VCWPD shall conduct~~ enhancement shall be conducted on lands protected by a conservation easement or other legal instrument ensuring the lands will remain in natural open space in perpetuity. The lands shall also have long-term maintenance and management

by a conservation entity. Ideally, the enhanced lands will be near or part of larger blocks of lands also protected in perpetuity, have low level recreational use, be outside of the five-year storm flow limits, and free of hazardous materials and wastes.

Prior to the removal of any vegetation on the Project site, ~~the VCWPD shall develop plans and specifications~~ shall be developed to enhance the required vegetation communities on lands described above. Enhancement shall begin within 90 days of the initiation of Reach 4 (Phase 2) Project construction, or September 16th following bird nesting season if the 90 day period falls between March 1 and September 15th. The plans and specifications for the ~~proposed~~ Project shall be reviewed by a qualified restoration biologist.

The plans and specifications shall include, at a minimum, the following items:

- Engineering drawings depicting locations and vegetation types targeted for enhancement.
- Description of site access, staging areas, and any preparation work, such as fencing/signage and removal of debris.
- Non-native plant and animal removal methods and materials, and herbivory control.
- The plant species, quantities, and type of stock (e.g. container size, seed) for each of the vegetation communities which may need planting following non-native species removal. Seed and source material will be from genetic stock appropriate to the lower Santa Clara River watershed, if available.
- A description of planting methods for all materials.
- Detailed irrigation system plans and specifications, with criteria for soil moisture conditions to be maintained throughout the plant establishment period.
- Erosion controls and other best management practices for all restoration work.
- Detailed schedule for the 5-year enhancement period.

The enhancement areas shall be revegetated to 50 percent of their target cover and diversity values within three (3) years, and 90 percent within 5 years. ~~The VCWPD shall conduct~~ Quantitative vegetation community characterization studies shall be conducted prior to enhancement in nearby reference habitat areas to establish the target values for years 3 and 5. These studies shall be conducted by qualified biologists knowledgeable in the area of habitat restoration specific to the on-site vegetation communities.

Qualified biologist(s) shall conduct monitoring within the enhancement areas during the mitigation period. Monitoring shall include, at a minimum:

- Qualitative Monitoring – Qualitative monitoring surveys will be performed monthly in all enhancement areas for the first year, and on a quarterly schedule thereafter, until final completion and approval by the appropriate regulatory agencies. Qualitative surveys will assess native plant species cover, and plant fitness and health, as well as pest or invasive plant problems. The monitoring reports will describe site progress toward achieving success criteria, vegetation conditions, and all observations pertinent to eventual success, and make recommendations as appropriate regarding remedial work, maintenance, etc. Qualitative monitoring will also include noting wildlife species present (or sign) during each of the monitoring visits.
- Quantitative Monitoring – Quantitative monitoring will occur annually for years one to five or until the success criteria are met. The biologist(s) will collect data using standard

scientific methods to estimate cover and density of each plant species within the enhancement areas. These data will describe native species growth performance, native and non-native species cover, native species recruitment and reproduction, and species diversity. Based on these results, the biologist(s) will make recommendations for maintenance or remedial work within the enhancement areas.

- Reporting – Reporting will comprise annual progress reports prepared by the biologist(s) summarizing the qualitative and quantitative data collected, and recommended or conducted remedial measures to ensure compliance with success criteria. Reports will include aerial maps showing restoration areas, transect locations, and photo documentation locations, an explanation of the methods used to perform the work, including the number of acres treated for removal of non-native plants, and any other pertinent information. Reports will be sent to each of the appropriate regulatory agencies (i.e., USACE, CDFW, USFWS) until the established success criteria have been met.

BIO-1e **Implement Biological Construction Monitoring.** Prior to the commencement of ground disturbance or site mobilization activities, ~~the VCWPD shall retain a qualified biologist(s) shall be in place~~ to monitor Project construction. The biologist will have demonstrated expertise with special-status plants, terrestrial mammals, reptiles, and birds. Monitoring will occur continuously during initial ground disturbance for each phase of construction. Once initial ground disturbance is complete, monitoring will occur periodically during all construction activities. The qualified biologist(s) shall be present at all times during ground-disturbing activities immediately adjacent to, or within, habitat that supports populations of listed or special-status species. Any special-status plants shall be flagged for avoidance. Any special-status terrestrial species found within a Project impact area shall be relocated by the authorized biologist to suitable habitat outside the impact area. Surveys for special-status species shall be conducted by the authorized biologist prior to the initiation of construction each day during initial ground disturbance, and weekly thereafter. If nesting birds are found during the pre-construction surveys, buffers shall be installed (as prescribed in Mitigation Measure BIO-3 [*Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures*]) discussed below.

If, during construction, the biological monitor observes a dead or injured special-status wildlife species on the construction site, a written report shall be sent to ~~the VCWPD,~~ CDFW, and USFWS (as appropriate) within five calendar days. The report will include the date, time of the finding or incident (if known), and location of the carcass or injured animal and circumstances of its death or injury (if known). Injured animals will be taken immediately to the nearest appropriate veterinary or wildlife rehabilitation facility. The biological monitor shall, immediately upon finding the remains or injured animal, coordinate with the onsite construction foreman to discuss the events that caused the mortality or injury, if known, and implement measures to prevent future incidents. Details of these measures shall be included with the report. Species remains shall be collected and frozen as soon as possible, and CDFW and USFWS, as appropriate, shall be contacted regarding ultimate disposal of the remains.

Sensitive Wildlife Species

Impact BIO-2: The Project would cause the loss of foraging habitat for wildlife.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

The Santa Clara River supports a broad diversity of both common and sensitive wildlife, many of which use the riparian and upland habitats within and adjacent to Option 1B for foraging and other life history requirements including breeding, movement, and refugia. Existing conditions within the Option 1B footprint provide a relatively low habitat value for the majority of species occurring in the general area. Approximately ~~856~~ percent of the habitats mapped within permanent impact areas of the Option 1B footprint are developed lands, ruderal areas, or maintained landscape. For many common species including rabbits, ground squirrels, and some birds, the Project would not lead to a substantial loss of foraging habitat. The heightened levee and floodwalls may actually provide additional perches, refugia, and increased access to some prey, for species such as Cooper's hawks and kestrels.

Direct impacts from the Project would include permanent and temporary disturbance of vegetation communities and land cover types (i.e., ruderal areas) utilized as foraging habitat for common and sensitive wildlife. Potential indirect impacts could include alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, increased noise levels from construction activities, and the establishment of noxious weeds.

Operational impacts include increased human presence and the spread of noxious weeds due to use of new or improved access roads. O&M activities would include removal of non-native plants from the vegetation thinning area on the upper 20 feet of the river-side levee face, from the land-side levee face to the toe, and from access roads. In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed when removing non-native plants (BMPs 9 and 23) and surveys for nesting habitat (BMP 4) prior to routine maintenance work.

Approximately ~~854~~ percent of permanent impacts resulting from the construction of Option 1B would occur in habitats mapped as developed lands, ruderal areas, or maintained landscape. The loss of foraging habitat for wildlife resulting from the construction of Option 1B would not be considered significant (Class III).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Direct, potential indirect, and operational impacts causing the loss of foraging habitat for wildlife resulting from the construction of Option 1A would be similar to those for Option 1B. However, the construction of Option 1A would result in additional permanent (~~12.413~~ acres vs ~~7.8991~~ acres) and similar temporary (~~6.637-39~~ acres vs ~~6.0985~~ acres) impacts to vegetation communities and land cover types. Approximately ~~885~~ percent of permanent impacts resulting from the construction of Option 1A would occur in habitats mapped as developed lands, ruderal areas, or maintained landscape. The loss of foraging habitat for wildlife resulting from the construction of Option 1A would not be a significant impact (Class III).

Impact BIO-3: The Project would result in disturbance to nesting birds or raptors.*Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall*

Riparian and upland habitats within Option 1B, and adjacent areas of the Santa Clara River, provide foraging, cover, and/or breeding habitat for a variety of resident and migratory birds (e.g., Allen's hummingbird). Birds have been routinely observed nesting in the riparian habitats along the margins of the existing levee, on the upland terrace in Reach 4, and within the adjacent riparian habitats in the Santa Clara River (i.e., Cooper's hawk and yellow breasted chat). Direct impacts to nesting birds include ground-disturbing activities associated with excavation of the existing levee, construction of the new heightened levee, construction and grading of new access roads, and increased human presence.

Potential indirect impacts to nesting birds include increased noise levels from heavy equipment and sheet pile installation, human disturbance, exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance activities. Weed abatement through herbicide application or mechanized tools could also affect nesting.

Construction during the breeding season could result in the displacement of breeding birds and the abandonment of active nests. The increased noise levels resulting from the construction of Option 1B would likely alter and/or preclude the breeding activities for many common and sensitive bird species known to occur along the Santa Clara River. Some species of birds however would likely nest in and adjacent to Option 1B during construction and maintenance of the levees and floodwall. Depending on the species, birds may actively nest on the ground close to equipment or even on idle construction equipment. In other arid ecosystems in southern California, birds have been documented nesting on vehicles, foundations, construction trailers, and other equipment left overnight or during a long weekend. In areas where construction may be phased, birds may quickly utilize these features as nest sites. Many of the birds that would be likely to use these types of nesting substrates are common species such as ravens, house finches, and doves.

Many riparian birds, including least Bell's vireo and other neo-tropical migrants, are adversely affected by noise and human disturbance. Reijnen et al. demonstrated that for two species of European warbler (*Phylloscopus* spp.), sound levels between 26 dB(A) and 40 dB(A) reduced breeding density by up to 60 percent compared to areas without disturbance (1995). In addition, while current sound thresholds for most birds in California are considered to be approximately 60 dB(A), this level may still adversely affect breeding success for least Bell's vireo. W. Haas (personal communication, 2007) reported that in 1999, sound levels were recorded at 87 locations containing similar habitat conditions in the vicinity of the San Luis Rey River, the most robust and stable population of flycatchers in California. Data indicated that noise levels were the most important factor for occupancy. These data suggest disturbance from adjacent road noise and urban development may be a contributing factor in the use of habitat adjacent to developed areas. Conversely Aspen has noted least Bell's vireo successfully fledging chicks in a number of locations with high levels of ambient noise. This includes urban areas of Murrieta Creek and at Prado Dam in Riverside County.

When possible, construction and maintenance activities would occur outside of the recognized breeding season (generally February – September [as early as January for some raptors]). If however construction or maintenance activities are to occur during the breeding season, it is possible that these activities would exclude some species of birds that are less tolerant of anthropogenic disturbance. If birds elect to nest in areas within close proximity to on-going construction or maintenance activities during the breeding season, the qualified avian biologist (refer to Mitigation Measure BIO-3 [*Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures*] below)

shall implement a standard avoidance buffer (300 feet [500 feet for raptors]) around the nest and no activities would be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The prescribed buffers may be adjusted by the qualified avian biologist in consultation with CDFW and USFWS based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors.

During O&M of the proposed Project, impacts to nesting birds and raptors would be similar to those underway for the existing levee and would include increased human disturbance, exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance activities. Weed abatement through herbicide application or mechanized tools could also affect nesting. In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed when there is potential for disturbing nesting birds or raptors (BMPs 4 and 22).

With the exception of a few non-native birds such as European starling (*Sturnus vulgaris*) and house sparrow (*Passer domesticus*), the loss of active bird nests or young is regulated by the Federal Migratory Bird Treaty Act (MBTA) and Fish and Game Code Section 3503 and would be considered a significant and adverse impact for which mitigation would be necessary (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Direct, potential indirect, and operational impacts resulting in the disturbance to nesting birds or raptors on the Project site or in adjacent habitats under Option 1A would be similar to those for Option 1B. However, the construction of Option 1A would result in additional permanent (12.4143 acres vs 7.8994 acres) and temporary (6.63739 acres vs 6.0985 acres) impacts to vegetation communities and land cover types; as with Option 1B the majority of permanent and temporary impacts are to developed areas. Construction of Option 1A would also include a longer section of raised levee which would increase the duration of construction, increase the length of levee requiring long-term maintenance, and prolong impacts to nesting birds or raptors. The loss of active bird nests or young as a result of the construction of Option 1A would be considered a significant and adverse impact for which mitigation would be required (Class II).

Mitigation Measures

To minimize impacts to nesting birds and raptors, the VCWPD would implement Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), BIO-1e (*Implement Biological Construction Monitoring*), BIO-3 (*Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures*), NV-1a (*Moveable Construction Noise Barriers*), and NV-1b (*Monitor Noise Levels*). These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), conducting pre-construction surveys, developing a Habitat Restoration and Monitoring Plan, conducting surveys for nesting birds and raptors prior to the start of construction activities, monitoring and comparing baseline and construction noise levels and

3.2

Biological Resources

requiring the installation of sound barriers when necessary, and conducting biological monitoring during ground-disturbing and other construction-related activities.

As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would minimize impacts to nesting birds and raptors to the extent possible and reduce impacts to a less-than-significant level (Class II).

BIO-1a **Implement a Worker Environmental Education Program.**

BIO-1b **Implement Best Management Practices.**

BIO-1c **Compensation for Temporary Impacts to Sensitive Vegetation Communities.**

BIO-1d **Compensation for Permanent Impacts to Sensitive Vegetation Communities.**

BIO-1e **Implement Biological Construction Monitoring.**

BIO-3 **Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures.** Prior to construction activities (i.e., mobilization, staging, grading, or construction) ~~the VCWPD shall retain~~ a qualified avian biologist shall be in place to conduct pre-construction surveys for nesting birds within the recognized breeding season in all areas within 500 feet of all Project components (i.e., levees, staging areas, floodwalls, and access road locations). Surveys for raptors shall be conducted for all areas from January 1 to August 15. The required survey dates may be modified based on local conditions, as determined by the qualified avian biologist, in coordination with CDFW and USFWS. Measures intended to exclude nesting birds shall not be implemented without prior approval by CDFW and USFWS.

If breeding birds with active nests are found prior to or during construction, the qualified avian biologist shall establish a 300 foot buffer (500 foot for raptors) around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails.

The prescribed buffers may be adjusted by the qualified avian biologist ~~in coordination with the USFWS and/or CDFW~~ based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified avian biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The avian biologist shall be responsible for documenting the results of the surveys, nest buffers implemented, and presenting the results of ongoing monitoring ~~and will provide a copy of the in~~ monitoring reports for impact areas to the VCWPD.

Surveys shall be conducted to include all impact areas on the Project site as well as all construction equipment. If birds are found to be nesting in facility structures or construction equipment and the nests contain eggs or young, buffers as described above shall be implemented.

If trees with nests are to be removed as part of Project construction activities, this will be done outside of the nesting season to avoid additional impacts to nesting raptors. If removal during the nesting season cannot be avoided, all trees will be inspected for active nests by the avian biologist. If nests are found within these trees and contain eggs or young, no activities within a 300 foot buffer for nesting birds and/or a 500 foot buffer for nesting raptors shall occur until the young have fledged the nest.

- NV-1a **Moveable Construction Noise Barriers.** During construction, install an approximately 10-foot-high moveable barrier along the sidewalk between the construction activity and the residential property wall, extending approximately 30 feet in both directions from the construction activity. If determined to be infeasible due to space constraints, install alternative moveable noise barriers with sound-absorptive surfaces facing the noise source between construction equipment and sensitive receptors (i.e. residences) in Reach 4. As feasible, moveable noise barriers should also be used to shield habitat areas in the Santa Clara River from construction noise.
- NV-1b **Monitor Noise Levels.** Periodically monitor noise levels during floodwall construction near noise-sensitive receptors in Reach 4 to determine whether construction noise levels exceed predicted levels. If construction noise is substantially greater than predicted, investigate whether it is feasible to install additional noise barriers or reposition construction equipment to reduce noise levels at sensitive receptors.

Impact BIO-4: The Project would result in disturbance to wildlife in adjacent habitat.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

The riparian and upland habitats adjacent to Option 1B provide refugia and breeding habitat for a variety of common and sensitive reptiles, amphibians, mammals, birds, and invertebrates. For example, the riparian scrub habitats present on the stream terrace within Reach 4 of Option 1B provide suitable nesting and foraging habitat for the listed least Bell's vireo; known territories are present adjacent to Option 1B. Cooper's hawk, a CDFW Watch List species, is known to breed and forage within the riparian habitats in and adjacent to the majority of the Option 1B footprint.

Some of the species known from the area are permanent residents such as the coast horned lizard, coyote, western toad, and western scrub jay. Other species including merlin and osprey are winter residents that forage in and adjacent to the Project area. How the Project would affect individual species depends on many factors, including how a species tolerates disturbance and the ability of a species to adapt to features such as the access roads, new barriers (i.e., floodwall), increased noise levels (i.e., sheet pile installation), and periodic human presence.

While there would be no direct impacts to adjacent habitat, potential indirect impacts from the Project would include fugitive dust, increased noise levels due to heavy equipment and vehicle traffic, light impacts from construction during low-light periods, alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, and the establishment of noxious weeds. Noise from vegetation clearing, excavation/grading, and construction activities (i.e., sheet pile installation) could affect wildlife in adjacent habitats by interfering with breeding or foraging activities and movement patterns, causing animals to temporarily avoid areas adjacent to the construction zone. Construction could also affect nocturnal wildlife that roost within habitat adjacent to Option 1B by displacing these species and increasing their risk of injury or mortality. More mobile species such as birds (during the non-breeding season) and larger mammals adjacent to Option 1B would likely disperse into habitat up or down stream of the Option 1B footprint during construction activities.

O&M of the proposed Project would be similar to that for the existing levee and would include increased noise during maintenance activities, the spread of noxious weeds, and increased fugitive dust from vehicles using levee access roads. In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the

3.2

Biological Resources

CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed when there is potential for disturbing nesting birds (BMP 4), sensitive aquatic species (BMP 5/6), and for biological surveys prior to vegetation maintenance (BMP 22).

Construction activities associated with Option 1B, specifically the increased noise levels resulting from construction activities, would result in disturbance to a variety of common and sensitive wildlife within the adjacent habitats. The increased noise levels would likely alter and/or preclude the breeding activities for many common and sensitive bird species known to occur along the Santa Clara River. Refer to Impact BIO-3 (The Project would result in disturbance to nesting birds or raptors) above for additional information on noise related impacts. The disturbance to wildlife in adjacent habitats resulting from the construction of Option 1B would be considered a significant adverse impact requiring mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Potential indirect and operational impacts disturbing wildlife adjacent to Option 1A would be similar to those for Option 1B. However, the construction of Option 1A would result in the construction of a longer raised levee than proposed under Option 1B. This additional length would result in an increase in the duration of construction, thus prolonging potential indirect impacts such as noise above ambient levels and fugitive dust. Impacts to wildlife in adjacent habitats resulting from the construction of Option 1A would be a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

To reduce impacts to wildlife in adjacent habitats resulting from the construction of the Project, the VCWPD would implement Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), BIO-1e (*Implement Biological Construction Monitoring*), BIO-3 (*Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures*), NV-1a (*Moveable Construction Noise Barriers*), and NV-1b (*Monitor Noise Levels*). These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts, development of a Habitat Restoration and Monitoring Plan, conducting pre-construction surveys, monitoring and comparison of baseline and construction noise levels and the installation of sound barriers when necessary, and conducting biological monitoring during ground-disturbing and other construction-related activities.

As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would minimize the impacts to wildlife in adjacent areas to the extent possible and reduce them to less-than-significant levels (Class II).

NV-1a **Movable Construction Noise Barriers.**

NV-1b **Monitor Noise Levels.**

BIO-1a **Implement a Worker Environmental Education Program.**

BIO-1b **Implement Best Management Practices.**

BIO-1c **Compensation for Temporary Impacts to Sensitive Vegetation Communities.**

BIO-1d **Compensation for Permanent Impacts to Sensitive Vegetation Communities.**

BIO-1e **Implement Biological Construction Monitoring.**

BIO-3 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures.

Impact BIO-5: The Project could disturb nesting southwestern willow flycatchers, least Bell's vireos, or their habitat.

Option 1B – Minimum Levee System (Preferred)-with Reach 4 Floodwall

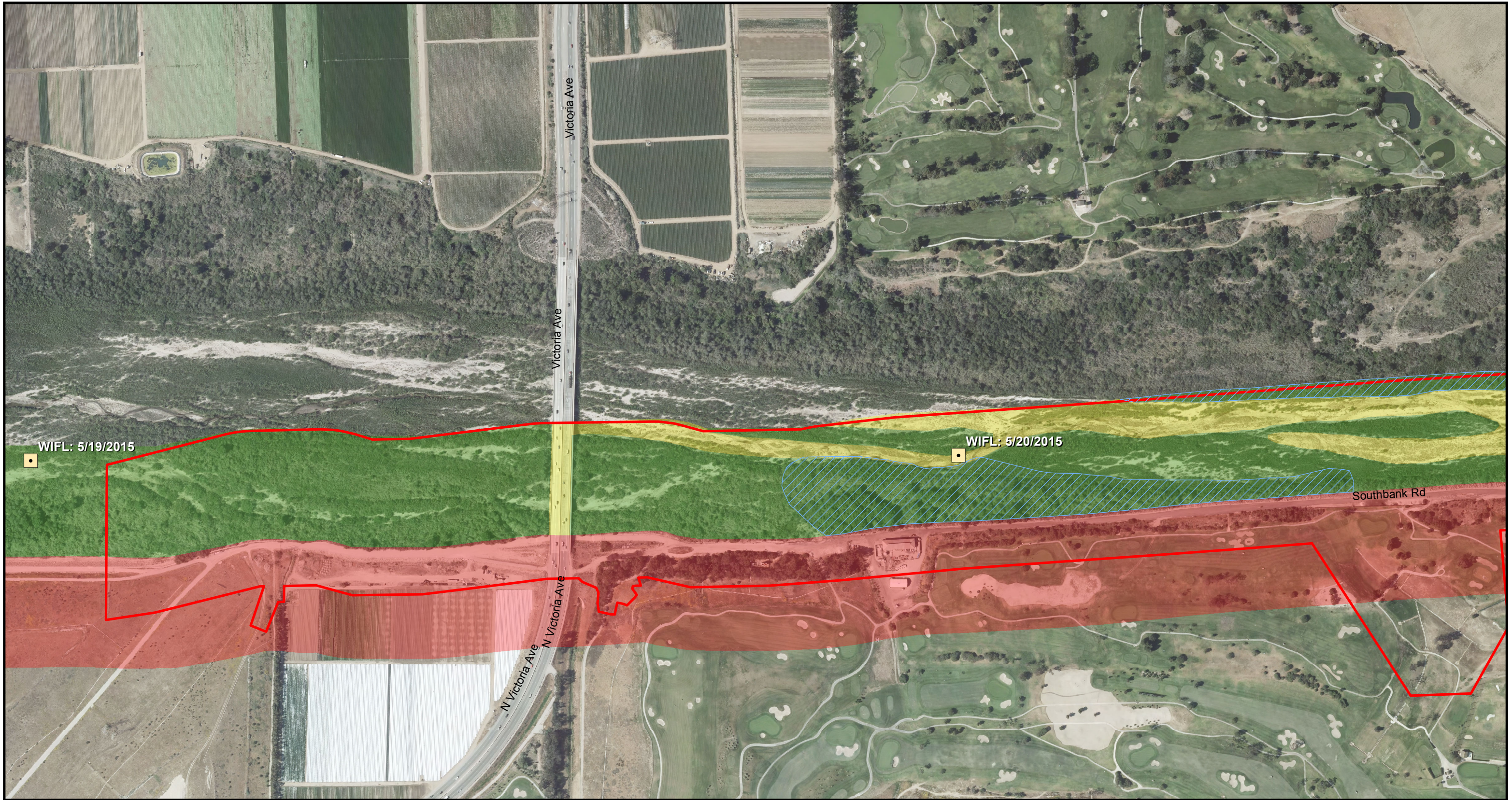
Southwestern willow flycatchers have not been recently documented within Option 1B; this species is known to occur in the region. A single singing willow flycatcher (species undetermined) was observed during surveys conducted in Reach 4 of the Project site in 2013 and six transient willow flycatchers (species undetermined) were observed in Reaches 1 – 3 in 2015. Suitable breeding habitat for southwestern willow flycatchers is present within a very limited portion of the Project site (Reach 2) and in the adjacent riparian woodlands of the Santa Clara River (refer to Figure 3.2-7). Critical habitat for this species is mapped within the bed and banks of the Santa Clara River.

Least Bell's vireo has been documented nesting within the riparian scrub habitats in Reaches 3 and 4 (refer to Figure 3.2-6). Limited suitable habitat for this species occurs within Option 1B. Large amounts of suitable habitat occur adjacent to Option 1B within the majority of the upland terrace in Reach 4 and in the riparian scrub habitats in Reaches 1-3. Critical Habitat for this species is not present in the Project area. Project activities have the potential to impact least Bell's vireos and southwestern willow flycatchers through direct impacts such as ground-disturbing activities associated with excavation of the existing levee, construction of new heightened levee, and increased human presence. During the breeding season, construction activities could result in the displacement of breeding birds and the abandonment of active nests. Potential indirect impacts could include the deterioration of habitat as a result of the spread of noxious weeds, increased noise levels from heavy equipment and sheet pile installation, exposure to fugitive dust, and human presence during repairs to the levees and floodwalls or routine inspection of the facilities. Weed management could also affect nesting.

During O&M of the proposed Project, impacts to southwestern willow flycatchers and least Bell's vireo would be similar to those underway for the existing levee and would include increased human disturbance, exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance activities. Weed abatement through herbicide application or mechanized tools could also affect nesting. In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed when there is potential for disturbing nesting birds and prior to vegetation maintenance activities (BMPs 4 and 22).

Construction activities would be conducted outside the recognized breeding season to the extent possible. Should construction occur during the breeding season it is possible that the increased noise and disturbance related to Project activities would exclude birds such as least Bell's vireo and southwestern willow flycatcher that are less tolerant of anthropogenic disturbance. Refer to Impact BIO-3 (The Project would result in disturbance to nesting birds or raptors) above for additional information on noise and disturbance related impacts to birds. Project activities that result in the degradation to habitat for or the loss of least Bell's vireo and southwestern willow flycatcher would be considered a significant adverse impact requiring mitigation (Class II).

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Source: Werner Biological, 2013; 2015.

- Study Area
- 2013 willow flycatcher observation (species undetermined)
- 2015 transient willow flycatcher (species undetermined)

Southwestern Willow Flycatcher Habitat Suitability

- currently suitable near water or saturated soils
- currently suitable
- potentially suitable
- unsuitable

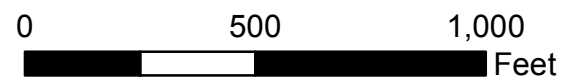
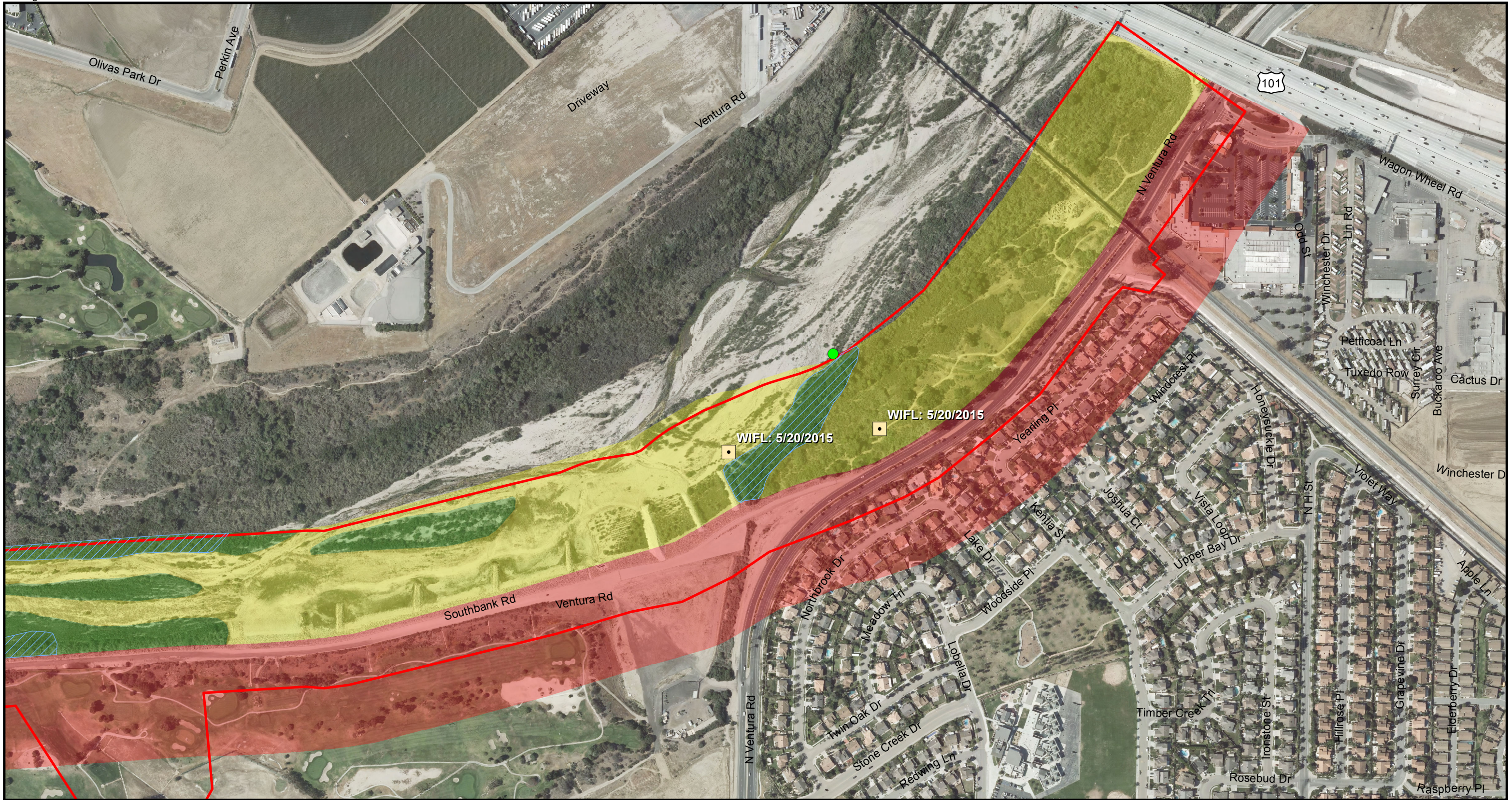


Figure 3.2-7
Habitat Suitability for
Southwestern Willow Flycatcher
Santa Clara River Levee
Map A



Source: Werner Biological, 2013; 2015.

- Study Area
- 2013 willow flycatcher observation (species undetermined)
- 2015 transient willow flycatcher (species undetermined)

Southwestern Willow Flycatcher Habitat Suitability

- currently suitable near water or saturated soils
- currently suitable
- potentially suitable
- unsuitable

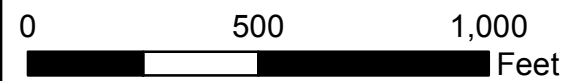


Figure 3.2-7
Habitat Suitability for
Southwestern Willow Flycatcher
Santa Clara River Levee
Map B

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however result in additional habitat impacts due to the heightening of a longer section of the existing levee and construction of an additional section of floodwall in Reach 2. The additional sections of levee would result in a longer duration of construction activities and prolong the effects of direct and potential indirect impacts. Project activities proposed under Option 1A that result in the degradation of habitat for or the loss of least Bell's vireo and southwestern willow flycatcher would be considered a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

To minimize impacts to least Bell's vireo and southwestern willow flycatcher, the VCWPD would implement Mitigation Measure BIO-5 (*Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat*), which requires protocol surveys of suitable habitat, avoidance of any active nests, and monitoring of nest buffers. In addition, implementation of Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), BIO-1e (*Implement Biological Construction Monitoring*), BIO-3 (*Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures*), NV-1a (*Moveable Construction Noise Barriers*), and NV-1b (*Monitor Noise Levels*) would minimize impacts to least bell's vireo and southwestern willow flycatcher. These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), development of a Habitat Restoration and Monitoring Plan, monitoring and comparing baseline and construction noise levels and requiring the installation of sound barriers when necessary, and conducting biological monitoring during ground-disturbing and other construction-related activities.

As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would reduce impacts to least Bell's vireo and southwestern willow flycatcher to less-than-significant levels (Class II).

NV-1a **Movable Construction Noise Barriers.**

NV-1b **Monitor Noise Levels.**

BIO-1a **Implement a Worker Environmental Education Program.**

BIO-1b **Implement Best Management Practices.**

BIO-1c **Compensation for Temporary Impacts to Sensitive Vegetation Communities.**

BIO-1d **Compensation for Permanent Impacts to Sensitive Vegetation Communities.**

BIO-1e **Implement Biological Construction Monitoring.**

BIO-3 **Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures.**

BIO-5 **Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat.** If Project-related activities are scheduled to occur during the

breeding season (March through September), ~~the VCWPD shall have a qualified avian biologist~~ shall conduct focused surveys in suitable habitat within 500 feet of disturbance areas. The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season.

If a territory or nest is confirmed in a previously unoccupied area, the CDFW and USFWS shall be notified within 48 hours. In coordination with the CDFW and USFWS, a 300 foot disturbance-free buffer shall be established and demarcated by fencing or flagging. This buffer may be adjusted as determined by a qualified avian biologist in coordination with the CDFW and USFWS. ~~The qualified biologist, in coordination with the VCWPD,~~ in consultation with the qualified biologist, shall halt construction if activities outside of but near the 300-foot buffer are determined to be negatively impacting the nesting birds. The qualified biologist shall devise methods to reduce the noise and/or disturbance in the vicinity as needed. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge.

Impact BIO-6: The Project could result in the loss of sensitive Lancetooth, Timema, and Shoulderband Snails or Monarch Butterfly.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

Surveys conducted within Option 1B did not detect any sensitive invertebrates. However, sensitive snails have the potential to occur within Option 1B. These species are most often associated with riparian and upland communities that provide suitable microhabitat conditions. Three common shoulderband snails (*Helminthoglypta* spp.) were detected in Reaches 2 and 4 during focused surveys for gastropods in 2014; the snails were not identified to species. Suitable habitat for sensitive snail species is present within the riparian areas of Reaches 1 and 2 and both the riparian and upland habitats in Reach 4. If present, direct impacts would include loss or mortality from levee or floodwall construction, grading of access roads, and increased human presence that crush individuals or alter microhabitat conditions to the degree the species can no longer survive (i.e., removal of leaf litter).

Although not detected within Option 1B, should they occur, direct impacts to monarch butterflies would most likely result from vehicle strikes and removal of roosting habitat. Suitable winter roosting habitat is present within the wind rows of eucalyptus at the western extent of Reach 1 and the eastern extent of Reach 4 (refer to Figure 3.2-2). There are multiple records of winter roost sites for this species within 1-3 miles of Option 1B. Potential indirect and operational impacts could include the spread or colonization of weeds, weed management, fugitive dust, increased noise and vibration levels from construction and sheet pile installation, and the alteration of hydrology.

In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed during invasive plant removal and prior to vegetation maintenance activities (BMPs 4 and 22) that could disturb sensitive invertebrate species.

Impacts to these species, should they occur, would be considered a significant adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

No sensitive invertebrates were detected within Option 1A. Impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however result in additional habitat impacts due to the heightening of a longer section of the existing levee and construction of an additional section of floodwall in Reach 2. Project activities proposed under Option 1A that result in the loss of sensitive invertebrates would be considered a significant adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Mitigation Measures

To reduce or avoid impacts to sensitive invertebrate species, the VCWPD would implement Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation For Temporary Impacts To Sensitive Vegetation Communities*), BIO-1d (*Compensation For Permanent Impacts To Sensitive Vegetation Communities*), BIO-1e (*Implement Biological Construction Monitoring*), NV-1a (*Moveable Construction Noise Barriers*), and NV-1b (*Monitor Noise Levels*). These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts, development of a Habitat Restoration and Monitoring Plan, monitoring and comparison of baseline and construction noise levels and the installation of sound barriers when necessary, and conducting biological monitoring during ground-disturbing and other construction-related activities.

As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would reduce impacts to sensitive invertebrates to a less-than-significant level (Class II).

NV-1a **Movable Construction Noise Barriers.**

NV-1b **Monitor Noise Levels.**

BIO-1a **Implement a Worker Environmental Education Program.**

BIO-1b **Implement Best Management Practices.**

BIO-1c **Compensation for Permanent Impacts to Sensitive Vegetation Communities.**

BIO-1d **Develop a Habitat Restoration and Monitoring Plan.**

BIO-1e **Implement Biological Construction Monitoring.**

Impact BIO-7: The Project could result in mortality or injury to southwestern pond turtles or a disruption of nesting habitat.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

Although not detected in the Option 1B footprint, southwestern pond turtles have been observed in adjacent habitats within the Santa Clara River. There are numerous pools and/or secondary channels present at or near the toe of the existing levee structure that provide suitable habitat for this species (when water is present). At one location within Reach 2, runoff from the adjacent River Ridge Golf

3.2

Biological Resources

Course is directed through a culvert and discharges into the Santa Clara River at the toe of the existing levee. This runoff has created a near perennial flowing water source that empties into a large pool just beyond the extent of the existing levee structure.

Pond turtles are generally found in and along riparian areas, although gravid females have been reported to nest more than 1,300 feet away from the nearest aquatic habitat (Holland, 1994). Pond turtles may also make overland movements up to one mile between areas of aquatic habitat (Bury, 1972 in Ernst et al., 1994). The preferred habitat for these turtles includes ponds or slow-moving water with numerous basking sites (logs, rocks, etc.), food sources (plants, aquatic invertebrates, and carrion), and few predators (raccoons, introduced fishes, and bullfrogs). Juvenile and adult turtles are commonly seen basking in the sun at appropriate sites, although they are extremely wary animals and often dive into the water at any perception of danger.

Direct effects to southwestern pond turtle may occur as a result of mechanical crushing; loss of nesting, breeding or basking sites; and human trampling. Disturbance would be associated with the removal of vegetation, excavation of the existing levee, construction of the new heightened levee, and installation of floodwalls. Disruption of basking activity and potential impacts to southwestern pond turtles may result from construction activities, if pond turtles are present near the construction areas.

Direct impacts to southwestern pond turtles could also result from temporary loss of upland nesting sites and foraging habitat, disruption of breeding activity, or disturbance of basking sites. Juvenile southwestern pond turtles typically move from nesting sites in adjacent upland or riparian areas to the stream in the spring (Buskirk, 1992). Hatchlings are very small, often less than one inch, and may be inadvertently trampled during construction-related activities. In addition, access to zooplankton, an important hatchling food source, may be disrupted if water quality were to be severely degraded by the Project.

Potential indirect impacts to southwestern pond turtle would include alteration of habitat that precludes pond turtle use, degradation of water quality over time due to siltation and sedimentation, fugitive dust, and the spread of noxious weeds. Operational impacts include risk of mortality by vehicles and disturbance during routine maintenance inspections.

In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed during invasive plant removal and prior to vegetation maintenance activities (BMPs 4 and 22) that could disturb southwestern pond turtles.

The greatest potential for injury or mortality to southwestern pond turtles as a result of construction activities is the damage or destruction of nesting areas. Since southwestern pond turtles often nest communally, damage or destruction of a nesting area could result in injury or mortality to a large number of incubating eggs or hatchling turtles and could disrupt egg-laying activities of adult female turtles. Pond turtles or their eggs may be present in vegetated areas subject to clearing or within open spaces/voids in the existing levee. Impacts to pond turtles would be considered a significant adverse impact requiring mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Similar to Option 1B, this species has not been observed within the Option 1A footprint but was detected in adjacent habitats. Impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however result in additional habitat impacts due to the raising of a longer section of the existing levee and construction of a retaining wall in Reach 2. Project activities proposed under Option 1A that result in mortality or injury to southwestern pond turtles or a disruption of nesting habitat would be considered a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

If present, damage or destruction of southwestern pond turtles or their nesting areas would be considered a significant impact. To reduce impacts to pond turtles, the VCWPD would implement Mitigation Measure BIO-7 (*Conduct Surveys for Southwestern Pond Turtle and Implement Monitoring, Avoidance, and Minimization Measures*). This measure would require focused pre-construction surveys for this species and require monitoring during ground disturbance and vegetation removal activities. In addition, the implementation of Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), and BIO-1e (*Implement Biological Construction Monitoring*) would minimize impacts to sensitive invertebrates. These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground-disturbing and other construction-related activities.

As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would reduce impacts to southwestern pond turtles to a less-than-significant level (Class II).

BIO-1a Implement a Worker Environmental Education Program.

BIO-1b Implement Best Management Practices.

BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities.

BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-1e Implement Biological Construction Monitoring.

BIO-7 Conduct Surveys for Southwestern Pond Turtle and Implement Monitoring, Avoidance, and Minimization Measures. Prior to ground disturbance or vegetation clearing, ~~the VCWPD shall retain a qualified biologist to~~ shall conduct focused surveys for southwestern pond turtle within the Project site and adjacent habitats to a distance of 200 feet away. Focused surveys shall occur between 1 April and 1 September, and shall consist of a minimum of four daytime surveys, to be completed prior to ground disturbance or vegetation clearing. The qualified biologist shall conduct focused, systematic surveys for southwestern pond turtle nesting sites. The survey area shall include all suitable nesting habitat located within 200 feet of occupied habitat in which ground disturbance will occur. Surveys will entail searching for

evidence of pond turtle nesting, including remnant eggshell fragments, which may be found on the ground following nest depredation.

If an active southwestern pond turtle nesting area would be adversely impacted by construction activities, ~~the VCWPD contractor shall avoid the nesting area~~ shall be avoided. If avoidance of the nesting area is determined to be infeasible, the authorized biologist shall coordinate with the CDFW to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without written authorization from the CDFW.

A qualified biologist with demonstrated expertise with southwestern pond turtles shall monitor construction activities where pond turtles are present. The authorized biologist will be present full time during all vegetation removal activities immediately adjacent to, or within, habitat that supports populations of southwestern pond turtles, and part time for all remaining activities. If the installation of fencing to prevent turtles from entering the work area is deemed necessary by the qualified biologist, one pre-construction survey for southwestern pond turtles shall be conducted at the time of the fence installation. Pre-construction surveys for southwestern pond turtles shall also be conducted by the qualified biologist prior to vegetation clearing and/or removal of the existing levee structure.

Impact BIO-8: The Project could result in injury or mortality for two-striped garter snakes and south coast garter snake.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

Two-striped and south coast garter snakes, although known to occur in the general area, have not been observed within Option 1B. The two-striped garter snake is highly aquatic but may move considerable distances into upland habitats, even where permanent water is lacking. Two-striped garter snakes have been observed in riparian, freshwater marsh, coastal sage scrub, chaparral, oak woodland, and grassland habitats. Rathburn et al. (1993) found that these snakes tend to occupy streamside sites during the summer and switch to nearby upland habitats during the winter. South coast garter snakes are only known from scattered locations in the Santa Clara River Valley; habitat requirements for this species are similar to those discussed above for two-striped garter snake (CaliforniaHerps, 2015).

Direct impacts due to construction activities include mortality or injury of individual snakes as a result of mechanical crushing, loss of nesting, breeding, or basking sites, and human trampling. Other direct effects to these species include degradation of water quality and removal of vegetation. Potential indirect effects include compaction of soils, fugitive dust, and introduction of exotic plant species.

Operational impacts include risk of mortality by vehicles and disturbance on access roads during routine maintenance and inspection activities. In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed during invasive plant removal and prior to vegetation maintenance activities (BMPs 4 and 22) that could disturb sensitive garter snakes.

Project effects to this species would be similar to southwestern pond turtle and would be considered a significant adverse impact requiring mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Two-striped and south coast garter snakes have not been observed within Option 1A. Should they occur, impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however result in additional habitat impacts due to a longer section of the existing levee that would be heightened and construction of an additional section of floodwall in Reach 2. Construction activities proposed under Option 1A that result in injury or mortality of two-striped garter snakes or south coast garter snake would be considered a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

To reduce effects on two-striped and south coast garter snakes, the VCWPD would implement BIO-8 (*Conduct Surveys for Two-Striped Garter Snakes and Implement Monitoring, Avoidance, and Minimization Measures*). This measure would require pre-construction surveys for two-striped and south coast garter snakes prior to vegetation or sediment removal, relocation of stranded or displaced animals, and construction monitoring. In addition, the implementation of Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), and BIO-1e (*Implement Biological Construction Monitoring*) would minimize impacts to sensitive invertebrates. These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground-disturbing and other construction-related activities. As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would reduce impacts to sensitive garter snakes to a less-than-significant level (Class II).

BIO-1a Implement a Worker Environmental Education Program.

BIO-1b Implement Best Management Practices.

BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities.

BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-1e Implement Biological Construction Monitoring.

BIO-8 Conduct Surveys for Two-Striped Garter Snakes and Implement Monitoring, Avoidance, and Minimization Measures. Prior to ground disturbance or vegetation clearing in the Project area, ~~the VCWPD shall retain~~ a qualified biologist ~~to~~ shall conduct focused surveys for two-striped and south coast garter snakes where suitable habitat is present and directly impacted by construction vehicle access, or maintenance. Focused surveys shall consist of a minimum of four daytime surveys within one week of vegetation clearing. The qualified biologist will be present full time during all vegetation removal activities immediately adjacent to or within habitat that supports populations of the two-striped garter snake, and part time for all remaining activities. Surveys for garter snakes shall be conducted by the authorized biologist prior to the initiation of each day of vegetation removal activities. Any snakes found within

the area of disturbance or potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the Project.

Impact BIO-9: The Project could result in injury or mortality of amphibian and reptile species designated as California Species of Special Concern and/or Ventura County Locally Important Species.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

One special-status reptile (other than southwestern pond turtle, as discussed above), the coast horned lizard, was detected near Option 1B within a dry, sandy area of the Santa Clara River during surveys conducted in 2014. Although not detected within Option 1B, several other special-status or Ventura County Locally Important Species of reptiles and amphibians (terrestrial herpetofauna) could be affected by the Project. These include the following terrestrial California Species of Special Concern and Ventura County Locally Important Species:

- Coast horned lizard
- California glossy snake
- San Diego mountain kingsnake
- Arboreal salamander
- Silvery legless lizard
- Coastal whiptail
- Coast patch-nosed snake

Given the ecology of these species and their cryptic nature, it is likely that some or all of the species identified above may occur in or near the Project area. Special-status terrestrial herpetofauna potentially present in the Project area would be subject to similar types of impacts as described above for southwestern pond turtles and garter snakes (Impact BIO-7: The Project could result in mortality or injury to southwestern pond turtles or a disruption of nesting habitat and Impact BIO-8: The Project could result in injury or mortality for two-striped garter snakes and south coast garter snake).

Direct impacts include being hit by vehicles on access roads, mechanical crushing during excavation or raising of the existing levee structure, or the construction of floodwalls. Other impacts include general disturbance due to increased human activity. Special-status terrestrial herpetofauna could be injured or killed during ground-disturbing activities in undeveloped upland habitats and in some developed areas throughout the Project, including staging areas. Potential indirect impacts to these species include compaction of soils, fugitive dust; increased noise levels, and the introduction of exotic plant species.

Operational impacts include risk of mortality by vehicles and disturbance on access roads during routine maintenance and inspection activities. In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed during invasive plant removal and prior to vegetation maintenance activities (BMPs 4 and 22) that could disturb terrestrial herpetofauna.

Direct loss of these species would be considered a significant adverse impact requiring mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

No special-status or Ventura County Locally Important Species of terrestrial herpetofauna were detected within Option 1A. Should they occur, impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however result in additional habitat impacts due to the heightening of a longer section of the existing levee and construction of an additional section of floodwall in Reach 2. Project activities proposed under Option 1A that result in injury or mortality of terrestrial California Species of Special Concern and Ventura County Locally Important amphibian and reptile species would be considered a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

To reduce effects of the Project, VCWPD would implement Mitigation Measure BIO-9 (*Conduct Surveys for Terrestrial Herpetofauna and Implement Monitoring, Avoidance, and Minimization Measures*). This measure would require surveys for terrestrial herpetofauna prior to vegetation removal, relocation of stranded or displaced animals, and construction monitoring. In addition, the implementation of Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), and BIO-1e (*Implement Biological Construction Monitoring*) would minimize impacts to sensitive invertebrates. These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground-disturbing and other construction-related activities.

As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would reduce impacts to terrestrial herpetofauna to a less-than-significant level (Class II).

BIO-1a Implement a Worker Environmental Education Program.

BIO-1b Implement Best Management Practices.

BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities.

BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-1e Implement Biological Construction Monitoring.

BIO-9 Conduct Surveys for Terrestrial Herpetofauna and Implement Monitoring, Avoidance, and Minimization Measures. Prior to ground disturbance or vegetation clearing at all Project locations, the VCWPD shall retain a qualified biologist to ~~shall~~ shall conduct surveys for terrestrial herpetofauna where suitable habitat is present and directly impacted by construction vehicle access, or maintenance. Focused surveys shall consist of a minimum of three daytime surveys and one nighttime survey within one week of vegetation clearing. The qualified biologist will be present full time during all vegetation removal activities immediately adjacent to or within habitat that supports terrestrial herpetofauna, and part time for all remaining activities. Surveys for terrestrial herpetofauna shall be conducted by the qualified biologist prior to the

initiation of each day of vegetation removal activities in suitable habitat. Terrestrial herpetofauna found within the area of disturbance or potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the Project.

Impact BIO-10: The Project could disturb nesting or migrant California Species of Special Concern, CDFW Special Animals or California Fully Protected bird species.

Option 1B – Minimum Levee System (Preferred)-with Reach 4 Floodwall

A variety of bird species, listed as California Species of Special Concern or as California Fully Protected species, were documented within the riparian and upland habitats within and adjacent to Option 1B (refer to Appendix B-3 for a complete list of all wildlife observed). These include Cooper's hawk, yellow warbler, white-tailed kite, yellow-breasted chat, loggerhead shrike, Allen's hummingbird, and hermit warbler. Cooper's hawks have been documented nesting within and adjacent to Option 1B in Reaches 1 and 2. Although not confirmed, due to the large number of resident territorial males observed during surveys in 2013, it is suspected that yellow warblers were nesting adjacent to Option 1B. Direct, potential indirect, and operational impacts to nesting birds would be the same as described above for Impact BIO-3 (The Project would result in disturbance to nesting birds or raptors) and Impact BIO-4 (The Project could disturb nesting southwestern willow flycatchers, least Bell's vireos, or their habitat). Direct impacts to nesting birds include ground-disturbing activities associated with excavation of the existing levee, construction of the heightened levee and floodwalls, increased noise levels from heavy equipment and sheet pile installation, and increased human presence.

Potential indirect impacts to nesting birds include human disturbance, increased noise levels from construction activities (i.e., excavation and sheet pile installation), exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance of facilities. Weed management could also affect nesting.

Project activities have potential to affect foraging and nesting birds if present during construction activities. Birds and other wildlife may temporarily or permanently leave their territories to avoid construction activity (i.e., increased noise levels), which could lead to reduced reproductive success and increased mortality. Refer to Impact BIO-3 (The Project would result in disturbance to wildlife in adjacent habitat), Impact BIO-4 (The Project would result in disturbance to nesting birds or raptors), and Impact BIO-5 (The Project could disturb nesting southwestern willow flycatchers, least Bell's vireos, or their habitat) for additional information on impacts related to increased noise and disturbance levels.

During O&M of the proposed Project impacts to bird species, listed as California Species of Special Concern or as California Fully Protected species, would be similar to those underway for the existing levee and would include increased human disturbance, exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance activities. Weed abatement through herbicide application or mechanized tools could also affect nesting.

In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed when there is potential for disturbing nesting birds and prior to vegetation maintenance activities (BMPs 4 and 22).

The loss of California Species of Special Concern, CDFW Special Animals, or California Fully Protected bird species would be considered a significant adverse impact requiring mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

The same species discussed above under Option 1B occur or would be expected to occur within or adjacent to Option 1A. Impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however result in additional habitat impacts due to the heightening of a longer section of the existing levee and construction of an additional section of floodwall in Reach 2. The additional work would extend the duration of construction and prolong impacts to nesting or migrant birds. Activities proposed under Option 1A that result in the disturbance of nesting or migrant California Species of Special Concern, CDFW Special Animals, or California Fully Protected bird species would be considered a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

Nesting birds are protected under federal and State laws and regulations, including the Migratory Bird Treaty Act and California Fish and Game Code Section 3503.5. To reduce effects of the Project on nesting birds, VCWPD would implement Mitigation BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), BIO-1e (*Implement Biological Construction Monitoring*), BIO-3 (*Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures*), BIO-5 (*Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat*), NV-1a (*Moveable Construction Noise Barriers*), and NV-1b (*Monitor Noise Levels*). These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), development of a Habitat Restoration and Monitoring Plan, monitoring and comparison of baseline and construction noise levels and installation of sound barriers when necessary, and conducting biological monitoring during ground-disturbing and other construction-related activities.

As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would minimize impacts to the extent possible and reduce impacts to less-than-significant levels (Class II).

- NV-1a **Movable Construction Noise Barriers.**
- NV-1b **Monitor Noise Levels.**
- BIO-1a **Implement a Worker Environmental Education Program.**
- BIO-1b **Implement Best Management Practices.**
- BIO-1c **Compensation for Temporary Impacts to Sensitive Vegetation Communities.**
- BIO-1d **Compensation for Permanent Impacts to Sensitive Vegetation Communities.**
- BIO-1e **Implement Biological Construction Monitoring.**
- BIO-3 **Conduct Pre-Construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures.**

BIO-5 Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat.***Impact BIO-11: The Project could result in mortality of, and loss of habitat for, special-status bat species.******Option 1B – Minimum Levee System (Preferred)-with Reach 4 Floodwall***

Bats were routinely detected in and adjacent to Option 1B and likely forage over most of the adjacent Santa Clara River. Bats were also observed roosting in the Victoria Avenue Bridge just north of Reach 1. The species of bats occurring on or adjacent to Option 1B were not identified. While not specifically detected, several sensitive bat species are known to occur in the general area and likely roost and forage within portions of Option 1B and in adjacent habitats. Western mastiff bat, pallid bat, Mexican long-tongued bat, and spotted bat, all California Species of Special Concern, have the potential to occur within and adjacent to Option 1B. Hoary bat and western small-footed myotis, CDFW Special Animals, may also occur on or near Option 1B. Project areas include numerous locations that constitute suitable bat foraging and roosting habitat including the riparian woodlands at the toe of the existing levee, voids within the existing levee structure, the wind rows of eucalyptus (Reaches 1 and 4), and in adjacent scrub communities.

Bat life histories vary widely. Some species hibernate during winter, or migrate to warmer areas. During the breeding season, bats generally roost during the day, either alone or in communal roost sites, depending on species. Some species feed mainly over open water where insect production is especially high, but others forage over open shrublands. The decline of bat populations is often due to roost site disturbance, loss of foraging habitat, and loss of roost sites. Activities that have been documented to impact bats include livestock grazing, vegetation treatments, and water reclamation that could lead to loss of a water source or riparian habitat. Due to their sensitivity to human disturbance, roost protection is important for bats. Roost protection measures may include seasonal use restrictions or physical closures as necessary.

Direct impacts to bats include mortality or displacement of bats during ground-disturbing activities associated with construction of the levee and floodwalls, and increased human presence. Noise, vibration, and human activity could disrupt maternity roosts during the breeding season. Potential indirect effects could include increased traffic, increased noise levels from heavy equipment and sheet pile installation, exposure to fugitive dust, and human presence in the Project area that could result in bats abandoning their roosts or maternal colonies. Refer to Impact BIO-3 (The Project would result in disturbance to wildlife in adjacent habitat), Impact BIO-4 (The Project would result in disturbance to nesting birds or raptors), and Impact BIO-5 (The Project could disturb nesting southwestern willow flycatchers, least Bell's vireos, or their habitat) for additional information on impacts related to increased noise and disturbance levels; impacts from increased noise levels on bat species would be similar to those discussed for birds. Bats that forage near the ground, such as the pallid bat, would also be subject to crushing or disturbance by vehicles driving at dusk, dawn, or during the night. The use of access roads during dusk and dawn could also disturb bats or result in vehicle strikes.

During O&M of the proposed Project, impacts to sensitive bat species would be similar to those underway for the existing levee and would include increased human disturbance, exposure to fugitive dust, the potential spread of noxious weeds, and disruption of foraging activity due to routine inspection and maintenance activities. Weed abatement through herbicide application or mechanized tools could also affect bat species.

In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed prior to vegetation maintenance and when removing native trees (BMPs 22 and 27).

Implementation of the Project would not prevent bats from foraging in the adjacent Santa Clara River. The Project however may result in the loss of known maternity sites or roosting trees should they occur; there are no currently identified maternity sites within Option 1B. Special-status bats are known from the general area and could be disturbed from Project activities. The loss of habitat for or disturbance to special-status bats would be considered a significant adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

As with Option 1B, bats were routinely detected in Option 1A, although the individual species were not identified. The same species discussed above would have the potential to occur in or adjacent to Option 1A. Impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however result in additional habitat impacts due to the heightening of a longer section of the existing levee and construction of an additional section of floodwall in Reach 2. Project activities proposed under Option 1A that result in mortality of, and loss of habitat for special-status bat species would be considered a significant adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Mitigation Measures

To reduce impacts to bats, VCWPD would implement Mitigation Measure BIO-11 (*Survey for Maternity Colonies or Hibernaculum for Roosting Bats*). This measure requires pre-construction surveys for roosting bats and the avoidance of maternity colonies or hibernaculum. If maternity colonies are found, a construction buffer would be established and work diverted to another area. The loss of foraging habitat would be offset through Mitigation Measure BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*) and BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*). In addition, Mitigation Measures BIO-1a (*Worker Environmental Awareness Program*), BIO-1b (*Best Management Practices*), BIO-1e (*Implement Biological Construction Monitoring*), NV-1a (*Moveable Construction Noise Barriers*), and NV-1b (*Monitor Noise Levels*) would protect bats by educating workers, implementing BMPs, monitoring construction, and minimizing noise levels. ~~restoring temporarily disturbed areas after construction-related activities, and acquiring off-site habitat.~~ As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would reduce impacts to special-status bats to a less-than-significant level (Class II).

- NV-1a **Movable Construction Noise Barriers.**
- NV-1b **Monitor Noise Levels.**
- BIO-1a **Implement a Worker Environmental Education Program.**
- BIO-1b **Implement Best Management Practices.**

BIO-1c **Compensation for Temporary Impacts to Sensitive Vegetation Communities.**

BIO-1d **Compensation for Permanent Impacts to Sensitive Vegetation Communities.**

BIO-1e **Implement Biological Construction Monitoring.**

BIO-11 **Survey for Maternity Colonies or Hibernaculum for Roosting Bats.** Prior to ground disturbance or vegetation clearing at all Project locations, ~~the VCWPD shall retain a qualified biologist to~~ shall conduct surveys for sensitive bats. Surveys shall be conducted no more than 15 days prior to grading near or the removal of trees or other structures. Surveys shall also be conducted during the maternity season (1 March to 31 July) within 300 feet of Project activities. If active maternity roosts or hibernacula are found, the structure, tree or tower occupied by the roost shall be avoided (i.e., not removed), if feasible. If avoidance of the maternity roost is not feasible, the qualified biologist will implement the following actions.

- **Maternity roosts.** If a maternity roost will be impacted by the Project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the Project site no less than three months prior to the eviction of the colony. Alternative roost sites will be constructed in accordance with the specific bat's requirements in coordination with CDFW. By making the roosting habitat available prior to eviction, the colony will have a better chance of finding and using the roost. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The CDFW shall be notified of any hibernacula or active nurseries within the construction zone.
- **Exclusion of bats prior to eviction from roosts.** If non-breeding bat hibernacula are found in trees scheduled to be removed, the individuals shall be safely evicted, under the direction of a qualified biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern coastal California. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified biologist shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one night between initial disturbance and the grading or tree removal).

Impact BIO-12: The Project could result in mortality of, and loss of habitat for, special-status mammals.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

No special-status mammal species were detected within Option 1B. However, the Option 1B footprint, and adjacent areas within the Santa Clara River, have the potential to support a variety of special-status mammals including the American badger, San Diego desert woodrat, and San Diego black-tailed jackrabbit, all CDFW Species of Special Concern. Direct impacts to these species would include mechanical crushing by vehicles and construction equipment, trampling, and loss of habitat. Construction disturbance can also result in the flushing of small animals from refugia, which increases

the predation risk for small rodents. Potential indirect impacts include exposure to fugitive dust, alteration of soils, such as compaction, that could preclude burrowing, the spread of exotic weeds, and increased noise levels.

During O&M of the proposed Project, impacts to sensitive mammals would be similar to those underway for the existing levee and would include increased human disturbance, exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine inspection and maintenance activities. Weed abatement through herbicide application or mechanized tools could also affect mammal species.

In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed prior to vegetation maintenance (BMPs 4, 22, and 27).

Because the Project would remove or disturb vegetation and these animals would be subject to mortality from the construction of the levees and floodwalls, impacts to these species would be considered significant adverse effects requiring mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

No special-status mammal species were detected within Option 1A. Impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however result in additional habitat impacts due to the heightening of a longer section of the existing levee and construction of an additional section of floodwall in Reach 2. Project activities proposed under Option 1A that result in mortality of, or loss of habitat for, special-status mammals would be considered a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

To reduce impacts to special-status mammals, VCWPD would implement Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), BIO-1e (*Implement Biological Construction Monitoring*), NV-1a (*Moveable Construction Noise Barriers*), and NV-1b (*Monitor Noise Levels*). These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts (including speed limits to control fugitive dust), development of a Habitat Restoration and Monitoring Plan, monitoring and comparison of baseline and construction noise levels and installation of sound barriers when necessary, and conducting biological monitoring during ground-disturbing and other construction-related activities.

As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures and adherence with the O&M programmatic BMPs would reduce impacts to special-status mammals to a less-than-significant level (Class II).

NV-1a **Movable Construction Noise Barriers.**

NV-1b **Monitor Noise Levels.**

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- BIO-1a **Implement a Worker Environmental Education Program.**
- BIO-1b **Implement Best Management Practices.**
- BIO-1c **Compensation for Temporary Impacts to Sensitive Vegetation Communities.**
- BIO-1d **Compensation for Permanent Impacts to Sensitive Vegetation Communities.**
- BIO-1e **Implement Biological Construction Monitoring.**

Impact BIO-13: The Project could result in mortality of listed or special-status fish.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

No State or federally listed or special-status fish species were detected in Option 1B during surveys conducted in 2014. The Santa Clara River and several of its tributaries (i.e., Santa Paula Creek and Sespe Creek) support the federally listed endangered steelhead trout (southern California DPS) and are designated as Critical Habitat for this species. The federally endangered tidewater goby occurs downstream of the Project site within the brackish water areas of the lagoon at the mouth of the Santa Clara River. The federally and state endangered and state fully protected unarmored threespine stickleback, while not observed during surveys conducted in 2014, has been recorded in the upper Santa Clara River watershed. Special-status species including the partially armored stickleback, Owen's sucker, arroyo chub, Santa Ana sucker, and the prickly sculpin are all known to occur along portions of the Santa Clara River when flow is present.

All construction activities proposed under Option 1B would occur from the top of and to the land side of the existing levee; no work would occur within the Santa Clara River. Runoff from the River Ridge Golf Course adjacent to Reach 2 discharges into the Santa Clara River and forms a small, near perennial flowing water source near the toe of the existing levee. Depending on the time of year and amount of runoff, flows in this small channel may connect with one of the low-flow braids of the Santa Clara River. This runoff also supports multiple perennial pool habitats located adjacent to the existing levee in Reach 2. While direct impacts to the Santa Clara River channel would not occur, potential indirect effects could include erosion, sedimentation, and degradation of water quality from the excavation of the existing levee, heightening of the new levee structure, and filling of the golf course swale.

During O&M of the proposed Project, impacts to special-status fish would be similar to those underway for the existing levee and would include increased human disturbance, herbicide application for weed abatement, and leaks/spills of contaminants. In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed prior to work in aquatic habitats (BMP 5/6) and to avoid spills and leaks (BMP 21).

These potential impacts, although indirect, would be considered significant and adverse and require mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

No listed or special-status fish have been detected within Option 1A. Impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. However, Option 1A would

not include filling the swale at the River Ridge Golf Course and would instead rely on the heightening of a longer section of levee and installing an additional section of floodwall in Reach 2. Construction activities proposed under Option 1A that result in the mortality of listed or special-status fish species would be considered a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

To minimize impacts to listed or special-status fish species, VCWPD would implement Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), and BIO-1e (*Implement Biological Construction Monitoring*). These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts (including water quality protection measures), and biological monitoring during ground disturbing and other Project-related activities. As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). Implementation of these mitigation measures would reduce impacts to listed or special-status fish to a less-than-significant level (Class II).

BIO-1a **Implement a Worker Environmental Education Program.**

BIO-1b **Implement Best Management Practices.**

BIO-1e **Implement Biological Construction Monitoring.**

Sensitive Plant Species

Impact BIO-14: The Project could disturb endangered, threatened, proposed, or other special-status plant species or their habitat.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

State or federally listed and special-status plant species were not detected within Option 1B. Three California black walnuts (CRPR 4.2) were identified adjacent to the toe of the existing levee structure within Reach 2 but are located outside the Option 1B footprint.

Focused botanical surveys of the Project were conducted in the spring and summer of 2014. Seasonal rainfall across Southern California has been extremely limited, which may have reduced the potential to detect sensitive plants within the proposed Project areas. Although the recent drought has limited the detectability of some annual plants, plant expression was considered good to excellent in the majority of the Project area. Surveys conducted in 2014 resulted in good plant detection including ephemeral annuals that cannot be detected in some years.

If present, direct impacts to listed or special-status plants include trampling or crushing from heavy equipment, vehicles, or foot traffic, alterations to the native seed bank due to soil compaction, and modifications to existing hydrological conditions. Potential indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native, invasive plant species. Excessive dust can decrease or limit plant survivorship by decreasing photosynthetic output, reducing transpiration, and adversely affecting reproductive success. Ground-disturbing activities that would occur during the Project can result in the proliferation and spread of non-native invasive plants to new areas. Because noxious weeds can permanently degrade rare plant and animal habitats, their proliferation could adversely affect listed plant species if they are present.

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Operational impacts from routine maintenance and inspection would include trampling or crushing, increased erosion, exposure to fugitive dust, mortality due to herbicide application, and the spread and colonization of noxious weeds. Listed or special-status plant species were not identified during focused surveys of the Project area. In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed for invasive plant removal (BMP 23), for dust control (BMP 24), and for the stabilization of exposed soil (BMP 26)

If present during construction, impacts to listed plant species would be considered significant and adverse and would require mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

No listed or special status plant species were detected within Option 1A. Three California black walnuts (CRPR 4.2) were identified adjacent to the toe of the existing levee structure within Reach 2 but are located outside the Option 1A footprint. Impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however result in additional habitat impacts due to the heightening of a longer section of the existing levee and construction of an additional section of floodwall in Reach 2. Should they occur, Project activities proposed under Option 1A that disturb endangered, threatened, proposed, or other special-status plant species or their habitat would be considered a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

Implementation of Mitigation Measure BIO-14 (*Conduct Pre-construction Surveys for State and Federally Threatened, Endangered, Proposed, Petitioned, Candidate, and Special-status Plants and Avoid Any Located Occurrences of Listed Plants*) would protect occurrences of listed plant species and require compensation for impacts to special-status plant species. In addition, implementation of Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), and BIO-1e (*Implement Biological Construction Monitoring*) would minimize impacts to special-status plant species. These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts, development of a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground-disturbing and other construction-related activities.

To control the spread of weeds in Project areas, the VCWPD would conduct vegetation maintenance (i.e., routine herbicide application) according to the VCWPD's Routine Maintenance and Operations Program (VCWPD, 2013). Implementation of these mitigation measures and vegetation maintenance would reduce impacts to listed or special-status plants to a less-than-significant level (Class II).

BIO-1a Implement a Worker Environmental Education Program.

BIO-1b Implement Best Management Practices.

BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities.

- BIO-1d **Compensation for Permanent Impacts to Sensitive Vegetation Communities.**
- BIO-1e **Implement Biological Construction Monitoring.**
- BIO-14 **Conduct Pre-construction Surveys for State and federally Threatened, Endangered, Proposed, Petitioned, Candidate, and Special-status Plants and Avoid Any Located Occurrences of Listed Plants or Perform other Conservation Strategy.** ~~The VCWPD shall conduct~~ Focused surveys for federal- and state-listed and other special-status plants shall be conducted. All special-status plant species (including listed threatened or endangered species, Ventura County Locally Important species, and all CRPR 1A, 1B, 2, 3, and 4 species) subject to disturbance shall be documented in a pre-construction survey report. Surveys shall be conducted during the appropriate season in all suitable habitat located within the Project disturbance areas and within 100 feet of disturbance areas and access roads and be conducted by a qualified botanist. The field surveys and reporting must conform to current CDFW botanical field survey protocols (CDFW, 2009) or more recent updates, if available. The report will describe any conditions that may have prevented target species from being located or identified, even if they are present as dormant seed or below-ground rootstock (e.g., poor rainfall, recent grazing, or wildfire).

If federally or State-listed plants are detected in disturbance areas or within 100-feet of the disturbance areas, ~~the VCWPD would avoid~~ these populations would be avoided and ~~notify~~ the USFWS and CDFW notified as appropriate.

~~The VCWPD shall avoid~~ impacts to any State or federally listed plants shall be avoided to the extent feasible. If Project activities result in the loss of more than 10 percent of the known individuals within a special-status plant species (List 1.B and List 2 only) occurrence/population to be impacted, ~~the VCWPD shall consult with~~ USFWS and CDFW shall be consulted regarding the most appropriate conservation strategy for the particular species being impacted.

Habitat Fragmentation and Wildlife Movement

Impact BIO-15: The Project would interfere with established wildlife migratory corridors.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Studies suggest that habitat fragmentation and isolation of natural areas ultimately results in the loss of native species within those communities (Soulé et al., 1988). The ability for wildlife to move freely among populations is important to long-term genetic variation and demography. Fragmentation and isolation of natural habitat may cause loss of native species diversity in fragmented habitats. In the short term, wildlife movement may also be important to an animal's ability to occupy home ranges, if a species range extends across a potential movement barrier. These considerations are especially important for rare, threatened, or endangered species, and wide-ranging species such as large mammals, which exist in low population densities.

The South Coast Missing Linkages Project identified the Santa Clara River as an important component of the Santa Monica-Sierra Madre Connection, particularly because it offers one of the few connections between the Pacific Ocean and inland natural areas (Penrod et al., 2006, as cited in City of Ventura, 2013). The Santa Clara River acts as a vital pathway for a variety of wildlife, including large mammals such as bobcats, mountain lions, and mule deer, while also acting as a migratory corridor for avian

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species such as least Bell's vireo. Migratory fish such as steelhead trout (southern California DPS) navigate the Santa Clara River, searching for spawning grounds located in the Sespe and Santa Paula Creek watersheds. Construction activities proposed as part of Option 1B would take place from the top of and towards the land side of the existing levee and would not occur within the Santa Clara River. Therefore the Project would not interfere with the migration of southern steelhead trout.

Direct impacts resulting from the construction of Option 1B include the placement of physical structures such as heightened levees in Reaches 1 and 3 and the construction of a floodwall in Reach 4. Ground-disturbing activity including excavation of the existing levee structure, construction of the new heightened levee, and the installation of a floodwall would be expected to interfere with terrestrial wildlife movement during construction of the Project. The Project could also affect wildlife in adjacent habitats by interfering with movement patterns or causing animals to temporarily avoid areas adjacent to the construction zone. More mobile species such as birds and larger mammals would likely disperse into adjacent habitat areas during ground disturbing activities.

Potential indirect impacts include human disturbance, colonization or expansion of invasive weeds, and vehicle traffic. Operational impacts would be the same as described for direct and potential indirect impacts.

Construction activities may temporarily limit terrestrial wildlife movement within the Project area; however, the broad geographic range and habitat that occurs in the region would remain available to wildlife. Wildlife would maintain access to the Santa Clara River channel during all construction activities. The Project would not substantially interfere with the movement of any native resident or migratory fish, reptile, or amphibian species. Existing barriers to movement (i.e., existing levee structures) and surrounding land uses (i.e., residential and recreational) currently constrain or limit movement in the Project area. Construction of the Project would not directly impact the main channel or any secondary channels of the Santa Clara River. Impacts related to the O&M of the proposed Project would be similar to those for the existing levee and would include increased human disturbance and vehicle traffic as well as the colonization or expansion of invasive weeds.

In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed for leaving herbaceous wetland vegetation in channel bottoms and during invasive plant removal (BMPs 12 and 23).

There are no known bird or bat migratory corridors that would be directly impeded by the Project. Large concentrations of migrants are not known to utilize any specific portion of the Project site and Project activities are not expected to preclude use of the area. Migrating birds would have access to riparian communities within the adjacent Santa Clara River channel. Although species would be disrupted during certain activities, impacts to migratory corridors from the Project would not be significant (Class III).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Impacts from the construction and O&M of Option 1A would be similar to those described above for Option 1B. Option 1A would however create additional potential barriers due to the heightening of a longer section of the existing levee and construction of an additional section of floodwall in Reach 2.

Although species would be disrupted during certain construction activities, impacts to migratory corridors from construction and O&M of Option 1A would not be significant (Class III).

Jurisdictional Waters

Impact BIO-16: The Project would result in the loss of jurisdictional waters and/or wetland habitats.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

An assessment of jurisdictional wetlands, other “waters of the U.S.,” waters of the State, and riparian habitat was conducted in February and March 2014. The assessment identified approximately 0.004 acres of federally jurisdictional wetlands, 0.18 acres of federal non-wetland waters, and 2.4756 acres of CDFW jurisdictional waters within Option 1B (see Figure 3.2-3 and Table 3.2-8). Permanent and temporary impacts related to the construction of Option 1B would be limited to the heightening of the levee in Reaches 1 and 3, and filling of the River Ridge Golf Course swale in Reach 2. The open concrete drainage channels currently present within the swale collect on-site runoff at the River Ridge Golf Course and are directed into a single culvert that discharges into the

Table 3.2-8. Acreage of Jurisdictional Waters, Wetlands, and CDFW Jurisdictional Habitat Within Option 1B			
Jurisdictional Feature Type		Approximate Acres*	
		Permanent	Temporary
Corps/LARWQCB Waters and Wetlands	Non-wetland Waters of the U.S.	0.09	0.09
	Wetlands	0.00	0.004
CDFW Jurisdictional Waters		1.60	0.8796

* Acreages for the impacts related to the Reach 4 Floodwall are included in the acreages reported above. Of the impact to non-wetland waters of the U.S. and CDFW Jurisdictional Waters, 0.076 acres and 0.0095 acres are due to permanent and temporary impacts, respectively, to the non-natural River Ridge Golf Course swale atop the Santa Clara Landfill.

Santa Clara River. These concrete channels would be replaced with culverts prior to filling the existing swale. All existing drainage from this portion of the golf course would remain directed to the existing outlet in the Santa Clara River. Impacts to CDFW jurisdictional waters related to the heightening of the levee in Reaches 1 and 3 would result from the thinning of vegetation along the upper 20 feet of the river-facing bank of the existing levee structure. All excavation and construction-related activities within Reaches 1-3 would occur from the top of and to the land side of the existing levee away from the Santa Clara River. Filling of the golf course swale along Reach 2 would impact this non-wetland Water of the U.S. In addition, construction of the floodwall in Reach 4 would impact El Rio Drain, a non-wetland Water of the U.S. The small acreage of temporary impacts to federally jurisdictional wetlands would occur just north of the upstream most groin in Reach 3. This area would be restored to pre-project conditions as described in Mitigation Measure BIO-1c.

The importance of intermittent and ephemeral streams to wildlife in arid environments is well known (Levick et al., 2008). Ephemeral drainages such as the Santa Clara River provide unique habitat that is distinct from the surrounding uplands, providing more continuous vegetation cover and micro-topographic diversity than the surrounding uplands. Ephemeral and intermittent streams in the arid west provide important habitat for wildlife and are responsible for much of the biotic diversity (Levick et al., 2008). They have higher moisture content and provide shade and cooler temperatures within the

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channel. In cases where the habitat is distinct in species composition, structure, or density, wash communities provide habitat values not available in the adjacent uplands.

Direct impacts to State and federal waters would include the removal of native riparian vegetation, the discharge of fill, degradation of water quality, and increased erosion and sediment transport. Potential indirect impacts could include alterations to the existing topographical and hydrological conditions and the introduction of non-native, invasive plant species. Operational impacts to wetland habitats would be similar to direct and potential indirect impacts.

In 2008, the VCWPD adopted a set of programmatic BMPs that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, USACE, USFWS, NMFS, and LARWQCB. A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G. The BMPs include protocol to be followed to avoid channel earthwork during the rainy season (BMP 1) and for the stabilization of exposed soil (BMP 26).

As required by law, VCWPD would comply with the regulations regarding conducting Project activities in water courses and habitats under the jurisdiction of the State and federal government. Therefore, VCWPD would obtain required permits pursuant to Section 401 and 404 of the CWA, the State Porter-Cologne Act, and Fish and Game Code Section 1605. There would be no net loss of wetlands from the implementation of Option 1B. The concrete lined swale located at the River Ridge Golf Course, just south of the existing levee, while meeting the jurisdictional criteria as federal non-wetland waters (due to connectivity to the Santa Clara River) and CDFW jurisdictional waters, provides little in terms of habitat that would support special-status species; impacts to this swale would not be considered significant. However, due to the importance of riparian habitats and natural ephemeral/perennial drainages and their suitability to support special-status species, the loss of these habitats associated with all other remaining portions of the proposed Project would be considered a significant adverse impact requiring mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

The assessment of jurisdictional wetlands, other “waters of the U.S.,” waters of the State, and riparian habitat conducted in February and March 2014 identified approximately 0.004 acres of federally jurisdictional wetlands, 0.10 acres of federal non-wetland waters and 4.457 acres of State waters in Option 1A (see Figure 3.2-3 and Table 3.2-9). Option 1A would not include filling the swale at the River

Ridge Golf Course and would instead rely on the heightening of a longer section of levee and constructing an additional section of floodwall in Reach 2; this change reduces the impacts to federal non-wetland waters associated with Option 1B to 0.02 acres (permanent) and 0.08 acres (temporary) because it eliminates filling of the non-natural golf course swale atop the Santa Clara Landfill. Impacts to CDFW jurisdictional waters from the construction of Option 1A would be 2.01 acres greater than those described above for Option 1B. The

Table 3.2-9. Acreage of Jurisdictional Waters, Wetlands, and CDFW Jurisdictional Habitat Within Option 1A

Jurisdictional Feature Type		Approximate Acres*	
		Permanent	Temporary
Corps/LARW QCB Waters and Wetlands	Non-wetland Waters of the U.S.	0.02	0.08
	Wetlands	0.00	0.004
CDFW Jurisdictional Waters		3.656	0.8394

* Acreages for the impacts related to the Reach 4 Floodwall are included in the acreages reported above.

VCWPD would be required to obtain the same regulatory approvals as outlined above under Option 1B. The small acreage of temporary impacts to federally jurisdictional wetlands would occur just north of the upstream most groin in Reach 3. This area would be restored to pre-project conditions as described in Mitigation Measure BIO-1c. Due to the importance of riparian habitats and ephemeral/perennial drainages and their suitability to support special-status species, any loss of these habitats associated with the Project would be considered a significant adverse impact requiring mitigation (Class II).

Mitigation Measures

To minimize impacts to jurisdictional habitats, VCWPD would implement Mitigation Measures BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), and BIO-1e (*Implement Biological Construction Monitoring*). These measures include worker education describing the sensitive biological resources that occur on the Project site, implementation of BMPs to minimize and avoid impacts, developing a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground-disturbing and other construction-related activities. As discussed above, the VCWPD would also implement existing O&M programmatic BMPs as well as those listed in Mitigation Measure BIO-1b (VCWPD, 2013). These measures and adherence with the O&M programmatic BMPs would reduce impacts to jurisdictional features to a less-than-significant level (Class II).

BIO-1a Implement a Worker Environmental Education Program.

BIO-1b Implement Best Management Practices.

BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities.

BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities.

BIO-1e Implement Biological Construction Monitoring.

3.2.3.3 Cumulative Impacts

Introduction

The area of cumulative effect for biological resources varies by a species' life history, mobility, distribution, and specific range in the proposed Project area. The "geographic scope" of the analysis of cumulative impacts to biological resources refers to the area within which cumulative impacts are likely to occur. For the proposed Project, the majority of the cumulative effects analysis makes a broad, regional evaluation of the impacts of existing and reasonably foreseeable future projects that threaten plant communities and wildlife within 20 miles of the Project area. For steelhead trout the Project considers the range of the species within the lower Santa Clara River Watershed.

The proposed Project predominately supports developed lands including the existing levee structure and River Ridge Golf Course. Patches of native riparian vegetation (i.e., arroyo willow thickets, black cottonwood forest, Fremont cottonwood forest) are present along portions of the existing levee face while riparian scrub and upland habitats (i.e., mulefat thickets, eucalyptus groves, and quailbush scrub) are present within the upland terrace in the eastern or upstream extent of the proposed Project.

Historically, the lower Santa Clara River Watershed has been subject to disturbance from farming, water diversions, and development; the loss of natural communities within the lower Santa Clara River Watershed has been exacerbated through these activities. In many instances, the conversion of natural lands through human disturbance has resulted in the displacement of native species, the restriction of

regional movement corridors, and the loss of genetic diversity. The construction of the Vern Freeman Diversion in 1991, upstream of the proposed Project, has permanently altered the hydric regime within the Santa Clara River. This facility captures all low flows within the Santa Clara River originating upstream. During most of the year, the portion of the Santa Clara River from the diversion to the mouth of the river does not contain flowing water. The facility must adhere to strict discharge requirements during the winter and spring, dependent on rainfall and resulting flows, to allow for migration of steelhead trout.

Both large and small scale land conversion within the lower Santa Clara River Watershed, coupled with the cumulative project list (refer to Section 3.0, Table 3-1 and Figure 3.2-1), was considered in the evaluation of cumulative impacts for the proposed Project. Because the proposed Project would result in the permanent loss of natural lands (including sensitive riparian communities), albeit a relatively small amount (Option 1B: 0.51 acres permanent and 0.467 acres temporary impacts, Option 1A: 0.91 acres permanent and 0.945 acres temporary impacts, to native vegetation), the analysis would consider whether the proposed Project, after the application of mitigation measures, would contribute to the cumulative significant loss and degradation of habitat for plants and wildlife, including least Bell's vireo, southwestern pond turtle, Cooper's hawk, and other special-status species.

Project Contribution to Cumulative Impacts

The majority of construction related impacts to sensitive wildlife, sensitive plants, and jurisdictional waters would be temporary and indirect. Operational impacts would be similar to those underway for the existing levee, and would not result in additional impacts. There are no known bird or bat migratory corridors that would be directly impeded by the proposed Project. Large concentrations of migrants are not known to utilize any specific portion of the proposed Project site and construction and O&M activities are not expected to preclude use of the area. Migrating birds would have access to riparian communities within the adjacent Santa Clara River channel. Although species would be disrupted during certain activities, impacts to migratory corridors from the proposed Project would not be significant. Impacts to sensitive wildlife, sensitive plants, jurisdictional waters and wildlife corridors, when combined with past, present, and probable future projects, would not be cumulatively considerable.

However, the proposed Project would result in minimal direct impacts to native vegetation known to support special status plants and wildlife including least Bell's vireo, yellow warbler, and southwestern pond turtle. The majority of potential impacts would be temporary and indirect in nature. Construction activities would only occur from the top of the existing levee and landward away from the Santa Clara River. Although impacts to riparian habitat as part of the proposed Project would be minimal, because of the overall loss of these communities within California, and their suitability to support several special-status species, the loss of this habitat when combined with past, present, and probable future projects would be a cumulatively significant impact.

Implementation of Mitigation Measures BIO-1a through BIO-14 would minimize the proposed Project's contribution of cumulative impacts. These measures include worker education describing the sensitive biological resources that occur on the Project site, protocol surveys for sensitive species, implementation of BMPs to minimize and avoid impacts, developing a Habitat Restoration and Monitoring Plan, and conducting biological monitoring during ground-disturbing and other construction-related activities. Implementation of these mitigation measures would reduce the proposed Project's contribution to cumulative impacts such that they would not be cumulatively considerable.

3.2.3.4 Impact Significance Summary

Table 3.2-10, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.2-10 also

indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project's contribution to biological resources impacts during construction and O&M were determined not to be cumulatively considerable after implementation of the mitigation measures.

Table 3.2-10. Summary of Biological Resources Impacts and Mitigation Measures		
Impacts	Mitigation Measures	Significance Conclusion
BIO-1: The Project would result in temporary and permanent losses of native vegetation	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring.	Class II
BIO-2: The Project would cause the loss of foraging habitat for wildlife	No mitigation measures are required.	Class III
BIO-3: The Project would result in disturbance to nesting birds or raptors	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring. BIO-3 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. NV-1a Movable Construction Noise Barriers. NV-1b Monitor Noise Levels.	Class II
BIO-4: The Project would result in disturbance to wildlife in adjacent habitat	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring. BIO-3 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. NV-1a Movable Construction Noise Barriers. NV-1b Monitor Noise Levels.	Class II
BIO-5: The Project could disturb nesting southwestern willow flycatchers, least Bell's vireos, or their habitat	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring. BIO-3 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. BIO-5 Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat. NV-1a Movable Construction Noise Barriers. NV-1b Monitor Noise Levels.	Class II
BIO-6: The Project could result in the loss of sensitive Lancetooth, Timema, and Shoulderband Snails or Monarch Butterfly	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring.	Class II

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Biological Resources

Table 3.2-10. Summary of Biological Resources Impacts and Mitigation Measures		
Impacts	Mitigation Measures	Significance Conclusion
	NV-1a Movable Construction Noise Barriers. NV-1b Monitor Noise Levels.	
Impact BIO-7: The Project could result in mortality or injury to southwestern pond turtles or a disruption of nesting habitat.	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring. BIO-7 Conduct Surveys for Southwestern Pond Turtle and Implement Monitoring, Avoidance, and Minimization Measures.	Class II
BIO-8: The Project could result in injury or mortality for two-striped garter snakes and south coast garter snake	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices (BMPs). BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring. BIO-8 Conduct Surveys for Two-Striped Garter Snakes and Implement Monitoring, Avoidance, and Minimization Measures.	Class II
BIO-9: The Project could result in injury or mortality of amphibian and reptile species designated as California Species of Special Concern and/or Ventura County Locally Important Species	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring BIO-9 Conduct Surveys for Terrestrial Herpetofauna and Implement Monitoring, Avoidance, and Minimization Measures.	Class II
BIO-10: The Project could disturb nesting or migrant California Species of Special Concern, CDFW Special Animals or California Fully Protected bird species	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring. BIO-3 Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. BIO-5 Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat. NV-1a Movable Construction Noise Barriers. NV-1b Monitor Noise Levels.	Class II
BIO-11: The Project could result in mortality of, and loss of habitat for, special-status bat species	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring. BIO-11 Survey for Maternity Colonies or Hibernaculum for Roosting Bats. NV-1a Movable Construction Noise Barriers.	Class II

Table 3.2-10. Summary of Biological Resources Impacts and Mitigation Measures		
Impacts	Mitigation Measures	Significance Conclusion
	NV-1b Monitor Noise Levels.	
BIO-12: The Project could result in mortality of, and loss of habitat for, special-status mammals	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring. NV-1a Movable Construction Noise Barriers. NV-1b Monitor Noise Levels.	Class II
BIO-13: The Project could result in mortality of listed or special-status fish	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1e Implement Biological Construction Monitoring.	Class II
BIO-14: The Project could disturb endangered, threatened, proposed, or other special-status plant species or their habitat	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring. BIO-14 Conduct Pre-construction Surveys for State and federally Threatened, Endangered, Proposed, Petitioned, Candidate, and Special-status plants and Avoid Any Located Occurrences of Listed Plants or Perform Other Conservation Strategy.	Class II
BIO-15: The Project would interfere with established wildlife migratory corridors	No mitigation measures are required.	Class III
BIO-16: The Project result in the loss of jurisdictional waters and/or wetland habitats	BIO-1a Implement a Worker Environmental Education Program. BIO-1b Implement Best Management Practices. BIO-1c Compensation for Temporary Impacts to Sensitive Vegetation Communities. BIO-1d Compensation for Permanent Impacts to Sensitive Vegetation Communities. BIO-1e Implement Biological Construction Monitoring.	Class II

Class I: Significant impact; cannot be mitigated to a level that is not significant. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: Significant impact; can be mitigated to a level that is not significant. A Class II impact is a significant adverse effect that can be reduced to a less than significant level through the application of feasible mitigation measures presented in this EIR.

Class III: Adverse; less than significant. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: Beneficial impact. A Class IV impact represents a beneficial effect that would result from project implementation.

3.3 Scenic Resources

This section describes effects on scenic resources from implementation of the proposed Project. The section describes existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts from construction, operation, and maintenance activities. Existing laws and regulations relevant to scenic resources and how they would be applied to the proposed Project are described. In some cases, compliance with existing laws and regulations would reduce or avoid impacts that might otherwise occur with implementation of the Project.

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following substantive issues related to scenic resources were raised during scoping and are addressed in this section.

- Project design should avoid view-blocking barriers or floodwalls and include graffiti control.
- Project should comply with the Public Access Vision Plan for the *Santa Clara River Parkway Plan* as implemented by the *Santa Clara River Trail Master Plan*.

3.3.1 Environmental Setting

3.3.1.1 Existing Conditions

The proposed Project area is located along the Santa Clara River within unincorporated Ventura County lands adjacent to the City of Oxnard and across the river from the City of Ventura. Along Reach 1, there are agricultural fields and the Bailard Landfill to the south, and the river corridor and agricultural fields to the north. This reach extends east just past the Victoria Avenue bridge. Victoria Avenue is a main thoroughfare that provides the primary public viewing opportunities of Reach 1 for motorists and pedestrians. However, this is a four-lane road with a speed limit of 55 miles per hour. Therefore, this road is not regularly used by pedestrians. Generally, this area is visually characterized by open fields and vegetation along the river corridor. Along Reaches 2 and 3, the River Ridge Golf Course is to the south, and the river corridor and Ventura Municipal Golf Course are to the north. Views of Reaches 2 and 3 from the south are available from the River Ridge Golf Course; however, this is a private course so public viewing is not available. From the area north of Reaches 2 and 3, the river corridor is visible from the Ventura Municipal Golf Course, Victoria Avenue, Olivas Park Drive, and Highway 101; however, views of the Project area are not clear due to distance, vegetation, and uneven terrain. There are no existing pedestrian or bicycle facilities along Reaches 1, 2, and 3.

At the eastern end of the proposed Project site, residential development is located just south of Reach 4 (across N. Ventura Road), and commercial development is located east of Reach 4. The area along the proposed Project alignment with prominent public viewing locations is N. Ventura Road, which is a main road, thus signifying that Reach 4 is located in an area of high visibility to local motorists and pedestrians. There is a row of tall eucalyptus trees, an access road, and a low block wall between N. Ventura Road and the Santa Clara River in Reach 4. In addition, there is an informal pedestrian trail along the northwest side of N. Ventura Road in Reach 4, which would be temporarily closed to the public during approximately half of the Project's Reach 4 construction period (approximately 6 months, as the land-side floodwall is built). Temporary exclusionary fencing and signage would be erected at the entrances to this section of the pedestrian trail notifying the public of the temporary closure. A

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Scenic Resources

temporary detour for pedestrians would be available. Along the southeast side of N. Ventura Road, there is a pedestrian path and a garden wall, ranging from six to eight feet in height, which separates the single-family two-story homes in the South Bank neighborhood from the public rights-of-way, i.e., the pedestrian path and N. Ventura Road. This segment ends where the UPRR bridge and N. Ventura Road intersect, and Highway 101 is located approximately 750 feet east of the end of Reach 4. The UPRR bridge and the area surrounding the bridge consist of railroad and flood control infrastructure (El Rio Drain) that are covered in graffiti.

According to the Ventura County *Initial Study Assessment Guidelines* (Guidelines), scenic resources consist of aesthetically pleasing natural physical features (Ventura County, 2011). Of the features listed within the County's guidelines, the proposed Project site includes a river (the Santa Clara River) and native habitat within and along the river. As stated in Section 3.2 (Biological Resources), portions of the Santa Clara River are considered critical habitat for southern steelhead, and a variety of State and federally listed species are known to occur in and near the river corridor and adjacent uplands.

In addition to the County's scenic resources, Highway 101 is a State-designated scenic resource since it is designated by Caltrans as an Eligible Scenic Highway. The Ventura County General Plan identifies the viewsheds of lakes and State- or County-designated scenic highways as being worthy of special protection. These areas are designated as Scenic Resource Areas. As shown in the County's Resource Protection Map, the proposed Project area is not within or near a designated Scenic Resource Area (Ventura County, 2010).

As noted above, community members expressed concern about potential graffiti on the proposed floodwall in Reach 4. Based on reconnaissance visits to the Project area, some existing walls and structures in the immediate vicinity are marked with graffiti; particularly in the area surrounding Reach 4 where the UPRR bridge and infrastructure-related walls and structures are located.

3.3.1.2 Applicable Regulations, Plans, and Standards

California Department of Transportation – California Scenic Highway Program

California's Scenic Highway Program was created by the legislature in 1963 to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code.

The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California's scenic highways and a map identifying their locations is available from the Caltrans Scenic Highway Coordinators.

For a specific route to be included on a list of highways eligible for scenic highway designation, it must be added to the list prior to being considered for official designation. A highway may be designated scenic depending on the extent of the natural landscape that can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

When a local jurisdiction nominates an eligible scenic highway for official designation, it must also identify and define the scenic corridor of the highway. A scenic highway designation protects these scenic values of an area. Jurisdictional boundaries of the nominating agency are also considered, and the agency must also adopt ordinances to preserve the scenic quality of the corridor or document such

regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program.

To receive official designation, the local jurisdiction must follow the same process required for official designation of State Scenic Highways. The minimum requirements for scenic corridor protection include:

- Regulation of land use and density of development,
- Detailed land and site planning,
- Control of outdoor advertising (including a ban on billboards),
- Careful attention to and control of earthmoving and landscaping, and
- Careful attention to design and appearance of structures and equipment.

Ventura County General Plan

The County's General Plan sets forth the goals, policies, and programs the County will implement to manage future growth and land uses, and embodies the vision for the future of unincorporated Ventura County. The following goals and policies are from the Scenic Resources section (Section 1.7) of the Goals, Policies and Programs document of the General Plan (Ventura County, 2015).

Goals

1.7.1-1 Preserve and protect the significant open views and visual resources of the County.

1.7.1-2 Protect the visual resources within the viewshed of lakes and State and County designated scenic highways, and other scenic areas as may be identified by an area plan.

Policies

1.7.2-1 Notwithstanding Policy 1.7.2-2, discretionary development which would significantly degrade visual resources or significantly alter or obscure public views of visual resources shall be prohibited unless no feasible mitigation measures are available and the decision-making body determines there are overriding considerations.

1.7.2-2 Scenic Resource Areas shall be subject to the Scenic Resource Protection (SRP) Overlay Zone provisions and standards set forth in the Non-Coastal Zoning Ordinance, which include the following:

- (1) Any request for grading, structures, or vegetation removal per the standards of the SRP Overlay Zone shall be evaluated through a discretionary permit.
- (2) Removal, damaging, or destruction of protected trees shall be in compliance with the County's "Tree Protection Regulations" of the Non-Coastal Zoning Ordinance.
- (3) All discretionary development shall be sited and designed to:
 - a. Prevent significant degradation of the scenic view or vista;
 - b. Minimize alteration of the natural topography, physical features, and vegetation;
 - c. Utilize native plants indigenous to the area for re-vegetation, whenever possible;
 - d. Avoid silhouetting of structures on ridge tops that are within public view;
 - e. Use colors and materials that are designed to blend in with the natural surroundings;

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f. Minimize lighting that causes glare, illuminates adjacent properties, or is directed skyward in rural areas.

- (4) No on-site freestanding advertising signs in excess of four feet in height and no freestanding off-site advertising signs shall be permitted.

1.7.2-4 The Planning Division shall continue to implement the landscaping requirements of the Zoning Ordinance and the “Guide to Landscape Plans” to enhance the appearance of discretionary development.

Santa Clara River Trail Master Plan

In 1991, the Ventura County Watershed Protection District (VCWPD) and the California State Coastal Conservancy (CCC) initiated a management plan for the Santa Clara River and its resources (City of Oxnard, 2011). In response, the City of Oxnard is pursuing the opportunity for a multi-use trail system along the stream bank protection and levee system on the southern bank of the Santa Clara River (City of Oxnard, 2011). The Santa Clara River Trail (SCRT) Master Plan project study area encompasses the southern bank of the Santa Clara River from Central Avenue in the northeast down to N. Victoria Avenue in the southwest as well as connections to W. Gonzales Road, currently a bicycle route to the Pacific Ocean. The following are the goals that apply to the Santa Clara River and the proposed Project:

1. Create a safe and attractive trail fully accessible to a wide variety of non-motorized activities for recreation and transportation.
2. Provide connectivity to existing or planned trails, schools, parks, and other key destinations.
3. Trail design, construction and long-term use should respect adjacent properties and ecosystems.
4. Respect the functional role of the Santa Clara River.

3.3.2 Environmental Impacts and Mitigation Measures

The assessment of scenic resource impacts involves qualitative analysis that is inherently subjective, even when done in a consistent and rigorous manner. There are no absolute standards or quantifications of aesthetic values. However, following widely-recognized professional practice, certain broad principles, described below, are applied in this analysis to characterize the visual resource baseline and potential Project impacts.

First, visual impacts are a function of the existing visual quality of the Project landscape setting. Impacts to landscapes of high visual quality are more likely than impacts to settings of poor quality.

Second, visual impacts are a function of the sensitivity and response of viewers to visual change. Where there are no viewers, no impacts can occur, and the intensity of impacts is partly a function of the sensitivity and concern of viewers to project-caused visual changes. Viewer sensitivity is generally evaluated in terms of such measures as degree and duration of viewer exposure, viewer distance zone, number of viewers, viewer activity types, and corresponding viewer scenic expectations; public policies expressing special concern with particular scenic features or values, including designated scenic vistas or road corridors; and other factors reflecting viewer concern and response.

Lastly, the level of impact is determined by the degree of project-caused visual change. This is generally described in terms of the anticipated level of visual contrast and dominance, as well as potential for blockage of scenic views. Visibility of a project feature per se is not typically identified as a significant

impact. Rather, a substantial level of visual change, experienced by viewers with high levels of sensitivity to visual change, is normally recognized as a prerequisite to significant visual impact, except under unusual circumstances.

In addition, consistency with adopted local policies is considered in the evaluation of impacts. While this assessment considers County policies in the assessment of scenic resource impacts, the determination of consistency with goals and policies is made by the decision-makers as part of their review and consideration of a Project.

3.3.2.1 Criteria for Determining Impact Significance

According to the Ventura County *Initial Study Assessment Guidelines* (Ventura County, 2011), a project has the potential to create a significant impact to scenic resources if it:

- Is located within an area that has a scenic resource that is visible from a public viewing location; and,
- Would physically alter the scenic resource either individually or cumulatively when combined with recently approved, current, and reasonably foreseeable future projects; or
- Would substantially obstruct, degrade, or obscure the scenic vista, either individually or cumulatively when combined with recently approved, current, and reasonably foreseeable future projects.

In addition, a project would result in a potentially significant environmental impact if it is inconsistent with any of the applicable policies of the Ventura County General Plan Goals, Policies, and Programs.

3.3.2.2 Direct and Indirect Impacts

Scenic Resources Visible from Public Viewing Locations

Impact SR-1: Construction and O&M activities in the Project area would be visible from public viewing locations.

As stated in the environmental setting above, the Santa Clara River and the native habitat within and surrounding the river are considered scenic resources by the County's environmental guidelines. Therefore, construction and O&M activities associated with the proposed Project would occur directly adjacent to scenic resources along Reaches 1 through 4.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Construction of Reaches 1 and 3 would consist of levee improvements in an area that is immediately surrounded by agricultural lands, two golf courses, and open space. Activities along Reach 1 would be visible by motorists and pedestrians from N. Victoria Avenue. However, construction and O&M activities would be temporarily visible, and would not be located in one area along the levee for extended periods of time. In addition, the speed limit along N. Victoria Avenue is 55 miles per hour and there are no stop signs or traffic lights located at the intersection of the river and N. Victoria Avenue. As such, this road is not commonly used by pedestrians, and motorists would pass the proposed Project area at high speeds such that Project activities would not be highly noticeable by the public. Finally, as the levee is an existing land use, the levee improvements would not result in a dramatic difference in the existing landscape. Therefore, potential impacts to scenic resources within Reaches 1 and 3 would not be significant.

Under Option 1B, no improvements to the existing levee would occur in Reach 2. Instead, the existing golf course drainage swale at the northwest end of the River Ridge Golf Course, located at the mid-

point of Reach 2, would be filled in to close a potential path for floodwater to escape from the Santa Clara River and reach residential areas located south of the golf course. Filling the golf course swale would essentially eliminate Reach 2 as a levee system, and avoid the construction requirements to improve the levee to meet FEMA criteria. The drainage swale would be visible by golfers at the River Ridge Golf Course; however, as a private club, this course is not considered a public viewing location. North of the drainage swale, the Ventura Municipal Golf Course is a public course, which is considered a public viewing location. The southern boundary of the Ventura Municipal Course is located over 1,500 feet from where construction and O&M activities would occur. Due to this distance, along with the vegetation in the open space between the two golf courses, the visual impacts of construction and O&M activities would not be significant from the public golf course. The closest road is W. Vineyard Avenue, which is approximately 1,000 feet south of the drainage swale area. Public views of this area from W. Vineyard Avenue would be limited due to the distance and the varying terrain within the River Ridge Golf Course. Therefore, the potential impacts along the Reach 2 area would not be significant.

The area surrounding Reach 4 includes residential development south of the proposed floodwall and, to the north, the Santa Clara River and open natural space are in the immediate vicinity. Construction and O&M activities associated with Reach 4 would be visible to motorists and bicyclists using N. Ventura Road, and to users of the landscaped pedestrian pathway on the southeast side of N. Ventura Road and the informal pedestrian trail along the northwest side of N. Ventura Road. In addition, the east end of Reach 4 would end approximately 750 feet from Highway 101. Although Highway 101 is not an official scenic highway, it is eligible for the State Scenic Highway System (Caltrans, 2012). Construction activities at the east end of the floodwall in Reach 4 would be visible from the southbound lanes of Highway 101. However, the highway is raised in this area with a crossing over N. Ventura Road, which decreases visibility of the proposed Project area. The construction staging area at the east end of the River Ridge Golf Course would be approximately 0.75 mile west of Highway 101, which would not be visible from the highway; the easternmost staging area at the El Rio Drain would be obscured by the UPRR bridge. Construction activities would be temporarily visible to the public during the approximately 27-month construction period. Therefore, the limited visibility from the highway and the temporary nature of construction would result in a less-than-significant visual impacts from public views along Reach 4.

Once construction is complete, the floodwall would be visible to the public from N. Ventura Road and from Highway 101. However, O&M activities along the floodwall would be temporary and would not create a long-term change to scenic resources. Therefore, potential impacts would not be significant.

Overall, due to the temporary nature of the construction and O&M activities, the impacts to scenic resources from public viewing locations would not be significant (Class III). The impacts associated with the permanent features of the Project are discussed below under Impact SR-2.

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Impact SR-1 under Option 1A would be the same as Option 1B as Reach 2 is not visible from a public viewing location. Therefore, due to the temporary nature of the construction and O&M activities, the impacts to scenic resources from public viewing locations under Option 1A would not be significant (Class III).

Mitigation Measures

No mitigation measures are necessary for this impact.

Alteration of Scenic Resources

Impact SR-2: Implementation of Reach 4 would alter scenic resources in the Project area by introducing new structures and resulting in the removal of native habitat.

As stated in the environmental setting above, the Santa Clara River and the native habitat within and surrounding the river are considered scenic resources by the County's environmental guidelines. Therefore, construction and O&M activities associated with Reach 4 of the proposed Project would occur directly adjacent to scenic resources. However, the proposed Project activities within Reaches 1, 2, and 3 would consist of levee improvements in an area that is immediately surrounded by agricultural lands, two golf courses, and open space, which would generally not be visible from public viewing locations. In addition, the levee along these reaches is an existing land use, so improvements would not result in a dramatic difference in the existing landscape. Therefore, potential impacts to scenic resources within Reaches 1, 2, 3 would not be significant and are not discussed further in this impact analysis.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

From the west end of Reach 4, the floodwall would be constructed on the river side of N. Ventura Road for approximately 968 feet and would have a visible height of approximately six feet. The wall would be offset from the roadway approximately 17.5 feet to accommodate the future 16-foot-wide SCRT with an adjacent curb and gutter. Where the curb and gutter already exist, the floodwall would be offset by 16 feet. On the river side of the floodwall, a soil cement maintenance access road would be installed to a width of 15 feet from the base of the slope adjacent to the floodwall to permit regular facility inspections. At this time, the exact location of the SCRT is unknown. However, whether the SCRT bikeway is placed on the river side or land side of the floodwall, the proposed Project would leave enough space to accommodate the proposed bikeway and would not conflict with the SCRT Master Plan. Under Option 1B, regardless of the placement of the future bikeway, the construction of a 968-foot-long floodwall would result in a permanent visual change for trail users in comparison to the current open view of the river corridor.

The floodwall would cross N. Ventura Road at the high point in the road. A six-foot high flood gate would be installed at this roadway crossing, which would be located underground except in the event of rising flood waters at which point the flood gate would rise. The floodwall would then continue east along the top of the existing slope on the southeast side (landside) of N. Ventura Road for approximately 888 feet, then transition to a 40-foot-long earthen embankment abutting and perpendicular to the south UPRR embankment. A similar 40-foot-long earthen embankment would be constructed on UPRR land northeast of the railroad embankment to tie into the flood protection structure to be constructed by The Village development. The floodwall would vary in height from six feet down to four feet near the El Rio Drain. To prepare the site for installation of the floodwall, approximately 1.2 acres of existing vegetation would be cleared along the alignment.

Installation of the 968-foot-long segment of floodwall on the western end of Reach 4 would introduce a new six-foot-tall structure that would permanently alter the viewshed of the scenic resources in the Project area (i.e., the Santa Clara River and surrounding open space). As such, this component of the proposed Project would alter views experienced by motorists traveling along N. Ventura Road, users of the informal pedestrian pathway on the northwest side of N. Ventura Road, users of the pedestrian pathway on the southeast side of N. Ventura Road, and residents on the southeast side of N. Ventura Road (from second-story windows). This view of Reach 4 is depicted in Figures 3.3-1 and 3.3-2.



Figure 3.3-1a: Existing view of Reach 4 on N. Ventura Road looking northeast towards the UPRR bridge and Highway 101



Figure 3.3-1b: Visual simulation looking northeast of the Reach 4 floodwall on the south side (land side) of N. Ventura Road and the flood gate installed within the street (at lowered position)

Figure 3.3-1
Proposed Project Reach 4, N. Ventura Road Looking Northeast



Figure 3.3-2a: Existing view of Reach 4 on N. Ventura Road looking west



Figure 3.3-2b: Visual simulation looking west of the Reach 4 floodwall on the north side (river side) of N. Ventura Road

Source: MBI, 2015.

Figures 3.3-2
Proposed Project Reach 4, N. Ventura Road Looking West

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Scenic Resources

Figure 3.3-1a¹ shows the existing conditions from N. Ventura Road looking northeast towards the UPRR bridge and Highway 101. As seen in this photo, the existing viewshed along the northwest side of N. Ventura Road (left side of photo) consists of open natural space, including a row of tall eucalyptus trees and adjacent weedy annuals along the shoulder between the road and the river. On the southeast side of N. Ventura Road (right side of photo), the existing viewshed comprises a concrete rock slope, adjacent landscaping (shrubs in the foreground and trees in the background), and a garden wall partly screened by the landscaping. Figure 3.3-1b is the same location with a visual simulation of Reach 4 showing the flood gate installed within the street, the future SCRT on the left (northwest side of N. Ventura Road), and the proposed land side floodwall on the right (southeast side of N. Ventura Road). This simulation also shows that landscaped shrubs on the right side of the photo would be removed to construct the floodwall, but the landscaped trees in the background would be preserved. The eucalyptus trees on the river side (left side of photo) would be preserved, but the weedy vegetation next to them would be covered by the new SCRT.

Figure 3.3-2a shows the existing conditions from N. Ventura Road looking southwest, which includes a short existing wall and a row of tall eucalyptus trees along the river side of the road (top of photo). Figure 3.3-2b provides a visual simulation showing the proposed river side floodwall and adjacent SCRT along with the removal of the eucalyptus trees and the existing low wall. The simulations provided in Figures 3.3-1b and 3.3-2b indicate that noticeable visual changes would occur along Reach 4 due to the vegetation removal and the presence of the proposed floodwall.

The proposed Project would accommodate the future bike path planned as part of the City of Oxnard's Santa Clara River Trail Master Plan on the northwest side of N. Ventura Road. A community comment suggested that the bike path be placed on the river side of the floodwall. Implementation of this suggestion would decrease visual impacts to recreationists along this portion of Reach 4. However, due to the confirmed presence of endangered least Bell's vireo breeding territories, a recreational trail on the river side would create a permanent new source of disturbance in close proximity to occupied habitat; to avoid such impacts, the SCRT would be placed between the river side floodwall and N. Ventura Road. Therefore, the views of the river and open space would be completely obstructed by the floodwall, which would result in significant and unavoidable visual impacts (Class I).

Installation of the 888-foot-long floodwall at the east end of Reach 4 would be located on the southeast (land) side of N. Ventura Road (as shown in Figure 3.3-1b). The previously described garden wall and a wide landscaped sidewalk separate the homes from N. Ventura Road, providing both a noise and visual barrier between the homes and this highly traveled road. Figure 2-54 includes a cross section (Section G-G) of the floodwall showing that the existing six-foot garden wall on the southeast side of N. Ventura Road would be either the same height as or up to two feet taller than the proposed floodwall, which would decrease in height from west to east (six feet down to four feet) near the El Rio Drain. Therefore, views from residences along N. Ventura Road would not be obstructed by the portion of the floodwall that would be located along the southeast side of N. Ventura Road. Regardless, local residents and motorists would experience altered views on the southeast side of the road due to the visual changes

¹ There are two comments to note regarding the visual simulation – (1) the simulation gives the impression that the proposed floodwall along the land side is taller than the existing garden walls, but the two walls would both be approximately six feet in height, with the floodwall descending to four feet in height a short distance beyond the flood gate, and (2) the simulation provides a vision of the intended future condition with the proposed Project and bike path on the river side of the street. The bike path is not part of the proposed Project; however, it is part of the City of Oxnard's Santa Clara River Trail (SCRT) Master Plan. As such, Figure 3.3-1b shows that the proposed Project design would allow for implementation of the City's plans.

associated with the removal of the landscaped shrubs and the presence of a four- to six-foot tall land side floodwall. In addition, the placement of the floodwall on the southeast side of N. Ventura Road would partially enclose this 888-foot segment of the existing pedestrian pathway, which would obstruct the viewshed of the river for users of this pathway. Pedestrians using the sidewalk at the base of the existing concrete rock riprap slope would be able to view the river in the northwest direction, but views toward the southwest, where the river side floodwall is proposed, would be obstructed. There are no mitigation measures that could lessen this impact; therefore, this impact is significant and unavoidable (Class I).

The County's General Plan includes Goal 1.7.1-1, which aims to preserve and protect the significant open views and visual resources of the County, and Policy 1.7.2-1, which aims to prohibit discretionary development that would significantly degrade visual resources or significantly alter or obscure public views. The proposed Project has the potential to alter and obscure views of the Santa Clara River and the surrounding scenic resources. The determination through this analysis is that this impact would be significant and unavoidable; therefore, Reach 4 of the proposed Project would not comply with Goal 1.7.1-1 and Policy 1.7.2-1.

Overall, Impact SR-2 represents significant and unavoidable impacts to scenic resources. There are no mitigation measures that could avoid the alterations to views of scenic resources and the resultant impacts to the viewshed of the Santa Clara River and the surrounding natural open space. Therefore, impacts would be significant and unavoidable (Class I).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Impact SR-1 under Option 1A would be the same as Option 1B. The difference between the two options is Reach 2, which would not be significantly affected by proposed Project activities under this impact. The design of the Reach 4 floodwall would be the same under Options 1A and 1B. Therefore, the impacts to scenic resources under Option 1A would be significant and unavoidable (Class I).

Impact SR-3: Implementation of the Reach 4 floodwall could result in increased graffiti that would degrade the quality of surrounding scenic resources.

As discussed under Impact SR-2, the height of the floodwall would vary from four to six feet. Any graffiti placed on the proposed floodwall could be visible to the residences and users of the pedestrian pathway located on the southeast side of N. Ventura Road, the informal pedestrian route along the northwest side of N. Ventura Road, and to motorists traveling along N. Ventura Road. As discussed in Section 2.7 of the Project Description, graffiti on the floodwall would be removed as a part of regular maintenance. The VCWPD promptly removes graffiti with obscene comments or scenes; less offensive graffiti, such as tags, are removed as the VCWPD's budget allows. The VCWPD also implements a Graffiti Abatement Program, which works with volunteers to locate and remove graffiti from property owned by VCWPD (VCWPD, 2013). Under this program, the Graffiti Abatement Coordinator works with non-profit organizations and neighbors to address graffiti throughout the County by forming neighborhood graffiti patrols; working with each respective city's law enforcement; and recruiting and training volunteers to assist with graffiti reporting and removal in their own neighborhoods (VCWPD, 2013). Therefore, it is likely that graffiti would not immediately be removed and would present an adverse visual impact to local residents.

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In addition to the provision for graffiti removal, Mitigation Measure SR-1 (*Grffiti Avoidance*) below recommends the use of textured walls or murals to avoid issues of persistent graffiti along the floodwall. With implementation of this measure, graffiti impacts would not be significant (Class II).

Mitigation Measures

SR-1 **Grffiti Avoidance.** The intent of this mitigation measure is to ~~require the VCWPD to~~ incorporate design features to avoid graffiti on the floodwall along Reach 4. Potential options include incorporating textured patterns on the wall, adding a mural or other artistic motif, providing vegetative screening, or application of an anti-graffiti coating which aids in the graffiti removal process (allows graffiti to be washed off). Prior to Project construction, the VCWPD ~~shall coordinate with and~~ the City of Oxnard shall coordinate to develop a design plan for the floodwall, which is located within the City's jurisdiction.

Obstruction or Degradation of Scenic Vistas

Impact SR-4: Implementation of Reach 4 would obstruct and alter the views of the Santa Clara River in the Project area by introducing new structures and resulting in the removal of native habitat.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

The analysis under Impact SR-2 discusses the potential effects to scenic resources in the Project area (i.e., the Santa Clara River and the surrounding open space that includes native habitat) from implementation of the proposed Project. The analysis of Impact SR-2 discusses how the public's view would be affected by alterations of these scenic resources and also discusses the potential impacts to views along Reach 4. In summary, the visual changes that would occur due to the presence of the proposed floodwall and vegetation removal would result in significant and unavoidable visual impacts to motorists, pedestrians, and residents along the Reach 4 segment of N. Ventura Road. As such, implementation of the floodwall in Reach 4 would also result in a significant and unavoidable impact (Class I) to views of the Santa Clara River and the surrounding open space.

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

As discussed above, Impact SR-1 under Option 1A would be the same as Option 1B. The difference between the two options is Reach 2, which would not significantly obstruct the viewshed of the Santa Clara River. The design of the Reach 4 floodwall would be the same under Options 1A and 1B; therefore, the impacts to the viewshed of the Santa Clara River under Option 1A would be the same as Option 1B (Class I).

Mitigation Measures

No feasible mitigation measures are available to reduce this impact.

3.3.2.3 Cumulative Impacts

Introduction

The geographic area of analysis for cumulative impacts to scenic resources is limited to a 0.5-mile area surrounding the proposed Project. This area is defined because at distances greater than 0.5 mile, visual

changes of the Project begin to blend in with existing views and would likely be shielded from view by existing development.

Based on this geographic extent, the following cumulative projects are identified within a 0.5-mile area from the Project (refer to Figure 3-1):

- The Village (Wagon Wheel Development)
- Santa Clara River Trail Master Plan
- Ventura/Vineyard Homes
- Ravello Holdings (mixed-use residential and commercial development)
- SCR Bridge Mitigation Planning Project
- SCR-1 Levee
- Bailard Landfill Gas Project
- Olivas Park Drive Extension Project

Project Contribution to Cumulative Impacts

The overall visual quality of the area immediately north of the Project is open natural space within the Santa Clara River channel with commercial development and a golf course (Ventura Municipal Golf Course) on the opposite side of the river. The area to the south is predominantly single-family residences, a golf course (River Ridge Golf Course), and agricultural lands. The eight identified cumulative projects that could combine with the proposed Project extend along the length of the Project alignment and, therefore, are not concentrated in any one portion of the Project area. The potential for cumulative impacts during construction is limited, as cumulative projects would need to be constructed simultaneously with the proposed Project in order for a temporary cumulative impact to occur. While construction activities would include the presence of heavy equipment, because views of activities and equipment would be temporary, cumulative visual impacts would not be cumulatively considerable. However, the long-term visual changes associated with the cumulative projects listed above include large-scale commercial and residential developments that would substantially alter the existing visual conditions in the surrounding area. The proposed Project would make a substantial contribution to long-term visual changes along the Project alignment due to the proposed floodwall and vegetation removal along Reach 4. Therefore, the Project's contribution to cumulative visual impacts is considered significant and unavoidable.

3.3.2.4 Impact Significance Summary

Table 3.3-1, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.3-1 also indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project's contributions to visual impacts during construction were determined not to be cumulatively considerable; however, the long-term visual change to the Project area would be cumulatively considerable resulting in a significant and unavoidable cumulative impact.

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Scenic Resources

Table 3.3-1. Summary of Scenic Resources Impacts and Mitigation Measures		
Impacts	Mitigation Measures	Significance Conclusion
Impact SR-1: Construction and O&M activities in the Project area would be visible from public viewing locations.	No mitigation measures are required.	Class III
Impact SR-2: Implementation of Reach 4 would alter scenic resources in the Project area by introducing new structures and resulting in the removal of native habitat.	No feasible mitigation is available.	Class I
Impact SR-3: Implementation of the Reach 4 floodwall could result in increased graffiti that would degrade the overall view of the surrounding scenic resources.	SR-1: Graffiti Avoidance.	Class II
Impact SR-4: Implementation of Reach 4 would obstruct the viewshed of the Santa Clara River in the Project area by introducing new structures and resulting in the removal of native habitat.	No feasible mitigation is available.	Class I

Class I: Significant impact; cannot be mitigated to a level that is not significant. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: Significant impact; can be mitigated to a level that is not significant. A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR.

Class III: Adverse; less than significant. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: Beneficial impact. A Class IV impact represents a beneficial effect that would result from project implementation.

3.4 Hazards

This section describes effects related to hazards from implementation of the proposed Project. The section describes existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts from the construction, operation, and maintenance of the Project. Existing laws and regulations relevant to hazards are described and how they would be applied to the proposed Project. In some cases, compliance with existing laws and regulations would reduce or avoid impacts that might otherwise occur with implementation of the Project.

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following substantive issues related to hazards were raised during scoping and are addressed in this section.

- Ventura County Environmental Health Division (EHD) noted that EHD is the Local Enforcement Agency for all issues concerning non-hazardous solid waste within Ventura County, and along with the Los Angeles Regional Water Quality Control Board and CalRecycle, is a Responsible Agency with respect to this EIR. EHD is concerned about the proposed Project activities at the adjacent closed Bailard, Santa Clara, and Coastal Landfills. Effects at the landfill cover, liner, slope stability, and operation of the landfill gas, leachate, and erosion control systems should be addressed by the EIR.

3.4.1 Environmental Setting

3.4.1.1 Existing Conditions

Seismic Setting and Liquefaction

The proposed Project is located within the seismically active southern California region that is traversed by faults of the Transverse Ranges fault systems. The Transverse Ranges fault system consists primarily of reverse and thrust faults accommodating tectonic compressional stresses in the region. The effects of this deformation include mountain building, basin development, deformation of Quaternary marine terraces, widespread regional uplift, and generation of earthquakes. Active reverse or thrust faults in the Transverse Ranges include blind thrust faults responsible for the 1994 Northridge Earthquake, and the frontal faults responsible for uplift of the Santa Monica, Santa Susana, and Santa Ynez Mountains. The frontal faults include the Malibu Coast, Santa Monica-Hollywood, Santa Susana, and Santa Ynez faults. Several major active and potentially active faults zones of the Transverse Ranges fault system with potential for earthquakes traverse Ventura County in an approximate east-west direction. Two active reverse fault zones and one potentially active thrust fault are located in the Project vicinity, the Ventura-Pitas Point fault zone (2.9 miles north), Simi-Santa Rosa fault zone (5 miles east), and Oak Ridge fault (1.5 miles north), respectively.

The proposed Project will likely be subject to strong ground shaking associated with earthquakes on faults of both the regional and local Transverse Ranges fault systems and the more distant regional faults of the San Andreas fault system. Ground shaking results in seismic waves within the earth which are caused by the sudden release of accumulated stress and kinetic energy during an earthquake. The intensity of the seismic shaking, or ground motion, during an earthquake is dependent on the distance between the Project area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the Project area. Earthquakes occurring on faults

3.4 Hazards

closest to the Project area would most likely generate the largest ground motion. The intensity of earthquake-induced ground motions can be described using peak site accelerations, represented as a fraction of the acceleration of gravity (g). Data from the United States Geological Survey (USGS) National Seismic Hazard Maps were used to estimate peak ground accelerations within the Project area. The maps used depict peak ground accelerations with a two percent probability of exceedance in 50 years, which corresponds to a return interval of 2,475 years for a maximum considered earthquake. Peak ground accelerations within the Project area range from 1.0 to 1.1g (USGS, 2014), which corresponds to a potential for strong earthquake-induced ground shaking. These strong groundshaking events can induce liquefaction failure in certain cohesionless soils.

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong ground shaking and behave for a short time as a fluid rather than a solid mass. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena include lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects (Youd and Perkins, 1978). A structure that is located within a liquefaction zone may lose support under its foundation, which could cause the structure to tilt or settle into the ground surface and potentially collapse (Ventura County, 2011).

The Project area is located within a mapped liquefaction hazard zone, as determined by the California Geological Survey (CGS, 2002). Groundwater levels are relatively shallow beneath the SCR-3 Project area, ranging from about 10 to 20 feet below ground surface (bgs) (VRSD, 2012; 2013) and the area is underlain by potentially liquefiable unconsolidated river wash and stream terrace deposits (CGS, 2003). Geotechnical borings and cone penetration tests conducted along Reaches 1 through 4 indicate that potentially liquefiable layers exist locally within the alluvium beneath the levees at depths ranging from approximately 17 to 36 feet bgs (Fugro, 2011; Kleinfelder, 2014). Depths of potentially liquefiable alluvial units underlying the proposed Project vary based on the depths to groundwater along the Project, which will vary seasonally. The seismic hazard analyses by Fugro (2011) indicated that liquefaction-related settlement of the levee along Reaches 1, 3, and 4 would be negligible at approximately 1.6 inches or less of vertical settlement and that potential for lateral spreading is low. The Fugro study did not evaluate Reach 2, but conditions are expected to be similar to the other reaches.

Hazardous Waste and Public Health

The proposed SCR-3 levee improvements are located between the Santa Clara River on the north and closed landfills, agricultural lands, a golf course (River Ridge Golf Course), and residential/commercial areas on the south. Three closed landfills (Bailard, Coastal, and Santa Clara landfills) are located on the south side of the river (Figure 2-1). The Bailard Landfill is located near the west end of the Project (Reach 1) where construction of the new levee will require tie-in to the existing landfill embankment (Options 1A and 1B). The remainder of Reach 1 extending to North Victoria Avenue is adjacent to agricultural land where no landfill waste occurs. The Coastal and Santa Clara (formerly El Rio) Landfills are located immediately adjacent to each other east of North Victoria Avenue. Reaches 2 and 3 of the proposed Project parallel the north boundary of the Coastal and Santa Clara Landfills. For Option 1A, construction in Reaches 2 and 3 is generally located on top of the existing levee and would not directly tie in to the existing landfill cover soils and, therefore, waste material should not be encountered. For Option 1B,

tie-ins to the existing Coastal and Santa Clara Landfills would be required such that waste material may be encountered.

The Bailard Landfill began operation in 1962 by a private owner and was acquired in 1988 by Ventura Regional Sanitation District (VRSD, January 2014). During the final years of operation, the landfill only accepted Class III waste (nonhazardous municipal landfill) and was closed in 1998. A Southern California Edison (SCE) easement passes diagonally across the Bailard Landfill property. The private landfill operator is known to have placed waste within the SCE easement; VRSD did not place waste in the easement (VRSD, 2014). Since 1998, VRSD continues post-closure maintenance and groundwater and landfill gas monitoring and reporting to the APCD and LARWQCB.

The Santa Clara Landfill began operation by the City of Oxnard in the early 1960s and the Coastal Landfill has been operated and managed by VRSD since 1980. After operating as two separate landfills for decades, the landfills were joined in 1989 when the depression between the two was filled with waste with VRSD assuming operation of both. The City of Oxnard owns the Santa Clara landfill property, but the landfill was operated by VRSD for non-hazardous and inert solid waste disposal. The landfills were closed about 1990 and the site has been developed into a municipal golf course, the River Ridge Golf Club, by the City of Oxnard. VRSD monitors and reports groundwater and landfill gas for the two landfills as one waste management unit.

The landfills and proposed Project are underlain by water-bearing sediments within unconsolidated alluvium and floodplain deposits known as the semi-perched or unconfined aquifer. A deeper water-bearing zone known as the Oxnard aquifer is separated from the unconfined aquifer by a 100-foot-thick clay layer referred to as the clay cap.

Contaminated groundwater and landfill gas are known to occur at the margins of all three landfills (VRSD, 2012; VRSD, 2013a; VRSD, 2013b; VRSD, 2013c; VRSD, 2013d; VRSD, 2014a; VRSD, 2014b; VRSD, 2014c). The Project would include excavating the levee to prepare the foundation for raising the levee in Reaches 1-3 (Option 1A) or Reaches 1 and 3 (Option 1B), along with vegetation removal. Groundwater or landfill gas would not be encountered during these excavation activities near the top of the levee, which is 20 to 40 feet above the groundwater table and about 30 to 100 feet north of the landfill margins. Shallow groundwater and landfill gas may, however, be encountered during construction of the retaining wall in Reach 2 at the landside of the existing levee adjacent to the River Ridge Golf Course maintenance yard (Option 1A). New levee fill placed on the existing levee and adjacent access roads (farm, landfill, and golf course) in Reach 1 and Reach 2 may encroach upon existing buried landfill gas recovery pipelines. Landfill debris was encountered in a geotechnical boring (Kleinfelder, 2014, Boring Log B-16) located about 40 feet west of the proposed retaining wall at a depth of 5 feet. As such, landfill debris is possibly present within the area of the proposed Project activities, and the most likely location for Project construction to encounter landfill debris would be in the area of the retaining wall footing. Deep excavations, primarily the installation of the scour protection sheet piling, are planned for the eastern end of Reach 3. However, no landfill waste, contaminated groundwater, or landfill gas are present at this location. No known landfill waste, contaminated groundwater, or landfill gas occur along Reach 4.

3.4.1.2 Applicable Regulations, Plans, and Standards

Federal

U.S. Environmental Protection Agency (USEPA)

The USEPA was established in 1970 in response to the growing public demand for cleaner water, air and land. The USEPA was established to consolidate in one agency a variety of federal research, monitoring, standard-setting, and enforcement activities to ensure environmental protection. USEPA's mission is to protect human health and to safeguard the natural environment — air, water, and land — upon which life depends. USEPA works to develop and enforce regulations that implement environmental laws enacted by Congress, is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, USEPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. The Resource Conservation and Recovery Act of 1976 was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the “cradle to grave” system of regulating hazardous wastes.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (US Code Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enables the revision of the National Contingency Plan. The National Contingency Plan (Title 40, Code of Federal Regulation [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The National Contingency Plan also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Other federal regulations overseen by the USEPA relevant to hazardous materials and environmental contamination include Title 40 CFR Chapter I, Subchapter D – Water Programs and Subchapter I – Solid Wastes. Title 40 CFR Chapter I, Subchapter D Parts 116 and 117 designate hazardous substances under the Federal Water Pollution Control Act and set forth a determination of the reportable quantity for each substance that is designated as hazardous in Title 40 CFR Part 116. Title 40 CFR 117 applies to quantities of designated substances equal to or greater than the reportable quantities that may be discharged into waters of the United States.

Occupational Safety and Health Administration (OSHA), U.S. Department of Labor

OSHA's mission is to assure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA staff establishes protective standards,

enforces those standards, and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in Title 29 CFR Part 1910.

State

Seismic Hazard Mapping Act

The Seismic Hazards Mapping Act (the Act) of 1990 (Public Resources Code, Chapter 7.8, Division 2, sections 2690–2699) directs the California Department of Conservation, Division of Mines and Geology [now called California Geological Survey (CGS)] to delineate Seismic Hazard Zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones. Although this Project does not include any habitable structures, and would not be subject to requirements of the Seismic Hazard Mapping Act, the Act does provide a source for determining areas where specific seismic hazards may affect the proposed Project.

California Environmental Protection Agency (Cal-EPA)

The Cal-EPA was created in 1991. It centralized California's environmental authority, consolidating the CARB, SWRCB, CalRecycle, Department of Toxic Substances Control (DTSC), Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation under one agency. These agencies were placed within the Cal-EPA "umbrella" to create a cabinet-level advocate for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Its mission is to restore, protect and enhance the environment, and to ensure public health, environmental quality, and economic vitality. The DTSC, CalRecycle, and SWRCB regulate hazardous materials and hazardous waste that have the potential to cause soil, water, and groundwater contamination, and their missions are summarized below.

Department of Toxic Substances Control. The DTSC mission is to restore, protect, and enhance the environment, and to ensure public health, environmental quality, and economic vitality by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

Department of Resources Recycling and Recovery (CalRecycle). The mission of CalRecycle is to protect the public health and safety and the environment through waste prevention, waste diversion, and safe waste processing and disposal.

State Water Resources Control Board. The SWRCB mission is to preserve and enhance the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

Department of Toxic Substances Control (DTSC)

DTSC is a department of Cal-EPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code, primarily Division 20, Chapters 6.5 through 10.6, and Title 22 (Social Security), Division 4.5. Other laws that affect

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hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Government Code Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites, California Department of Public Health lists of contaminated drinking water wells, sites listed by the SWRCB as having underground storage tank leaks and which have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material.

California Office of Emergency Services

In order to protect public health and safety and the environment, the California Office of Emergency Services is in charge of establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on the location, type, quantity, and the health risks of hazardous materials handled, used, stored, or disposed of in the State, which could be accidentally released into the environment, needs to be made available to firefighters, health officials, planners, public safety officers, health care providers, regulatory agencies, and other interested parties. The information provided by business and area plans is necessary in order to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of hazardous materials into the workplace and environment. These regulations are covered under Chapter 6.95 of the California Health and Safety Code Article 1 – Hazardous Materials Release Response and Inventory Program (Sections 25500-25520), and Article 2 – Hazardous Materials Management (Sections 25531-25543.3).

Code of California Regulations (CCR) Title 19, Public Safety, Division 2, Office of Emergency Services, Chapter 4 – Hazardous Material Release Reporting, Inventory, And Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for Hazardous Materials Business Plans. These plans shall include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 - 2729.7, (2) emergency response plans and procedures in accordance with Section 2731, and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business shall prepare a Hazardous Materials Business Plan if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following:

- 500 pounds of a solid substance
- 55 gallons of a liquid
- 200 cubic feet of compressed gas
- hazardous compressed gas in any amount
- hazardous waste in any quantity

California Occupational Safety and Health Administration (Cal-OSHA)

Cal-OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal-OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (Title 8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Title 8 CCR, Chapter 4, Subchapter 7, Group 14 and 15, and Group 16, Articles 107, 109, and 110 sets forth the Permissible Exposure Limit, the exposure, inhalation or dermal permissible exposure limit for numerous chemicals. Included are chemicals, mixture of chemicals, or pathogens for which there is statistically significant evidence, based on at least one study conducted in accordance with established scientific principles, that acute or chronic health effects may occur in exposed employees.

It is the responsibility of Cal-OSHA to ensure compliance with the provisions of the Hazard Communication Standard. California Labor Code Sections 6360 through 6399.7 and Title 8 CCR Sections 5191 and 5194 are intended to ensure that both employers and employees understand how to identify potentially hazardous substances in the workplace, understand the health hazards associated with these chemicals, and follow safe work practices. This is accomplished by preparation of a Hazard Communication Plan.

Office of Environmental Health Hazard Assessment

Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986, was enacted as a ballot initiative in November 1986. Proposition 65 was intended by its authors to protect California citizens and the State's drinking water sources from chemicals known to cause cancer, birth defects, or other reproductive harm, and to inform citizens about exposures to such chemicals. Proposition 65 requires the Governor to publish, at least annually, a list of chemicals known to the State to cause cancer or reproductive toxicity. The Office of Environmental Health Hazard Assessment has established safe harbor levels (levels of exposure that trigger the warning requirement) for some, but not all, listed chemicals. Businesses that cause exposures greater than the safe harbor level must provide Proposition 65 warnings. These safe harbor levels are available in the October 2007 Status Report available at <http://www.oehha.ca.gov/prop65/pdf/October2007StatusRpt.pdf>. If there is no safe harbor level for a chemical, businesses that knowingly expose individuals to that chemical would generally be required to provide a Proposition 65 warning, unless the business could show that risks of cancer or reproductive harm resulting from the exposure would be below levels specified in Proposition 65 and its accompanying regulations.

Local

Ventura County

Ventura County Ordinance Code, Division 4, Chapter 5 (Hazardous Substances), Article 1, (CUPA).

Prior to Project implementation, the VCWPD would consult with the Ventura County Environmental Health Division (EHD) to ensure that concerns related to hazardous waste are fully addressed. This coordination would include obtaining all necessary authorizations from EHD for the purpose of preventing contamination from improper storage, handling, and disposal of hazardous wastes prior to initiating any construction activities on the Project site. Solid waste and potentially hazardous waste encountered at the landfill tie-ins will also be removed, handled and disposed of in accordance with protocols developed prior to construction and approved by EHD.

General Plan Goals and Policies. Construction and operation of the proposed Project is subject to goals and policies contained within the Ventura County General Plan. Goals and policies 2.1.1 and 2.1.2 apply to liquefaction, hazardous waste, and public health hazards for this Project. Goal and policy 2.4.1 and 2.4.2, respectively, apply specifically to liquefaction-related hazards. (Ventura County, 2015)

Goal 2.1.1. 1. Identify all major hazards and other physical constraints to development in Ventura County, and convey this information to all appropriate parties.

**3.4
Hazards**

2. Protect public health, safety and general welfare from identified hazards and potential disasters.

3. Shield public and private property and essential facilities from identified hazards and potential disasters.

4. Minimize loss of life, injury, damage to structures, and economic and social dislocations resulting from identified hazards and potential disasters.

Policy 2.1.2. 1. Applicants for land use and development permits shall provide all necessary information relative to identified hazards that may affect or be affected by their proposed project. Applicants shall also specify how they intend to mitigate identified hazards.

2. All geologic and soil engineering reports submitted with land use and development permit applications, including recommendations for measures to eliminate or mitigate possible hazards, shall be signed by qualified personnel registered and certified by the State in the appropriate discipline, such as Professional Engineers and/or Certified Engineering Geologists.

3. Essential facilities, special occupancy structures and hazardous materials storage facilities shall be designed and constructed to resist forces generated by earthquakes, gravity, precipitation, fire and winds.

4. Develop, maintain and enhance mutual training and aid agreements with other public agencies, and cooperatively plan to prevent and respond to regional emergencies.

Goal 2.4.1. Minimize the risk of loss of life, injury, collapse of habitable structures, and economic and social dislocations resulting from liquefaction.

Policy 2.4.2. Prior to the issuance of building or grading permits for essential facilities, special occupancy structures, two-story single family residences, or hazardous materials storage facilities located within areas prone to liquefaction, a geotechnical report that includes a seismic analysis and evaluation of liquefaction in accordance with the State of California Guidelines shall be prepared in order to assess the liquefaction potential and provide recommendations for mitigation.

3.4.2 Environmental Impacts and Mitigation Measures

This section describes the hazard impacts that would be caused by implementation of the SCR-3 Project, including the proposed Project and alternatives. The following discussion addresses potential environmental impacts associated with construction and operation of the Project.

3.4.2.1 Criteria for Determining Impact Significance

The Initial Study prepared for the SCR-3 Project concluded that the Project would not result in significant impacts related to fault rupture, seismic ground shaking, seiche and tsunami hazards, landslides and mudflows, expansive soils, subsidence, hydraulic hazards, fire hazards, aviation hazards, hazardous materials, daytime glare, or greenhouse gases. For explanations of why impacts related to these hazards either would not occur or would not be significant, see the Initial Study in Appendix A.

Based on the Initial Study, potential hazards associated with implementation of the Project that could result in significant impacts include effects related to liquefaction (triggered by seismic events),

hazardous waste (from possibly encountering waste materials buried in the Coastal and Santa Clara landfills), and public health (associated with potential release of landfill gas during excavation). Significance criteria for assessing impacts related to these hazards are presented below.

Liquefaction

According to the Ventura County Initial Study Assessment Guidelines, the threshold criteria for determining whether a proposed project will expose people or structures to potential adverse effects, including the risk of loss, injury, or death involving liquefaction, is whether it is located within a Seismic Hazards Zone (Ventura County, 2011). The State of California Seismic Hazard Zones Maps are to be utilized for all determinations for liquefaction potential. Projects located in mapped zones of required investigation for liquefaction must be evaluated for liquefaction potential in accordance with the requirements of the State of California Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication 117, dated 1997 (Ventura County, 2011).

Hazardous Waste

“Hazardous wastes” include the following (Ventura County, 2011):

- A waste, or combination of wastes, which because of quantity, concentration, physical or chemical characteristics, may cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or may pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of, or otherwise managed.
- A waste that meets any of the criteria for the identification of a hazardous waste adopted by the State Department of Toxic Substances Control pursuant to Division 20, Chapter 6.5 of the California Health and Safety code.

According to the Ventura County Initial Study Assessment Guidelines, the storage, handling, and disposal of potentially hazardous waste shall be in conformance with the requirements set forth in the following regulations (Ventura County, 2011):

- California Code of Regulations (CCR), Title 22, Division 4.5.
- California Health and Safety Code, Division 20, Chapter 6.5.
- Ventura County Ordinance Code, Division 4, Chapter 5 (Hazardous Substances), Article 1, (CUPA).

The above State Legislation and local ordinances have been enacted for the purpose of preventing contamination from improper storage, handling, or disposal of hazardous wastes. It is also the intent of these regulations to establish procedures so that the generators of hazardous wastes will be encouraged to employ reduction technology and destruction of their hazardous wastes prior to disposal.

Public Health

The issue of public health entails human health-related issues such as, but not limited to, landfill gas, contaminated groundwater, vectors, bioaerosols and other pathogens or environmental factors that may pose a substantial present or potential hazard to public health.

According to the Ventura County Initial Study Assessment Guidelines, significance must be determined on a case-by-case basis and is related to project type, location, and other environmental factors.

3.4.2.2 Direct and Indirect Impacts

Liquefaction

Impact HAZ-1: The Project may be subject to liquefaction-related damage.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Option 1B includes raising the levees along Reaches 1 and 3, filling in a swale in the golf course along Reach 2, and constructing a flood wall and flood gate along Reach 4. The new and existing engineered levee fill would not be susceptible to liquefaction; however, the alluvial sediments underlying the engineered levee fill for Reaches 1 and 3 and the floodwall for Reach 4 may be susceptible to liquefaction due to their unconsolidated nature and the local shallow ground water levels (Fugro, 2011). Although Fugro estimates that liquefaction-related lateral spreading and settlement would likely be minimal, these displacements could result in portions of the levee not meeting FEMA height requirements after an earthquake or in damage to the Reach 4 floodwalls due to foundation tilting or settlement, which could allow flood waters to overtop or breach the levees or floodwalls.

Placement of the new levee fill would be consistent with USACE requirements and the Ventura County Flood Control District Design Manual (more relevant to the construction of flood control facilities than the County of Ventura Building Code Requirements). Additionally, although the proposed Project does not involve the construction or modification of any habitable structures, it does include construction of floodwalls and a flood gate in Reach 4 that could be susceptible to damage from liquefaction-related phenomena. Construction of the Reach 4 floodwall and flood gate would also follow Ventura County Flood Control District Design Manual Requirements. Additionally, VCWPD has committed to post-seismic event reconstruction of affected levee slopes and embankments to address lateral spread and/or slope deformation in Reaches 1 and 3 and to post-seismic event reconstruction or repair of affected wall segments in Reach 4.

Compliance with the USACE requirements and Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the Project. Therefore, the impacts would not be significant (Class III).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Option A is similar to Option B except that along Reach 2 the levee would be raised instead of filling in the swale within the golf course and a retaining wall would be constructed on the landside of Reach 2 adjacent to the River Ridge Golf Course maintenance yard. The potential for liquefaction would remain the same as Reach 2 is underlain by the same potentially liquefiable alluvial sediments as Reaches 1, 3, and 4 (Kleinfelder, 2014). However, the potential exposure of people and structures to adverse effects would be minimally increased as there is now the potential for any of the three levees (singly or in combination) to be affected by liquefaction-induced lateral spreading and/or settlement, and for damage to the retaining wall adjacent to the maintenance yard. This would result in a slight increase in the potential for adverse effects to people or structures.

Compliance with the USACE requirements and Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would result in less-than-significant impacts (Class III).

Hazardous Waste

Impact HAZ-2: Hazardous waste may be encountered at landfill tie-ins and retaining wall footing excavation.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Levee improvements in Reach 1 of the Project would require a landfill tie-in at ~~the northeast corner of the Bailard Landfill and~~ the northwest corner of the Coastal Landfill. Raising the levee in Reach 3 would require a landfill tie-in at the northeast corner of the Santa Clara Landfill. Excavation of the existing landfill cover soils to prepare for the tie-in may encounter landfill waste and landfill gas. Waste debris may be contaminated and would require sampling and laboratory testing to determine proper handling and disposal requirements. A release of landfill gas could expose workers during excavation or conditioning of the landfill cover soils. The placement of fill over the existing landfill cap within the Golf Course swale fill component of Option 1B is not anticipated to encounter landfill waste or landfill gas.

Encountering contaminated landfill waste or landfill gas during grading at the landfill tie-ins would result in an adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Landfill debris, landfill gas, and contaminated groundwater may be present ~~at~~ in the vicinity of the Bailard Landfill (no tie-in required) and the retaining wall component planned for Reach 2 on the landside of the levee adjacent to the River Ridge Golf Course maintenance yard. The Coastal and Santa Clara landfills are unlined and contaminated groundwater and landfill gas are known to occur at the landfill perimeter. Landfill waste was encountered in a geotechnical boring drilled (Kleinfelder, 2014) approximately 40 feet west of the maintenance yard.

Encountering landfill waste, landfill gas, or contaminated groundwater in the footing excavation of the retaining wall would result in an adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Mitigation Measures

HAZ-2 **Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater.** Prior to construction, develop and implement a landfill waste and landfill gas testing plan. The plan shall outline the procedures to conduct an investigation at each levee-landfill tie-in (~~Bailard~~, Coastal, and Santa Clara landfills) and along the proposed retaining wall north of the golf course maintenance building, depending on whether Option 1A or 1B is selected. Generally, the plan and investigation shall determine if landfill waste or landfill gas will be encountered to the planned depths of excavation and soil conditioning for the proposed tie-in. The plan shall also include procedures to sample waste debris and conduct laboratory testing to identify any hazardous waste contamination. The plan shall include a landfill gas testing program to collect vapor samples from the planned depth of soil disturbance and conduct gas measurements for methane and vinyl chloride.

Public Health

Impact HAZ-3: Existing gas recovery pipelines in the work areas could result in public health effects to workers and possibly the public if a line is damaged during construction.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Landfill gas recovery pipelines carry landfill gas to the VRSD Flare Station as well as the former cogeneration facility located at the current golf course maintenance yard. Gas pipelines are buried and above ground and may be active or inactive (particularly near the former cogeneration facility). Damaging or rupturing a pipeline containing landfill gas could occur during grading for the Reach 1 landfill tie-ins. Placing new levee fill over an existing gas pipeline may impede future maintenance of the pipeline. Gas recovery wells are not located in the Option 1B work areas, including the golf course swale fill area, and would not be affected by the proposed Project.

Existing gas recovery pipelines in the work areas could result in a public health impact to workers and possibly the public if the line was damaged during construction. Covering and increasing the burial depth of the pipelines may impact future access for maintenance or repair. Damaging or burying existing landfill gas recovery pipelines would result in an adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

Option 1A levee system improvements include construction of a retaining wall on the north side of the golf course maintenance building and adjacent to existing access roads. Gas recovery pipelines terminated at the former cogeneration facility that was located at the current golf course maintenance yard. Although these gas pipelines may not be active, other active lines currently transport gas to the VRSD Flare located 800 feet to the west. Consequently, the presence of buried and above-ground gas pipelines, condensate lines, and sumps may occur in the Option 1A work areas.

Existing gas recovery pipelines in the work areas could result in a public health impact to workers and possibly the public if the line was damaged during construction. Covering and increasing the burial depth of the pipelines may impact future access for maintenance or repair. Damaging or burying existing landfill gas recovery pipelines would result in an adverse impact that can be reduced to a less-than-significant level with mitigation (Class II).

Mitigation Measures

HAZ-3 **Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines.** Prior to construction, VCWPD shall coordinate the Project design ~~should coordinate~~ with VRSD to identify and locate all landfill gas recovery wells, pipelines, condensate lines and sumps, and groundwater monitoring wells near the Project limits and ground disturbance areas. Based on the location of gas pipelines, a plan shall be developed to protect the pipelines in place or relocate them prior to construction. Active pipelines to be relocated will require additional coordination with VRSD to stop the gas flow, evacuate the line, and create the necessary connections to install the replacement pipeline. Inactive pipelines in the work areas shall be tested for residual gas or evacuated prior to removal or abandonment in place.

3.4.2.3 Cumulative Impacts

Introduction

The geographic extent of cumulative analysis for liquefaction is limited to the area immediately underlying and adjacent to the Project site and Project components. This area is considered sufficient to capture potential cumulative effects to liquefaction because primary impacts from geologic conditions and geologic hazards such as liquefaction occur at specific locales and are unaffected by activities not acting on them directly and any impacts of the proposed Project would be site specific.

The geographic extent for the analysis of cumulative impacts related to hazardous waste would include the Project site and other local and regional sites that would dispose of waste at a common locality. It is unlikely that sites a great distance from the Project site would dispose of their hazardous waste at a local or regional disposal site.

The geographic extent for the analysis of cumulative impacts related to public health would include the Project site and the neighboring former landfills. These geographic limits are appropriate to consider the potential cumulative impacts as past landfill use of a property at or adjacent to the Project site is the most significant factor in evaluating the potential for adverse public health effects due to landfill gases.

Project Contribution to Cumulative Impacts

Liquefaction hazards and the potential effects of liquefaction-related damage would affect each project individually and they would comprise an impact of the geologic environment on individual projects and would therefore not introduce cumulatively considerable impacts.

Projects in the vicinity that would generate significant quantities of hazardous waste requiring treatment or disposal that when combined with hazardous waste from the proposed Project would exceed the capacity of regional hazardous waste facilities would result in a cumulatively considerable impact. Nearby projects, including the Village (a.k.a. Wagon Wheel) development project and the Bailard Landfill Gas Project, and the proposed Project are not anticipated to generate large quantities of hazardous materials requiring disposal or treatment and therefore would not introduce a cumulatively considerable impact.

Cumulative public health impacts related to the proposed Project and the Bailard Landfill Gas Project would be significant if both projects simultaneously resulted in an accidental release of landfill gas during construction; however, the likelihood of such a double-jeopardy condition occurring would be minimal. No cumulative impacts would occur following construction.

3.4.2.4 Impact Significance Summary

Table 3.4-1, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.4-1 also indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project's contributions to hazards impacts during construction and O&M were determined not to be cumulatively considerable.

3.4
Hazards

Table 3.4-1. Summary of Hazards Impacts and Mitigation Measures		
Impacts	Mitigation Measures	Significance Conclusion
Impact HAZ-1: The Project may be subject to liquefaction-related damage.	No mitigation measures are required.	Class III
Impact HAZ-2: Hazardous waste may be encountered at landfill tie-ins and retaining wall footing excavation.	HAZ-2: Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater.	Class II
Impact HAZ-3: Existing gas recovery pipelines in the work areas could result in public health effects to workers and possibly the public if a line is damaged during construction.	HAZ-3: Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines.	Class II

Class I: Significant impact; cannot be mitigated to a level that is not significant. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: Significant impact; can be mitigated to a level that is not significant. A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR.

Class III: Adverse; less than significant. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: Beneficial impact. A Class IV impact represents a beneficial effect that would result from project implementation.

3.5 Noise and Vibration

This section describes effects related to noise and vibration from implementation of the proposed Project. The section describes existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts from the construction, operation, and maintenance of the Project. Existing laws and regulations relevant to noise and vibration are described and how they would be applied to the proposed Project. In some cases, compliance with existing laws and regulations would reduce or avoid impacts that might otherwise occur with implementation of the Project.

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following substantive issues related to noise and vibration were raised during scoping and are addressed in this section.

- Analysis should include construction vibration impacts on nearby structures.

3.5.1 Environmental Setting

Noise is defined as any unwanted sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying (Ventura County, 2011). Because the effects of noise accumulate over time, it is necessary to address both the intensity and duration of sound. As such, the thresholds of significance for noise take both of these elements into account.

General Information on Noise

A brief background on the fundamentals of environmental acoustics is helpful in understanding how humans perceive various sound levels. Although extremely loud noises can cause temporary or permanent damage, the primary environmental impact of noise is annoyance. The objectionable characteristic of noise often refers to its loudness. Loudness represents the intensity of the sound wave, or the amplitude of the sound wave height measured in decibels (dB). Decibels are calculated on a logarithmic scale; thus, a 10-dB increase represents a 10-fold increase in acoustic energy or intensity, while a 20-dB increase represents a 100-fold increase in intensity. Decibels are the preferred measurement of environmental sound because of the direct relationship between a sound's intensity and the subjective "noisiness" of it. The A-weighted decibel system (dBA) is a convenient sound measurement technique that weights selected frequencies based on how well humans can perceive them.

Noise Effects on Humans. The range of human hearing spans from the minimal threshold of hearing (approximately 3 dBA) to that level of noise that is past the threshold of pain (approximately 120 dBA). In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, while a change of 5 dB is clearly noticeable. A change of 10 dB is perceived as a doubling (or halving) of sound level. Noise levels are generally considered low when they are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. Noise levels greater than 85 dBA can cause temporary or permanent hearing loss if exposure is sustained. Figure 3.5-1 illustrates typical noise levels for common sounds.

3.5
Noise Vibration

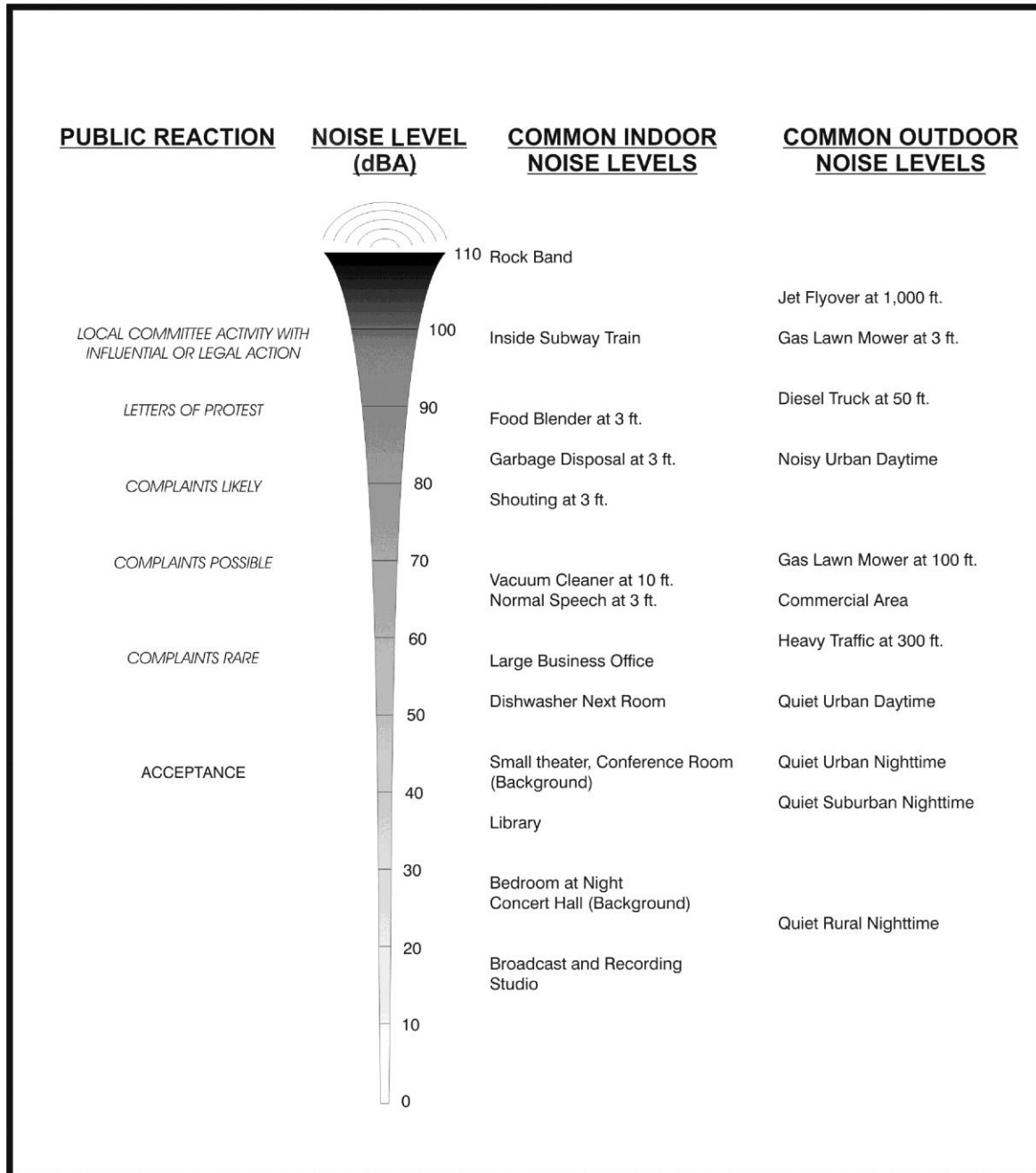


Figure 3.5-1. Noise Levels of Common Sounds

Source: Derived from USEPA, 1974 and 1978.

Ambient environmental noise levels can be characterized by several different descriptors. Energy Equivalent or Energy Average Level (Leq) describes the average or mean noise level over a specified period of time. Leq provides a useful measure of the impact of fluctuating noise levels on sensitive receptors over a period of time. Other descriptors of noise incorporate a weighting system that accounts for human’s susceptibility to noise irritations at night. Community Noise Equivalent Level (CNEL) is a measure of cumulative noise exposure over a 24-hour period, where a five (5) dB penalty is

added to evening hours (7:00 p.m. to 10:00 p.m.) and a 10 dB penalty is added to night hours (10:00 p.m. to 7:00 a.m.). Day/Night Average Noise Level (Ldn) is essentially the same as CNEL, with the exception that the evening penalty is dropped.

Noise Propagation. In air, sound from a point source radiates according to inverse square laws either spherically or hemispherically from the source, depending upon whether the noise source is near a reflecting surface such as the ground. Consequently, sound will decrease at a rate of 6 dB per doubling of distance from a point source. Additional decreases will occur due to sound absorption in the air, interaction with the ground, and shielding by intervening obstacles. A noise source which is relatively long, such as a constant stream of traffic, is called a line source, and the sound spreads cylindrically, at a rate of 3 dB per doubling of distance.

General Information on Vibration

Vibration from objects in contact with the ground will propagate energy through the ground and can be perceptible by humans and animals in the form of perceptible movement or in the form of rumbling sound caused by the vibration of room surfaces. The latter is described as ground-borne noise. High levels of vibration can result in architectural damage and structural damage depending upon the amplitude of the vibration and the fragileness of the building or structure.

Vibration is an oscillatory motion through a solid medium, in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. When assessing damage potential, vibration is often measured and reported in terms of peak particle velocity (PPV). For evaluating human response, the accepted manner to measure and report vibration is in terms of the root mean square (RMS) amplitude. Like noise, vibration is normally expressed in terms of decibels (VdB) with a reference velocity of 1×10^{-6} inches per second (ref 1 micro-inch/second).

3.5.1.1 Existing Conditions

The dominant noise sources in the proposed project area are street traffic, specifically along the major roadways in the area, including Highway 101, N. Ventura Road, and Victoria Avenue, as well as general residential noises, such as dogs barking and household maintenance activities. Additionally, periodic increases in noise levels occur from occasional aircraft over-flights and when trains (Amtrak and Metrolink) pass along the UPRR railroad bridge paralleling Highway 101 in the eastern portion of the project area (Reach 4 abuts the UPRR bridge).

To quantify the existing noise conditions of the Project area, 24-hour noise measurements were taken starting on Thursday March 13, 2015, and ending on Friday March 14, 2015, using a Type 1 environmental noise monitor (Larson Davis Model 870) at two locations along the Project alignment. Figure 3.5-2 provides the locations where sound measurements were taken.

Table 3.5-1 provides the recorded ambient noise conditions in the Project area. As demonstrated in Table 3.5-1, the existing average ambient noise levels in the Project area range between 54 and 72 dBA Leq(1-hr), with a Ldn/CNEL between 67 and 71 dBA.

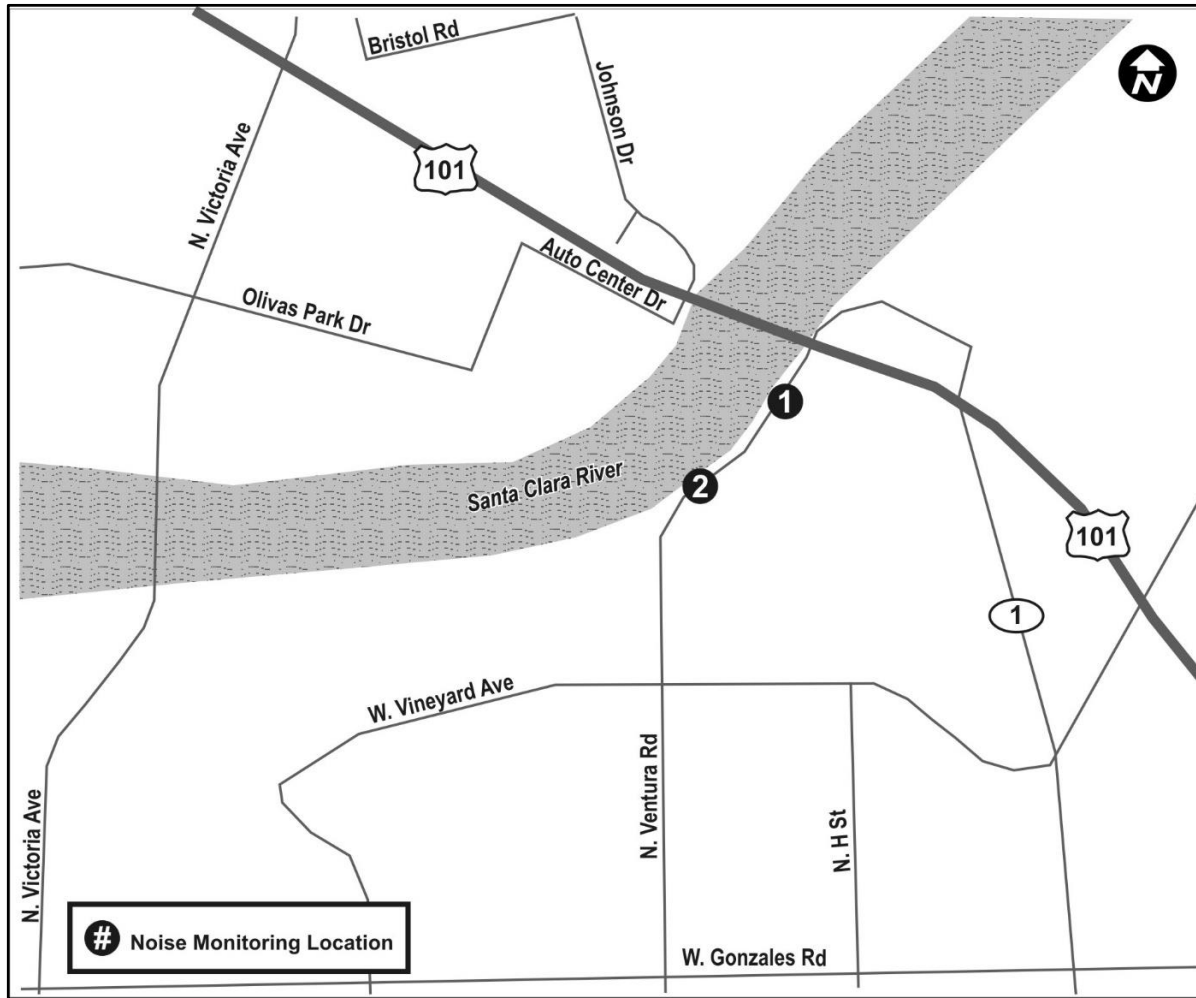


Figure 3.5-2. Sound Measurement Locations

In addition to the recorded noise measurements, the major sources of noise (surface traffic) were incorporated into a computer-aided noise model in order to show typical daytime noise contours. The model included the observed conditions, terrain elevations, locations of buildings and walls, and traffic data published by the County of Ventura (Ventura County, 2015). Traffic on S. Victoria Avenue was modeled at 38,700 vehicles per day with trucks at ten percent of the volume. Traffic on N. Ventura Road was modeled at 11,000 vehicles per day also with trucks at ten percent of the volume. Figure 3.5-3, Ambient Noise Contours along Reaches 1-3, shows the resulting noise contours due to traffic along S. Victoria Avenue and N. Ventura Road. Figure 3.5-4, Ambient Noise Contours along Reach 4, shows the resulting noise contours due to traffic on N. Ventura Road with influences from Highway 101 and the UPRR. The model was calibrated to produce the quietest daytime hour using the field measurements. Backyard locations adjacent to the measurement locations were also modeled. The results show that noise levels in the backyards near Location 1 are approximately 3 dB less (56 dBA) and the backyards near Location 2 were over 6 dB less (62 dBA). These differences are the result of shielding from traffic noise by property walls.

Table 3.5-1. Ambient Noise Levels Representative of the Project Area		
Time ¹	Hourly Leq (1-hr), dBA	
	Location 1: NW corner of Subdivision, east of N. Ventura Rd. 140 ft from center of Ventura Rd. and 1,180 ft from center of Highway 101 ²	Location 2: SW corner of Subdivision, east of N. Ventura Rd. 73 ft from center of Ventura Rd. and 2,660 ft from center of Highway 101 ²
15:00	60	68
16:00	60	68
17:00	58	68
18:00	60	68
19:00	59	67
20:00	66	66
21:00	57	65
22:00	54	65
23:00	56	60
0:00	57	59
1:00	57	57
2:00	59	55
3:00	61	57
4:00	65	61
5:00	64	66
6:00	61	69
7:00	59	72
8:00	58	69
9:00	60	66
10:00	58	67
11:00	57	66
12:00	60	68
13:00	58	67
14:00	61	67
15:00	61	68
16:00	---	69
Ldn	67	71
CNEL	67	71
Daytime Lmax	87	99
Average Daytime Leq(h)	59	68

Source: Acentech, 2015 – Table 9 (EIR Appendix D).

Notes: Lmax = Instantaneous maximum noise level; Leq(h) = Average or mean noise level over a period of time (1-hour).

(1) Daytime hours are shaded (Ventura County, 2015).

(2) Backyards are shielded by a six foot block wall.

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Figure 3.5-3. Ambient Noise Contours Along Reaches 1-3, Leq (1-hr)
Source: Acentech, 2015 – Figure 6 (EIR Appendix D).

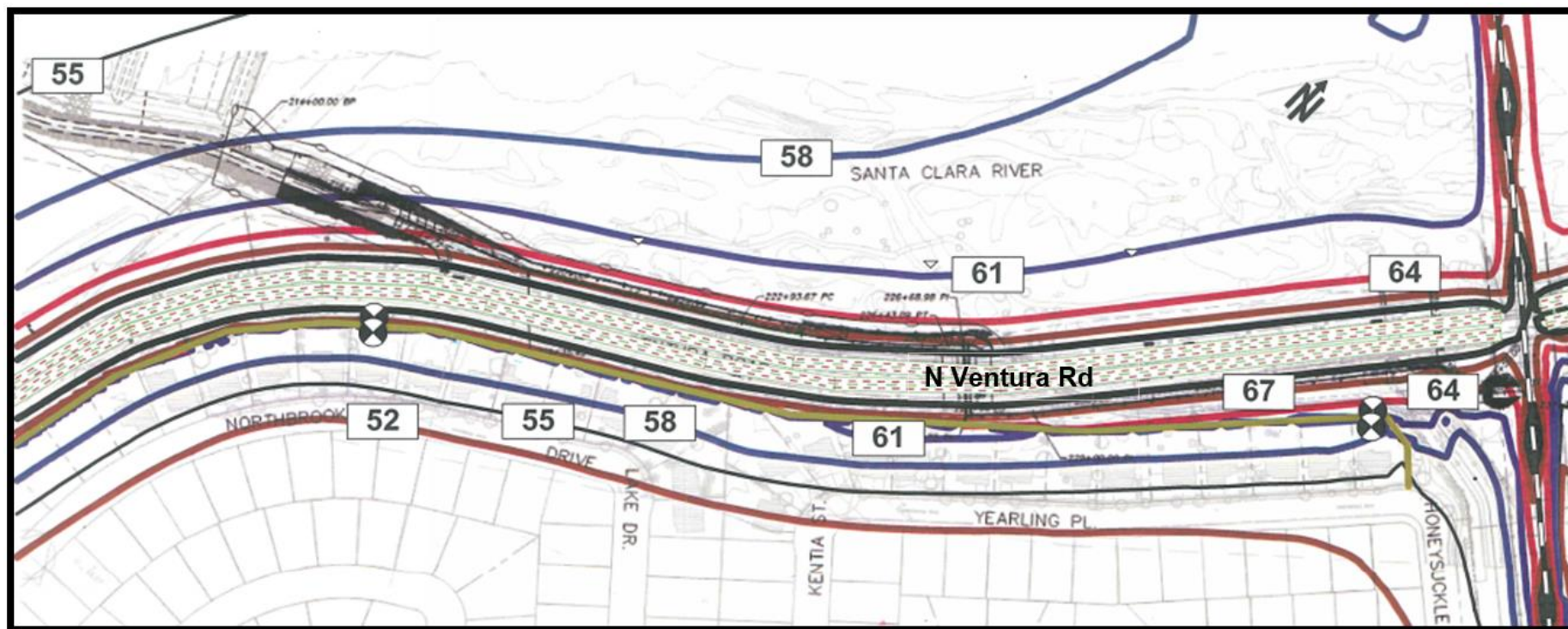


Figure 3.5-4. Ambient Noise Contours Along Reach 4, Leq (1-hr)

Source: Acentech, 2015 – Figure 7 (EIR Appendix D).

Sensitive Receptors

According to the *Ventura County General Plan* (Section 2.16 – Noise), land uses considered to be noise sensitive include residential, educational and health facilities, research institutions, certain recreational and entertainment facilities (typically, indoor theaters and parks for passive activities), and churches (Ventura County, 2015). However, it is stated in the *General Plan* (Section 2.16.2) that construction noise shall be evaluated in accordance with the County’s *Construction Noise Threshold Criteria and Control Plan* (Ventura County, 2010).

Per the County’s *Construction Noise Threshold Criteria and Control Plan*, noise-sensitive receptors and their periods of greatest sensitivity to construction noise are presented in Table 3.5-2. As such, noise-sensitive receptors in the Project area would include residential homes along the SCR-3 alignment (City of Oxnard), as well as the Residence Inn Oxnard River Ridge (2101 West Vineyard Avenue, Oxnard), if construction is occurring outside of daytime hours (7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 7:00 p.m. Saturday, Sunday, and local holidays); and the local schools and churches, when in use, including Rio del Norte Elementary School (2500 Lobelia Drive, Oxnard), National University (1000 Town Center Drive, Suite 125, Oxnard), and the Church of Jesus Christ of Latter-Day Saints (6085 King Drive, Ventura). There are no hospitals or nursing homes near the Project work limits.

Table 3.5-2. Noise-Sensitive Receptors	
Receptor Description	Typical Sensitive Time Period
Hospitals, Nursing Homes (quasi-residential)	24 hours
Single-Family and Multi-Family Dwellings (residential)	Evening/Night
Hotels/Motels (quasi-residential)	Evening/Night
Schools, Churches, Libraries (when in use)	Daytime/Evening

Source: Ventura County, 2010 – Figure 3.

3.5.1.2 Applicable Regulations, Plans, and Standards

Federal

Although no federal noise regulations exist, the USEPA has promulgated noise guidelines (USEPA, 1974). The USEPA guidelines recommend a noise level of 55 dBA CNEL to protect the public from the effect of broadband environmental noise outdoors in residential areas and farms, and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use (USEPA, 1974). Administrators of the USEPA determined in 1981 that subjective issues, such as noise, would be better addressed at lower levels of government. Consequently, in 1982, responsibilities for regulating noise control policies were transferred from the federal government to state and local governments. Noise control guidelines and regulations contained in rulings by the USEPA in prior years remain valid, but more individualized control for specific issues is allowed by designated state and local government agencies.

Under the Occupational Safety and Health Act of 1970 (29 U.S.C. §651 et seq.), the United States Department of Labor, OSHA adopted regulations (29 CFR §1910.95) designed to protect workers against the effects of occupational noise exposure. A noise exposure limit of 90 dBA over an eight-hour work period has been established (OSHA, 1970). Areas above 85 dBA need to be posted as high noise level areas and hearing protection is required (OSHA, 1970). Cal-OSHA administers these regulations in California.

State

There are no State regulations that would place environmental noise limits on the proposed project; however, there have been legislation and publications that would relate to the environmental analysis. The State has established guidelines for the development of noise elements in city and county General Plans, as discussed below. (OPR, 2003)

The State General Plan Guidelines includes the noise element guidelines, which provide a basis for comprehensive local programs to control and abate environmental noise and to protect citizens from excessive exposure. The adopted noise element is administered by the local government and serves as a guideline for compliance with the State’s noise insulation standards.

The State of California Noise Insulation Standards sets a CNEL of 45 dBA in any habitable room, including multiple-family, single family and hotel and motel rooms (California, 1974).

The California Department of Transportation (Caltrans) has established guidance for assessing impacts due to architectural or structural damage from ground vibration. Caltrans has also synthesized criteria relating to human perception. Some individuals may be annoyed at barely perceptible levels of vibration, depending on the activities in which they are participating. Table 3.5-3 and Table 3.5-4 provide a summary of the Caltrans guidance.

Table 3.5-3. Guideline Vibration Damage Potential Threshold Criteria		
Structure and Condition	Maximum PPV (inches/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.10
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.30
New residential structures	1.0	0.50
Modern industrial/commercial buildings	2.0	0.50

Source: Caltrans, 2004 – Table 19.

Note(s): Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 3.5-4. Guideline Vibration Annoyance Potential Criteria		
Human Response	Maximum PPV (inches/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.40

Source: Caltrans, 2004 – Table 20.

Note(s): Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Local

Below are the *Ventura County General Plan Goals, Policies and Programs* (General Plan) goals and policies related to noise and vibration (Ventura County, 2015). Land uses considered to be noise sensitive include residential, educational, and health facilities, research institutions, certain recreational and entertainment facilities (typically, indoor theaters and parks for passive activities), and churches. Uses considered less sensitive to noise include commercial and industrial facilities and certain noise-generating recreational facilities, such as playgrounds and gymnasiums (Ventura County, 2015).

Goals

2.16.1 To protect the health, safety, and general welfare of County residents by elimination or avoidance of adverse noise impacts on existing and future noise-sensitive uses.

Policies

2.16.2-1 All discretionary development shall be reviewed for noise compatibility with surrounding uses. Noise compatibility shall be determined from a consistent set of criteria based on the standards listed below. An acoustical analysis by a qualified acoustical engineer shall be required of discretionary developments involving noise exposure or noise generation in excess of the established standards. The analysis shall provide documentation of existing and projected noise levels at on-site and off-site receptors, and shall recommend noise control measures for mitigating adverse impacts.

- (4) Noise generators, proposed to be located near any noise-sensitive use, shall incorporate noise control measures so that ongoing outdoor noise levels received by the noise-sensitive receptor, measured at the exterior wall of the building, does not exceed any of the following standards:
 - a. Leq 1H of 55dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.
 - b. Leq 1H of 50dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 7:00 p.m. to 10:00 p.m.
 - c. Leq 1H of 45dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 10:00 p.m. to 6:00 a.m.

Section 2.16.2(4) is not applicable to increased traffic noise along any of the roads identified within the 2020 Regional Roadway Network Public Facilities Appendix of the Ventura County General Plan. In addition, State and Federal highways, all railroad line operations, aircraft in flight, and public utility facilities are noise generators having Federal and State regulations that preempt local regulations.

- (5) Construction noise shall be evaluated and, if necessary, mitigated in accordance with the County Construction Noise Threshold Criteria and Control Plan.

2.16.2-2 Discretionary development which would be impacted by noise, or generate project-related noise which cannot be reduced to meet the standards prescribed in Policy 2.16.2-1, shall be prohibited. This policy does not apply to noise generated during the construction phase of a project.

2.16.2-3 The priorities for noise control shall be as follows:

- (1) Reduction of noise emissions at the source.
- (2) Attenuation of sound transmission along its path, using barriers, landforms modification, dense plantings, and the like.

- (3) Rejection of noise at the reception point via noise control building construction, hearing protection, or other means.

The *Ventura County Construction Noise Threshold Criteria and Control Plan* sets forth noise threshold criteria (NTC), which applies only to those noise-sensitive receptors that are sensitive to noise impacts during specified hours, as designated in Table 3.5-2, above. The NTC specified in the *Ventura County Construction Noise Threshold Criteria and Control Plan* are as follows (Ventura County, 2010):

Normally, no evening or nighttime construction activity is permitted in areas having noise-sensitive receptors. However, in the event such activity is deemed necessary and is permitted, reduced noise threshold criteria are provided for construction that must occur during evening and/or nighttime hours. Emergency construction work is exempt from these construction noise thresholds.

Daytime Construction - Daytime (7:00 a.m. to 7:00 p.m. Monday through Friday, and from 9:00 a.m. to 7:00 p.m. Saturday, Sunday and local holidays) generally means any time period not specifically defined as a more noise-sensitive time period. The daytime construction noise threshold criteria are given in Table [3.5-5]. Depending on project duration, the daytime noise threshold criteria shall be the greater of the fixed Leq(h) limit (which includes non-construction evening and nighttime noise) or the measured ambient Leq(h) plus 3 dB.

Construction Duration	Fixed Leq(h), dBA	Hourly Equivalent, dBA
0 to 3 days	75	Ambient Leq(h) + 3 dB
4 to 7 days	70	
1 to 2 weeks	65	
2 to 8 weeks	60	
Longer than 8 weeks	55	

Source: Ventura County, 2010 – Figure 4.

Notes:

- (1) The instantaneous Lmax shall not exceed the NTC by 20 dBA more than eight times per daytime hour.
- (2) Local ambient Leq measurements shall be made on any mid-week day prior to project work.

Evening Construction – Evening hours (7:00 p.m. to 10:00 p.m.) are more noise-sensitive time periods. Therefore, evening construction noise threshold criteria differ from the daytime criteria. Overall project construction noise, for the noise-sensitive hours specified, shall not exceed the noise threshold criteria listed in Table [3.5-6], at the nearest noise-sensitive receptor area or 10 feet from the façade of the nearest noise-sensitive building.

Receptor Location	Fixed Leq(h), dBA	Hourly Equivalent, dBA
Residential	50	Ambient Leq(h) + 3 dB

Source: Ventura County, 2010 – Figure 5.

Notes:

- (1) The instantaneous Lmax shall not exceed the NTC by 20 dBA more than six times per evening hour.
- (2) Hourly evening local ambient noise measurements shall be made on a typical mid-week evening prior to project work.

Nighttime Construction – Nighttime hours (10:00 p.m. to 7:00 a.m. Monday through Friday, and from 10:00 p.m. to 9:00 a.m. Saturday, Sunday and local holidays) are the most noise-sensitive time periods. Therefore, nighttime and holiday construction noise threshold criteria differ from

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the daytime and evening criteria. Overall project construction noise, for the noise-sensitive hours specified, shall not exceed the noise threshold criteria listed in Table [3.5-7], at the nearest noise-sensitive receptor area or 10 feet from the façade of the nearest noise-sensitive building.

Table 3.5-7. Nighttime Construction Activity Noise Threshold Criteria		
Receptor Location	Fixed Leq(h), dBA	Hourly Equivalent, dBA
Residential, Live-in Institutional	45	Ambient Leq(h) + 3 dB

Source: Ventura County, 2010 – Figure 6.

Notes:

- (1) The instantaneous L_{max} shall not exceed the NTC by 20 dBA more than four times per nighttime hour.
- (2) Hourly nighttime local ambient noise measurements shall be made on a typical mid-week night prior to project work.

Maximum Construction Noise – In addition, the construction-related, slow response, instantaneous maximum noise (L_{max}) shall not exceed the noise threshold criteria by 20 dBA more than eight times per daytime hour, more than six times per evening hour and more than four times per nighttime hour.

The County references vibration criteria used by the Federal Transit Administration (FTA) to assess potentially significant impact from construction vibration (Ventura County, 2011), as shown in Tables 3.5-8 and 3.5-9.

Table 3.5-8. Construction Vibration Damage Criteria		
Building Category	PPV (inches/sec)	Approximate Lv ¹
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA, 2006 – Table 12-3.

Notes:

- (1) RMS velocity in decibels (VdB), with reference vibration level (ref) of 1 micro-inch/second

Table 3.5-9. Construction Ground-Borne Vibration (GBV) Annoyance Criteria			
Land Use Category	GBV Impact Levels (VdB ref 1 micro-inch /sec)		
	Frequent Events ¹	Occasional Events ²	Infrequent Events ³
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB	65 VdB	65 VdB
Category 2: Residences and buildings where people normally sleep, such as hotels and hospitals.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: FTA, 2006 – Table 8-1.

Notes:

- (1) "Frequent Events" is defined as more than 70 vibration events of the same source per day.
- (2) "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day
- (3) "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day.

3.5.2 Environmental Impacts and Mitigation Measures

The analysis provided herein is based on the Noise and Vibration Alternative Analysis for the SCR-3 Project completed by Acentech Incorporated (Acentech), which is provided as Appendix D of this EIR.

3.5.2.1 Criteria for Determining Impact Significance

Noise

The *Ventura County Construction Noise Threshold Criteria and Control Plan* would apply for construction during daytime hours. According to this plan, “daytime hours” are defined as 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 7:00 p.m., Saturday, Sunday and local holidays. Since construction would last longer than eight (8) weeks, and would occur only during daytime hours (7:00 a.m. to 7:00 p.m.), the following significance criteria for construction impacts have been used for sensitive noise receptors, which would be limited to residences, hospitals, nursing homes, schools, churches, and libraries (when in use):

- Leq(1-hr) of 55 dBA for construction or the measured ambient Leq(1-hr) plus 3 dB.

The modeling results will be used to establish the ambient Leq(h). Residential areas above 52 dBA would have a criterion of ambient Leq(h) plus 3 dB and other areas would have a Leq(h) criterion of 55 dBA.

Based upon measured ambient Leq(h) presented in Table 3.5-1 and the results of the modeling for the back yards, the ambient noise level is 56 dBA for the first four residential backyards nearest UPRR, which are further away from N. Ventura Road. For the other residential backyards along N. Ventura Road where the road is not depressed and is closer to the backyards, the ambient noise level is 62 dBA. Based upon the modeling results, residential areas that are above 52 dBA would have a criterion of ambient Leq(h) plus 3 dB. The criterion for residential backyards further from N. Ventura Road would be 55 dBA.

- Instantaneous maximum levels (Lmax) of 75 dBA or the measured ambient Leq(1-hr) plus 20 dB during construction (no more than eight times per daytime hour).

Based upon measured ambient Leq(h) presented in Table 3.5-1, the Lmax criterion for areas where the ambient Leq(h) is above 55 dBA is the modeled results plus 20 dBA.

Based on the Ventura County General Plan (Ventura County, 2015), the significance criteria for operational noise impacts will be as follows:

- Leq(1-hr) of 55 dBA or ambient noise level plus 3 dBA, whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.

Based upon the ambient Leq(h) presented in Table 3.5-1, the criteria is ambient noise level plus 3 dBA for all noise-sensitive areas adjacent to Reaches 1 – 4 (maintenance between the hours of 7:00 p.m. and 6:00 a.m. is not anticipated).

Vibration

As noted above, the County references vibration criteria used by the FTA in its *Transit Noise and Vibration Impact Assessment* (FTA, 2006) to assess potentially significant impact from construction vibration (Ventura County, 2011).

- Maximum PPV vibration levels of 0.2 inches/sec for structural damage to non-engineered timber and masonry buildings (see Table 3.5-8).

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- RMS vibration levels of 72 VdB for annoyance in residences and buildings where people sleep, such as hotels and hospitals (see Table 3.5-9). [Referred to as “nighttime” threshold for vibration]
- RMS vibration levels of 75 VdB for annoyance in institutional land uses (see Table 3.5-9).[Referred to as “daytime” threshold for vibration]

The same vibration criteria have been used for operational impacts.

3.5.2.2 Direct and Indirect Impacts

The proposed Project involves the construction/modification and maintenance of the existing SCR-3 levee downstream of UPRR adjacent to the City of Oxnard, California. Construction of the proposed Project is anticipated to occur over a 27-month period, beginning in fall or winter 2016. Construction would occur sequentially, starting within Reaches 1-3 (Phase 1) followed by Reach 4 (Phase 2), as funding is secured, with concurrent work occurring as necessary to meet schedule demands. Construction activities would occur between 7:00 a.m. and 7:00 p.m., Monday through Friday. No construction is expected on weekends or holidays. The vehicles and equipment expected to be utilized during construction are specified in Project Description Tables 2-4 and 2-5 for Reaches 1-3 and Reach 4, respectively.

Construction Noise

Impact NV-1: Project construction could result in noise levels that would disturb sensitive noise receptors, particularly near Reach 4.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Construction noise levels would vary from hour-to-hour and day-to-day, depending on the equipment in use and the operations being performed. Grading, excavation, and construction activities related to the proposed Project would increase the ambient noise levels in the Project area on an intermittent basis. Maximum noise levels (Lmax) for each piece of construction equipment listed in Project Description Tables 2-6 and 2-7 were estimated based upon the “actual measured” noise emissions and acoustical use factors published by the U.S. Department of Transportation Federal Highway Administration Office of Environment and Planning (DOT, 2006) (See EIR Appendix D – Noise and Vibration Alternative Analysis, Appendix B). The Leq(h) was calculated assuming that all equipment listed for each task were in operation, as shown in Tables 3.5-10 and 3.5-11. Propagation assumes a reduction of 6 dB for each doubling of distance. A 5-dB decrease was taken for the shielding provided by the 6-foot-tall property walls located along the residential properties adjacent to N. Ventura Road.

Task No.	Description	Leq(1-hr) @ 50 feet
1	Mobilization	73
2	Clearing and Grubbing	87
3	Demolition & Removals	76
4	Diversion and Control of Water	79
5	Traffic Control	70
6	Foundation Excavation	86
7	Levee Embankment Fill	84
8	Landfill Tie-In	82
9	Riprap (1/4-Ton)	81

Table 3.5-10. Typical Noise Levels of Construction Equipment by Task – Reaches 1-3 Option 1B

Task No.	Description	Leq(1-hr) @ 50 feet
10	Golf Course Fill	83
11	66-inch RC Pipe	81
12	Flap Gates	79
13	Slide Gates	79
14	Concrete Headwall	85
15	CMB Access Road	83
16	Chain Link Fence	78
17	Chain Link Gate	80
18	Hydroseeding	72
19	Vegetation Thinning	84

Source: Acentech, 2015 – EIR Appendix D, Appendix B.

Table 3.5-11. Typical Noise Levels of Construction Equipment by Task – Reach 4

Task No.	Description	Leq(1-hr) @ 50 feet
1	Mobilization	73
2	Clearing and Grubbing	86
3	Demolition & Removals	75
4	Diversion and Control of Water	81
5	Traffic Control	67
6	Floodwall Foundation Excavation	80
7	Riverside Floodwall	87
8	Landside Floodwall	86
9	Sheet Pile Wall and Scour Protection	80
10	UPRR Embankment Fill	81
11	El Rio Drain Channel Modification	80
12	Riprap Removal & Replacement	81
13	Chain Link Fence	78
14	Chain Link Gate	80
15	RC Drain Channel & Flap Gate	79
16	HP Gas Valve Relocations	75
17	Landscaping	75
18	Concrete Trail	80
19	CMB Access Road	83
20	Soil Cement Access Road	84
21	Flood Break Gate System	
21a	Utility Relocations	75
21b	Concrete Abutments	81
21c	Flood Break Gate Installation	75
21d	Street Modifications	83

Source: Acentech, 2015 – EIR Appendix D, Appendix C.

Based on the accelerated 20-month construction schedule presented in Project Description Table 2-4 (Reaches 1-3, Option 1B) and Table 2-5 (Reach 4), which maximizes the potential for overlapping

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activities that would result in greater noise levels for the purpose of preparing a more conservative analysis, the total noise levels during each week of construction assuming overlapping tasks are co-located on the construction site were calculated.

Within Reaches 1-3 for Option 1B, the highest noise levels were found to occur during Month 2 (week 6), when clearing and grubbing (Task 2), demolition and removals (Task 3), diversion and control of water (Task 4), and traffic control (Task 5) activities would be occurring; however, these activities would not necessarily be co-located but instead spread out along Reaches 1-3. As such, Month 4 (weeks 15-16), when levee embankment fill (Task 7), golf course fill (Task 10), and installation of the 66-inch reinforced concrete pipe (Task 11) activities would occur in close proximity to each other and near the eastern end of Reach 3 near a residential area, was selected for modeling. The resulting noise level was calculated to be 88 dBA Leq (1-hr) at 50 feet (see EIR Appendix D, Table 11). The calculated Leq (1-hr) noise contours (lines of equal sound level) from the noisiest week(s) of construction were calculated using CadnaA, a state-of-the-art computer noise model. Location of housing and terrain were also included into the modeling. Existing sources of noise, such as industrial equipment, are not included in the model. The model considered the spatial locations and sizes of noise sources, the elevation of sources and the surrounding topography, noise reduction resulting from obstructions such as buildings and walls, and ground and air absorption. Figure 3.5-5 shows the noise contours within Reaches 1-3 for Month 4 (weeks 15-16), when noise levels are anticipated to be the greatest. The noise contours from the levee embankment fill on the eastern end of the Project alignment would be representative of all areas where this activity would occur for both Option 1B and Option 1A (discussed below).

The nearest noise-sensitive receptors to Reaches 1-3 include residences south of Arcadian Shores Trail in the Cypress Point housing development and the Residence Inn Oxnard River Ridge, both located south of the River Ridge Golf Course. Figure 3.5-5 shows the noise contours during week 15 through 16 of construction. Comparing the ambient noise contours in Figure 3.5-3 above at noise-sensitive locations (residential areas) with the construction noise contours in Figure 3.5-5, construction noise at these noise-sensitive receptors would not exceed the significance criterion of ambient plus 3 dBA.

Maximum noise levels can be estimated based upon the difference between Lmax and Leq for the construction activities during week 15 through 16 (Tasks 7, 10, and 11). The noisiest equipment are 2 dB or less greater than the Leq(h). Therefore, the Leq(h) contours near the construction sites in Figure 3.5-5 are within 2 dB of the Lmax contours and all noise-sensitive receptors remain below the instantaneous maximum significance criterion of 75 dBA.

Within Reach 4, the highest noise levels were found to occur during Month 16 (Reach 4, weeks 30-31), when both landside and riverside floodwall activities (Tasks 7 and 8) would occur, resulting in a Leq (1-hr) of 89 dBA at 50 feet (see EIR Appendix D, Table 12). As noted above, the Leq (1-hr) noise contours from the noisiest week(s) of construction were calculated using a computer noise model. Figure 3.5-6 shows the noise contours within Reach 4 for Month 16 (weeks 30-31), when noise levels are anticipated to be the greatest. As shown, modeled noise levels in the backyards of residences adjacent to the construction area exceed 70 dBA. Ambient noise levels in the backyards nearest N. Ventura Road are in the range of 61 dBA as shown in Figure 3.5-4. As such, construction noise levels would exceed the significance criteria (ambient plus 3 dBA) for the nearest seven residences located along the construction activities.

Implementation of Mitigation Measures NV-1a (*Moveable Construction Noise Barriers*) and NV-1b (*Monitor Noise Levels*) would reduce noise levels in the residential backyards along N. Ventura Road. An estimated 10-foot-high moveable barrier extending along the sidewalk approximately 30 feet in

both directions from the construction activity is recommended to reduce noise levels to below the significance criteria; however, placement of such a structure within the confined space between the construction area and the existing property walls may not be practical or possible. Monitoring would help to check if noise levels are below the significance threshold, but would not guarantee that the threshold (ambient plus 3 dBA) will be met. Therefore, noise impacts during this 2-week period would remain significant.

Maximum noise levels can be estimated based upon the difference between Lmax and Leq for construction activities in weeks 30-31. The noisiest equipment are within 1 dB of the the Leq(h). Therefore, the Leq(h) contours near the construction sites in Figure 3.5-4 are within 1 dB of the Lmax contours and all noise-sensitive receptors remain below the instantaneous maximum significance criterion of 75 dBA.

Although implementation of Mitigation Measures NV-1a and NV-1b would reduce construction noise levels, impacts would remain significant during the noisiest construction period for Reach 4 (Class I). Noise from construction activities would also disturb sensitive wildlife species that utilize habitat in the adjacent Santa Clara River channel and implementation of these mitigation measures would reduce this impact. See discussions of Impacts BIO-3, BIO-4, BIO-5, BIO-10, BIO-11, and BIO-12.

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

As was done for Option 1B, maximum noise levels (Lmax) for each piece of construction equipment listed in Project Description Tables 2-4 and 2-5 were estimated based upon the “actual measured” noise emissions and acoustical use factors published by the U.S. Department of Transportation Federal Highway Administration Office of Environment and Planning (DOT, 2006) (See EIR Appendix D – Noise and Vibration Alternative Analysis, Appendix A). The Leq(h) was calculated assuming that all equipment listed for each task were in operation, as shown below in Table 3.5-12 for Reaches 1-3, Option 1A, and above in Table 3.5-11 for Reach 4, which is a common element to Option 1A and Option 1B. As previously noted, propagation assumes a reduction of 6 dB for each doubling of distance. A 5-dB decrease was assumed for the shielding provided by the 6-foot-tall property walls located along the residential properties adjacent to N. Ventura Road.

Based on the accelerated 20-month construction schedule presented in Project Description Table 2-3 (Reaches 1-3, Option 1A) and Table 2-5 (Reach 4), which maximizes the potential for overlapping activities which would result in greater noise levels to ensure a conservative analysis, the total noise levels during each week of construction assuming overlapping tasks are co-located on the construction site were calculated.

Within Reaches 1-3 for Option 1A, the highest noise levels were found to occur during Months 3-4 (Reach 3 weeks 11-13), when levee embankment fill (Task 7) and concrete retaining wall (Task 10) activities would occur, resulting in a Leq (1-hr) of 89 dBA at 50 feet (see EIR Appendix D, Table 10). The calculated Leq (1-hr) noise contours (lines of equal sound level) from the noisiest week(s) of construction were calculated using the CadnaA computer noise model. Figure 3.5-7 shows the noise contours within Reaches 1-3 for Months 3-4 (weeks 11-13), when noise levels are anticipated to be the greatest (during levee embankment fill and concrete retaining wall construction). The modeled noise levels approach 55 dBA in the front yards of houses located in the northwest corner of the Cypress Point housing development as shown in Figure 3.5-7.

Task No.	Description	Leq(1-hr) @ 50 feet
1	Mobilization	73
2	Clearing and Grubbing	86
3	Demolition & Removals	76
4	Diversion and Control of Water	N/A
5	Traffic Control	73
6	Foundation Excavation	86
7	Levee Embankment Fill	86
8	Landfill Tie-In	81
9	Riprap (1/4-Ton)	81
10	Concrete Retaining Wall	86
11	Structural Excavation & Backfill	81
12	Flap Gates	79
13	Slide Gates	79
14	CMB Access Road	83
15	Chain Link Fence	78
16	Chain Link Gate	80
17	Hydroseeding (slopes)	72
18	Vegetation Thinning	84

Source: Acentech, 2015 – EIR Appendix D, Appendix A. N/A – Not Applicable.

Similar to Option 1B, the nearest noise-sensitive receptors include residences south of Arcadian Shores Trail in the Cypress Point housing development and the Residence Inn Oxnard River Ridge. Comparing the ambient noise contours in Figure 3.5-3 to the construction noise contours in Figure 3.5-7, construction noise at these noise-sensitive receptors would not exceed the significance criterion of ambient plus 3 dBA.

The residential community south and east of N. Ventura Road where Reach 3 and Reach 4 meet is approximately 200 feet from the nearest construction activity and is protected by a 6-foot-high property wall. Comparing the ambient noise contours in Figure 3.5-4 to the construction noise contours in Figure 3.5-6, construction noise at these noise-sensitive receptors would not exceed the significance criterion of ambient plus 3 dBA.

Maximum noise levels can be estimated based upon the difference between Lmax and Leq for these two construction activities. For levee fill, Lmax for the noisiest equipment is 1 dB less than the Leq(h). For concrete retaining wall construction, Lmax is 1 dB more than the Leq(h). Therefore, the Leq(h) contours near the construction sites in Figure 3.5-6 are within 1 dB of the Lmax contours and all noise-sensitive receptors remain below the significance criterion of 75 dBA.

Under Option 1A, noise impacts on sensitive receptors in Reach 4 would be the same as described for Option 1B. Based on the modeling results, noise levels in the backyards of residences adjacent to the construction area would exceed 70 dBA. Ambient noise levels in the backyards nearest N. Ventura Road are in the range of 61 dBA as shown in Figure 3.5-4. As such, construction noise levels would exceed the significance criteria (ambient plus 3 dBA) for the nearest seven residences located along the construction activities. Implementation of Mitigation Measures NV-1a (*Moveable Construction Noise Barriers*) and NV-1b (*Monitor Noise Levels*) would reduce noise levels, but impacts would remain significant during the noisiest construction period for Reach 4 (Class I). Noise from construction

activities would also disturb sensitive wildlife species that utilize habitat in the adjacent Santa Clara River channel and implementation of these mitigation measures would reduce this impact. See discussions of Impacts BIO-3, BIO-4, BIO-5, BIO-10, BIO-11, and BIO-12.

Mitigation Measures

- NV-1a **Moveable Construction Noise Barriers.** During construction, install an approximately 10-foot-high moveable barrier along the sidewalk between the construction activity and the residential property wall, extending approximately 30 feet in both directions from the construction activity. If determined to be infeasible due to space constraints, install alternative moveable noise barriers with sound-absorptive surfaces facing the noise source between construction equipment and sensitive receptors (i.e. residences) in Reach 4. As feasible, moveable noise barriers should also be used to shield habitat areas in the Santa Clara River from construction noise.
- NV-1b **Monitor Noise Levels.** Periodically monitor noise levels during floodwall construction near noise-sensitive receptors in Reach 4 to determine whether construction noise levels exceed predicted levels. If construction noise is substantially greater than predicted, investigate whether it is feasible to install additional noise barriers or reposition construction equipment to reduce noise levels at sensitive receptors.

Operational Noise

Impact NV-2: O&M activities could result in increased noise levels affecting sensitive noise receptors.

Operation and maintenance (O&M) of the proposed Project, under either Option 1A or Option 1B, would include routine inspections and repair, as needed over the lifetime of the Project (50 years). It is anticipated that the intensity of post-construction operations and maintenance activities would increase from pre-construction (existing) conditions. The VCWPD implements best management practices during routine maintenance activities. These include utilizing the minimum size/type of equipment to complete the activity and keeping equipment and engine mufflers in good working condition to minimize potential impacts. Depending upon the nature of the maintenance activity, the noise levels would be as described in Tables 3.5-10, 3.5-11, and 3.5-12 for similar tasks. Representative tasks may include levee repair (levee embankment fill, 86 dBA at 50 feet followed by placement of riprap, 81 dBA at 50 feet), vegetation thinning (84 dBA at 50 feet), or repair of fencing and gates (78 to 80 dBA at 50 feet). The majority of these activities would occur on the river side of the floodwall in Reach 4.

Based on the distance of these O&M activities from noise-sensitive receptors and the temporary duration of such activities, noise levels from operation of the proposed Project would be below significance thresholds at sensitive receptors. Noise impacts would not be significant (Class III).

A potential concern was raised that since there are existing garden/block walls on the land side of N. Ventura Road, the proposed reflective parallel floodwall on the river side could potentially reduce the acoustical performance of the existing garden/block walls. Evaluating the traffic noise in the backyard near Location 1 (see Figure 3.5-2) with and without the levee wall on the river side resulted in a 0.5 dBA increase, which is considered insignificant (see Appendix D).

3.5
Noise Vibration

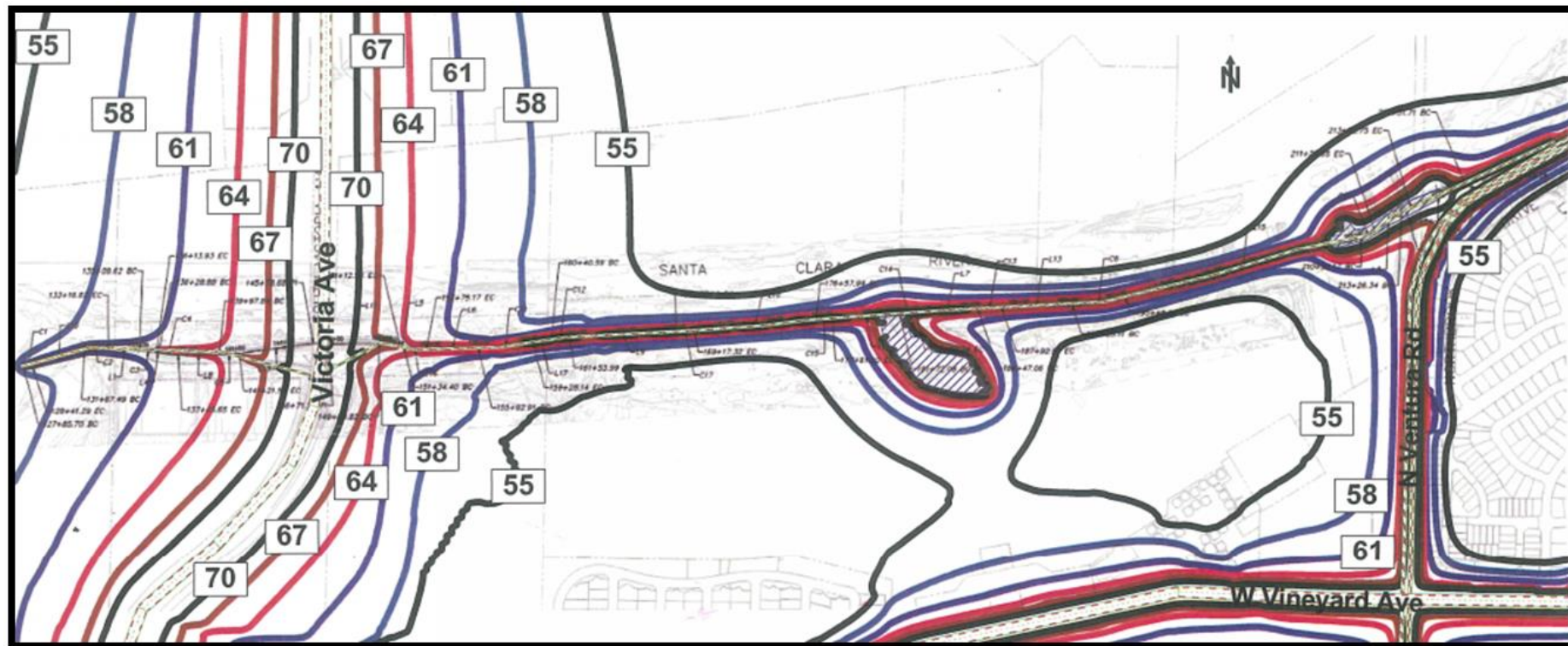


Figure 3.5-5: Construction Noise Contours for Option 1B in Reaches 1-3, Leq(h)

Source: Acentech, 2015 – Figure 9 (EIR Appendix D).

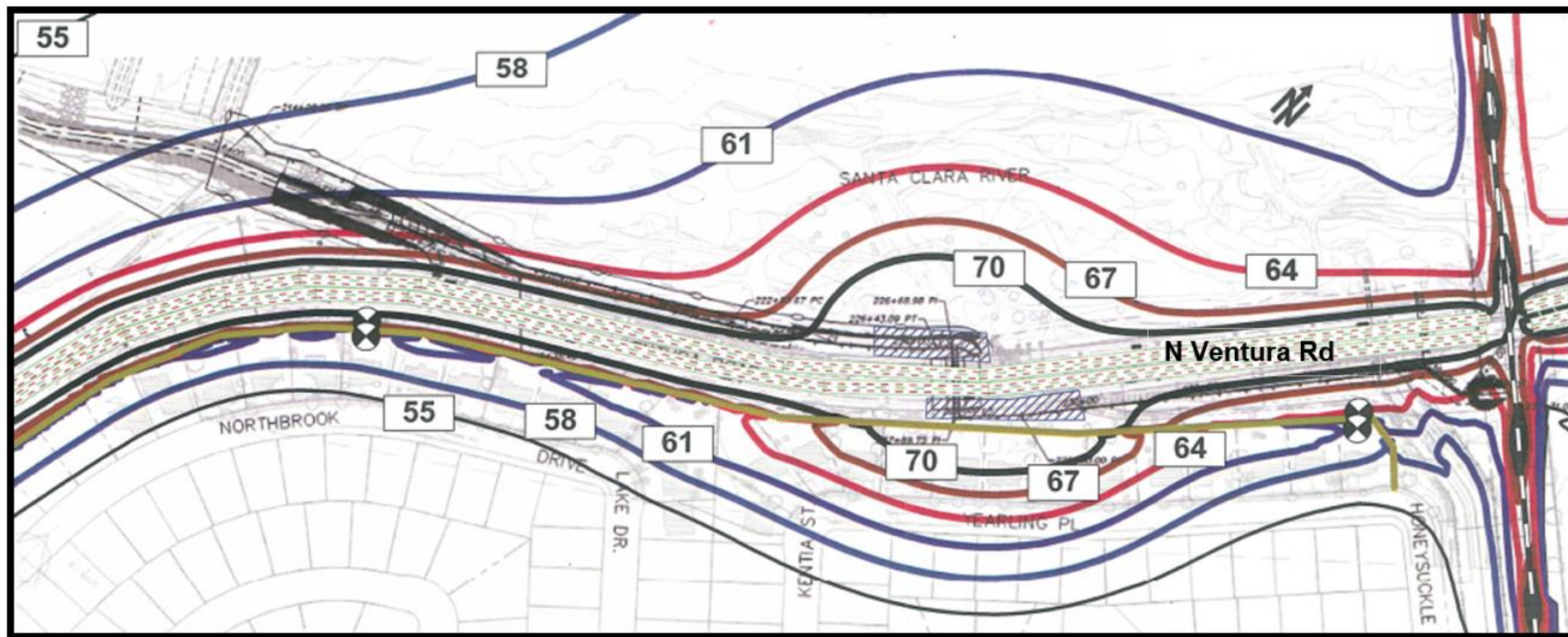


Figure 3.5-6: Construction Noise Contours for Reach 4, Leq(h)

Source: Acentech, 2015 – Figure 10 (EIR Appendix D).

3.5
Noise Vibration

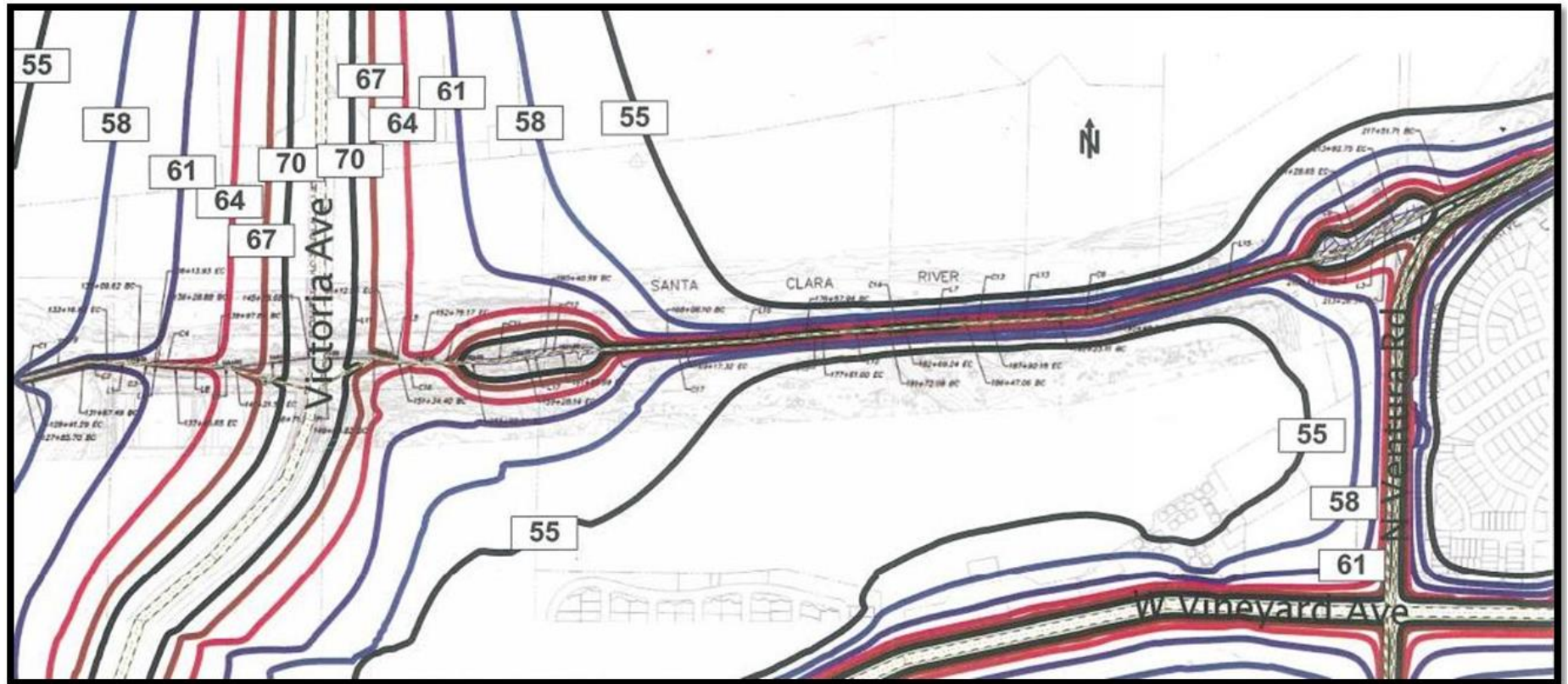


Figure 3.5-7: Construction Noise Contours for Option 1A in Reaches 1-3, Leq(h)

Source: Acentech, 2015 – Figure 8 (EIR Appendix D).

Construction Vibration

Impact NV-3: Project construction could result in vibration levels that affect nearby buildings.

Use of construction equipment has the potential to result in noise and ground-borne vibrations. As shown in Project Description Tables 2-6 and 2-7, construction tasks would include use of a vibratory pile driver, vibratory roller, concrete vibrator, dozers, and trucks, among other equipment that may result in vibrations to nearby structures. Figure 3.5-8 presents typical levels of vibration from common construction equipment known to create vibrations. The structural damage criteria of 0.2 inches/sec would be exceeded for non-engineered timber and masonry buildings within approximately 70 feet of a vibratory pile driver, within approximately 26 feet of a vibratory roller, or within approximately 15 feet of a dozer. The eastern end of Reach 3 and along the river side of Reach 4 (where vibratory pile driving would occur) are over 200 feet away from residential buildings.

As shown in Project Description Tables 2-6 and 2-7, the construction tasks when a vibratory pile driver, vibratory roller, concrete vibrator, or compactor roller is expected to be used include Concrete Retaining Wall (Task 10) and CMB Access Road (Tasks 14) for Option 1A; Concrete Headwall (Task 14) and CMB Access Road (Task 15) for Option 1B; and Sheet Pile Wall and Scour Protection (Task 9), UPRR Embankment Fill (Task 10), CMB Access Road (Task 19), and Soil Cement Access Road (Task 20) for Reach 4 (applies to both Options 1A and 1B). Option 1A and 1B construction in Reaches 1-3 would occur over 200 feet away from residences; therefore, no vibration impacts to residential structures is anticipated. In Reach 4 (common to Options 1A and 1B), the UPRR embankment fill is over 130 feet from the nearest residence, and the sheet piles and access road (located on the north side of the river side floodwall) are approximately 150 feet from the nearest residential structure. Construction activities on the land side of N. Ventura Road along Reach 4 would occur 0 to 50 feet from residential property lines. The residential structures are another 40 to 50 feet away. The use of a vibratory roller is not anticipated along the land side of the floodwall and no sheet pile would be installed along the land side floodwall. Assuming the worst-case scenario of 40 feet between construction activities and residential structures, the vibration amplitudes in Figure 3.5-8 are less than 0.2 inches/sec and no structural damage to residences would occur. Impacts would be less than significant (Class III).

Impact NV-4: Project construction could result in vibration levels that are annoying to nearby residents.

Since construction activities would occur during daytime hours, the daytime annoyance criterion of 75 VdB (0.0225 inches/sec) would apply. Vibratory pile driving occurring within 500 feet of residential structures would exceed this threshold, which includes the first three rows of houses along N. Ventura Road. Similarly, the daytime vibration annoyance criterion would be exceeded within approximately 190 feet from the vibratory roller, which includes the first row of houses along N. Ventura Road, and residences within approximately 100 feet of most other construction equipment. Mitigation Measure NV-4 (*Community Notification*) is recommended to reduce annoyance impacts; however, notification alone would not reduce the vibration levels and therefore impacts remain significant and unavoidable (Class I).

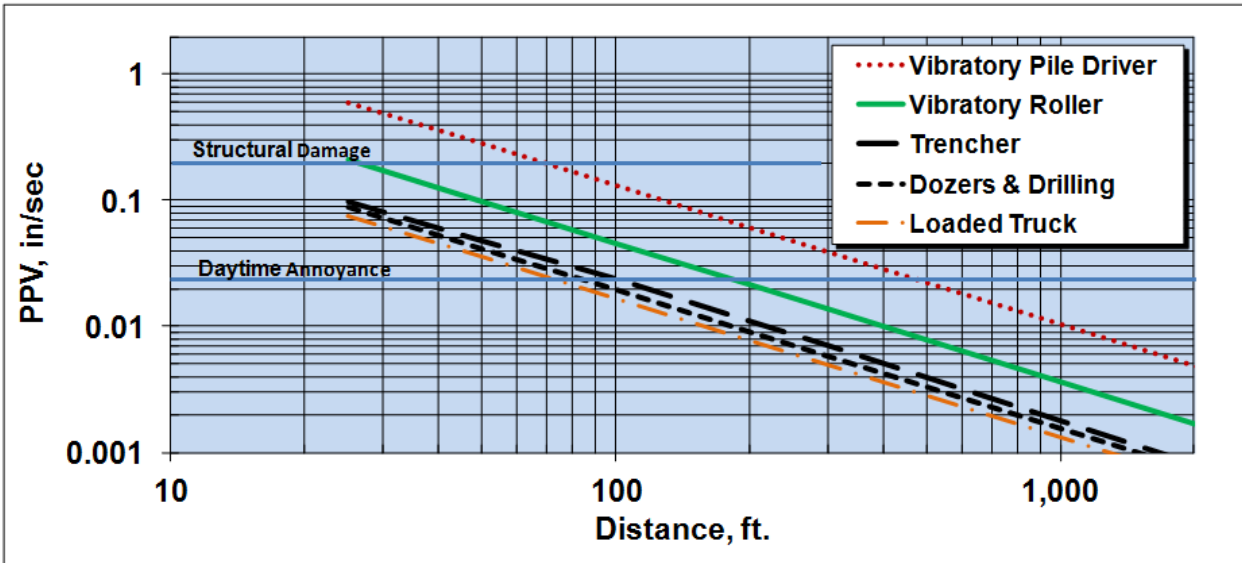


Figure 3.5-8. Construction Vibration Amplitudes

Source: Acentech, 2015 – Figure 12 (EIR Appendix D)

Mitigation Measures

NV-4 **Community Notification.** At least two weeks prior to construction, the VCWPD shall notify residences located within 500 feet of vibratory pile driving activities along Reach 4 (i.e., first three rows of houses along the south side of N. Ventura Road), and/or within 190 feet of vibratory roller activities in Reach 4 (i.e., first row of houses along the south side of N. Ventura Road) shall be notified. Multiple notifications may be needed if activities along the river side occur at a substantially different time from those on the land side of N. Ventura Road. The notification should provide residences the hours of construction, recommendations on ways to reduce noise levels (e.g., close windows), and contact information for vibration and noise complaints.

Operational Vibrations

Impact NV-5: O&M activities would result in temporary increases in local vibration levels.

O&M activities would mostly occur at least 170 feet from residential structures. Vibration levels from O&M activities would be less than the daytime annoyance (daytime construction) of 75 VdB (0.0225 inches/sec). Therefore, no adverse effects to residential structures nor exceedance of the annoyance threshold would occur. O&M vibration impacts would not be significant (Class III).

3.5.2.3 Cumulative Impacts

Introduction

Cumulative impacts have been assessed to determine if the Project’s incremental contribution would be considerable. Table 3-1 provides a list and description of pending and recently approved projects from the City of Oxnard, the City of Ventura, and the County of Ventura. Since noise and vibration impacts are dependent on distance and timing, proximity to the Project and the potential for coinciding construction times would have the greatest potential for contributing to cumulative impacts. Of the

projects listed in Table 3-1, The Village, Bailard Landfill Gas Field, and Olivas Drive Extension projects have the greatest potential to result in cumulative impacts due to their proximity to the Project. All other projects listed in Table 3-1 are at greater distances or construction activities are not expected to overlap with the proposed construction schedule for the Project. Each of the noted cumulative projects is addressed below.

Project Contribution to Cumulative Impacts

The Village (a.k.a. Wagon Wheel Development Project). The Village development is currently under construction, with construction near the Project occurring under Phase 3 of the development. Phase 3 is expected to occur while the Project is underway. The proposed land side floodwall, UPRR embankment fill, and El Rio Drain Channel modification are activities where there may be some cumulative noise impact. These Reach 4 activities are scheduled to occur from Month 16 to 19 (week 62-74). The Village is separated from the residences along Reach 4 (located west of the El Rio Drain) by over 300 feet with two 6-foot high walls and the UPRR tracks. Cumulative vibration impacts would not occur. However, construction overlap during this 13-week period may result in cumulative noise impacts. VCWPD will work with the City of Oxnard and The Village developer to minimize conflicts with the SCR-3 Project and minimize the potential for cumulative impacts.

Construction of the Project would occur sequentially along the alignment, such that impacts in any one area would occur for a short period of time (weeks as opposed to months) and would be reduced with the implementation of mitigation. The communities on the other side of El Rio Drain are approximately 230 feet away with a 6-foot property wall, such that cumulative noise and vibration impacts are not anticipated.

Bailard Landfill Gas Field Project. The Ventura Regional Sanitation District (VRSD) is proposing a new gas pipeline on the north side of the Bailard Landfill. The VCWPD will work closely with the VRSD to ensure no conflicts with the Project, such that cumulative impacts would be avoided.

Olivas Drive Extension. It is anticipated the levee/floodwall construction for the Olivas Drive Extension Project would coincide with the construction of Reach 4. However, this construction activity would occur over 1,500 feet from the noise-sensitive receptors near the Project and therefore will not contribute to cumulative noise or vibration impacts.

3.5.2.4 Impact Significance Summary

Table 3.5-13, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.5-13 also indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project's contribution to noise and vibration impacts during construction and O&M were determined not to be cumulatively considerable.

3.5
Noise Vibration

Impacts	Mitigation Measures	Significance Conclusion
Impact NV-1: Project construction could result in noise levels that would disturb sensitive noise receptors, particularly near Reach 4.	NV-1a: Movable Construction Noise Barriers. NV-1b: Monitor Noise Levels.	Class I (Reach 4 only)
Impact NV-2: O&M activities would result in increased noise levels affecting sensitive noise receptors.	No mitigation measures are required.	Class III
Impact NV-3: Project construction could result in vibration levels that affect nearby buildings.	No mitigation measures are required.	Class III
Impact NV-4: Project construction could result in vibration levels that are annoying to nearby residents.	NV-4: Community Notification.	Class I (Reach 4 only)
Impact NV-5: O&M activities would result in temporary increases in local vibration levels.	No mitigation measures are required.	Class III

Class I: Significant impact; cannot be mitigated to a level that is not significant. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: Significant impact; can be mitigated to a level that is not significant. A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR.

Class III: Adverse; less than significant. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: Beneficial impact. A Class IV impact represents a beneficial effect that would result from project implementation.

3.6 Transportation and Circulation

This section describes effects related to transportation and circulation from implementation of the proposed Project. The section describes existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts from the construction, operation, and maintenance of the Project. Existing laws and regulations relevant to transportation and circulation are described and how they would be applied to the proposed Project. In some cases, compliance with existing laws and regulations would reduce or avoid impacts that might otherwise occur with implementation of the Project.

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following substantive issues related to transportation and circulation were raised during scoping and are addressed in this section.

- The Project’s traffic impacts on US Highway 101 (US 101), the on/off ramps at Oxnard Boulevard, and the affected streets and intersections should be analyzed for existing conditions, the construction period, and the operation/maintenance period.
- A truck/traffic construction management plan may be needed for the Project.
- The traffic analysis should include the a.m. and p.m. peak hours.
- Levels of service should be determined to evaluate the traffic impacts during construction.
- The volumes of traffic that would be generated during construction should be quantified and access to and from the staging areas or construction site should be discussed.
- Mitigation measures to alleviate anticipated traffic impacts should be identified.

3.6.1 Environmental Setting

3.6.1.1 Existing Conditions

The study area roadways that would primarily be affected by the proposed Project are shown in Table 3.6-1. The table shows the roadway segments, the responsible agency that has jurisdiction for each roadway, the existing daily traffic volumes (vehicles per day), the existing number of lanes on each roadway segment, the roadway capacity values, the volume/capacity (V/C) ratios, and the levels of service (LOS) on each roadway segment. The sources for the traffic volume data are the Caltrans “Traffic Counts” website (Caltrans, 2013), the “2014 Traffic Volumes on Ventura County Roadways” (Ventura County, 2014), and the City of Oxnard Development Services website (Oxnard, 2015). The source of the capacity values is the “Final Subsequent EIR for Focused General Plan Update” (Ventura County, 2005) and the “City of Oxnard 2030 General Plan Draft Program EIR Appendices” (Oxnard, 2009).

LOS is a qualitative indicator of a roadway’s operating conditions used to represent various degrees of congestion and delay. It is measured from LOS A (excellent conditions) to LOS F (extreme congestion), with LOS A through D considered to be acceptable by the County of Ventura and LOS A through C considered to be acceptable by the City of Oxnard and Caltrans. The City of Ventura’s standards state that LOS A through E are acceptable for freeway ramp intersections and that LOS A through D are acceptable for all other intersections.

Table 3.6-1 indicates that all of the study area non-freeway roadway segments currently operate at acceptable levels of service (LOS A, B, and D) established by each responsible jurisdiction based on the

3.6
Transportation and Circulation

daily traffic volumes and roadway capacity values. Highway 101, however, operates at an unacceptable LOS F southeast of Victoria Avenue. Figure 3.6-1 illustrates the roadway network and shows the number of lanes, speed limits, types of traffic control at the key intersections, and the lane configuration at each intersection.

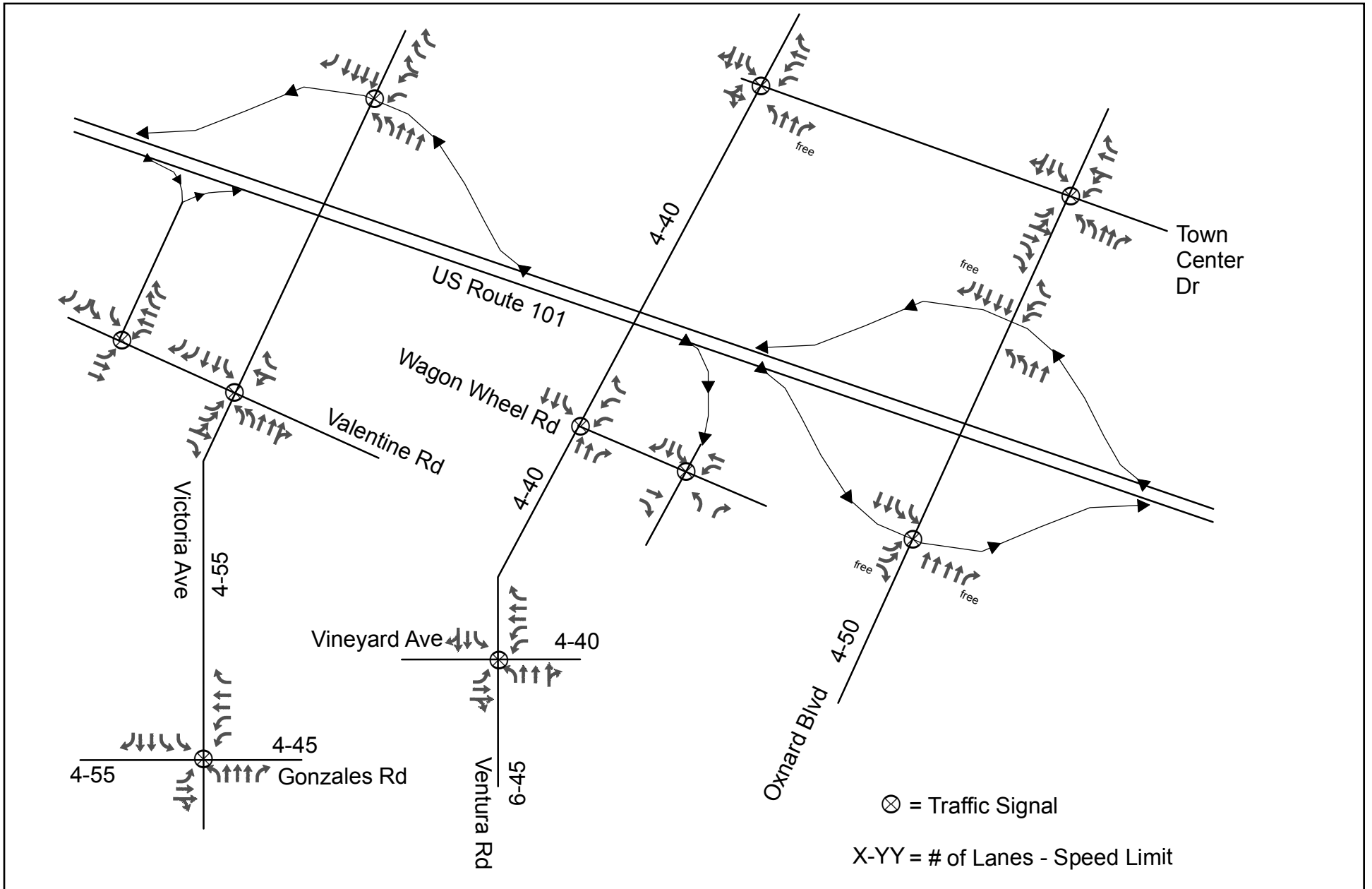
Table 3.6-1. Study Area Roadways

Roadway	Jurisdiction	Daily Traffic Volume	No. of Lanes & Capacity	V/C Ratio	Level of Service
Ventura Road Northeast of US 101	City of Oxnard	11,000	4 – 36,000	0.31	A
Southwest of US 101	City of Oxnard	11,000	4 – 36,000	0.31	A
North of Vineyard Avenue	City of Oxnard	13,000	4 – 36,000	0.36	A
South of Vineyard Avenue	City of Oxnard	20,000	6 – 54,000	0.37	A
Victoria Avenue South of US 101	Ventura County	38,700	4 – 58,000	0.67	D
North of Gonzales Road	Ventura County	38,000	4 – 58,000	0.66	D
South of Gonzales Road	Ventura County	41,000	4 – 58,000	0.71	D
Oxnard Boulevard North of US 101	City of Oxnard	20,000	4 – 36,000	0.56	A
Towne Center Drive East of Ventura Road	City of Oxnard	10,000	5 – 40,000	0.25	A
Wagon Wheel Road East of Ventura Road	City of Oxnard	5,000	2-4 – 16,000	0.31	A
US 101 – Ventura Freeway Northwest of Victoria Avenue	Caltrans	119,000	6 – 132,000	0.90	D
Southeast of Victoria Avenue	Caltrans	139,000	6 – 132,000	1.05	F
Northwest of Oxnard Blvd	Caltrans	149,000	8 – 176,000	0.85	D
Southeast of Oxnard Blvd	Caltrans	129,000	8 – 176,000	0.73	C
Vineyard Avenue West of Ventura Road	City of Oxnard	10,000	4 – 36,000	0.28	A
East of Ventura Road	City of Oxnard	17,000	4 – 36,000	0.47	A
Gonzales Road West of Victoria Avenue	Ventura County	3,900	4 – 58,000	0.07	A
East of Victoria Avenue	Ventura County	22,000	4 – 58,000	0.38	B

Source: Caltrans, 2013; Ventura County, 2014; Oxnard, 2015; Ventura County, 2005; Oxnard, 2009. Definitions: V/C = volume-to-capacity ratio

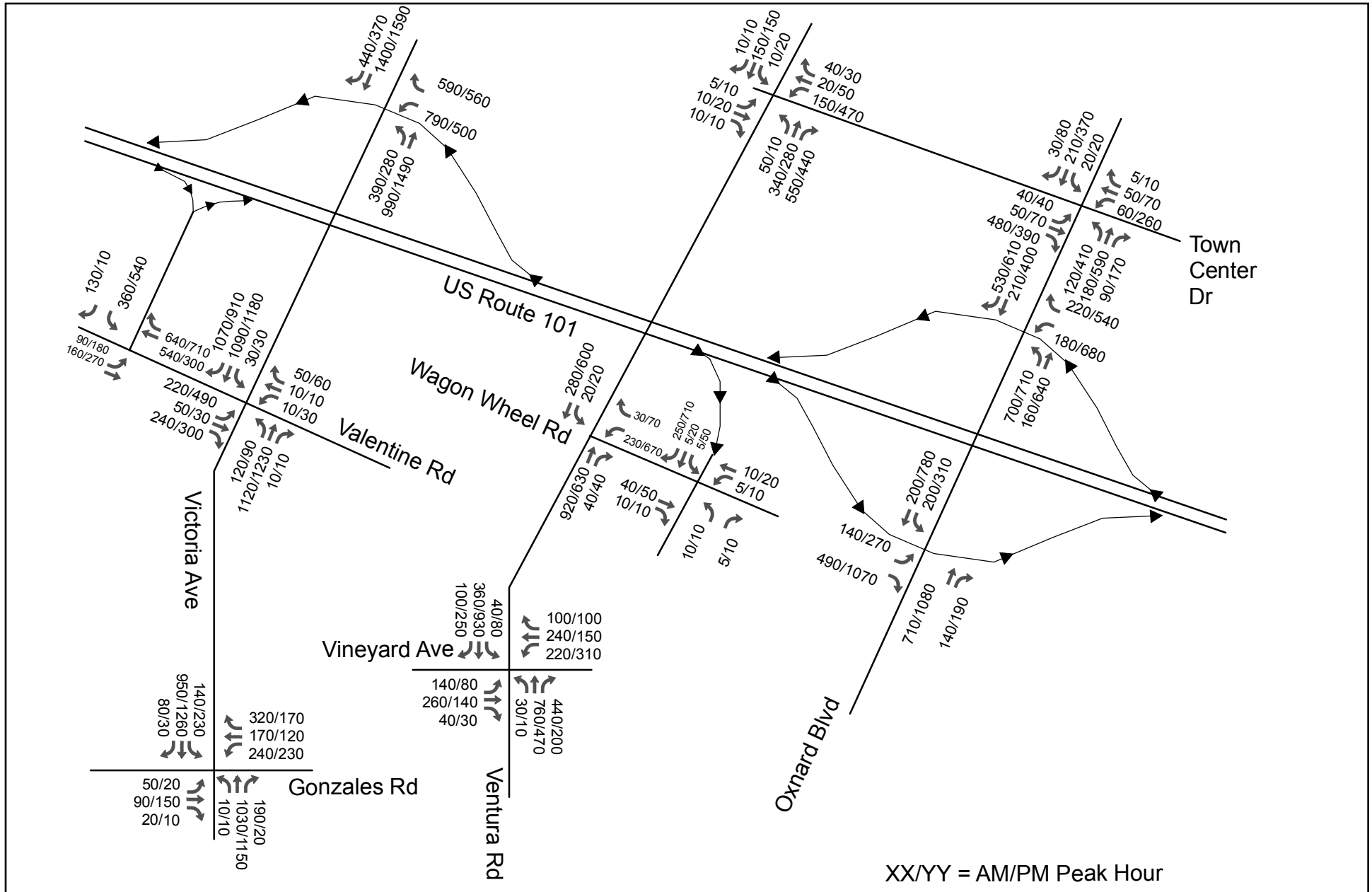
There are 11 intersections in the study area that could potentially be affected by the proposed Project. The 11 intersections, the responsible jurisdiction, and the type of traffic control currently in place at each intersection are listed in Table 3.6-2.

Traffic counts were taken at these 11 intersections in March 2015 during the morning and afternoon peak periods. The existing peak hour traffic volumes at each intersection are shown on Figure 3.6-2. Based on the peak hour traffic volumes, the turning movement counts, and the number of lanes at each intersection, the intersection capacity utilization (ICU) values and the corresponding LOS have been determined for each intersection. The LOS for an intersection is based on the ICU value, which is a comparison of the traffic volumes passing through the intersection to the overall capacity of the intersection. The methodology used for calculating the ICU values, which includes the assumed lane capacities and the determination of critical movements, is from the *Ventura County Congestion Management Program* (Ventura County Transportation Commission, 2009). The relationship between the ICU value and the LOS at an intersection is shown in Table 3.6-3.



Source: Garland & Associates, 2015.

Figure 3.6-1
Study Area Roadway Network & Lane Configuration



Source: Garland & Associates, 2015.

Figure 3.6-2
Existing Traffic Volumes

Table 3.6-2. Study Area Intersections

Intersection	Jurisdiction	Type of Traffic Control
Ventura Road @ Vineyard Avenue	City of Oxnard	Traffic Signal
Ventura Road @ Wagon Wheel Road	City of Oxnard	Traffic Signal
Ventura Road @ Town Center Drive	City of Oxnard	Traffic Signal
Oxnard Boulevard @ Town Center Drive	City of Oxnard	Traffic Signal
Oxnard Boulevard @ US 101 Northbound On/Off Ramps	Caltrans	Traffic Signal
Oxnard Boulevard @ US 101 Southbound On/Off Ramps	Caltrans	Traffic Signal
Wagon Wheel Road @ US 101 Southbound Off Ramp	Caltrans	Traffic Signal
Victoria Avenue @ Gonzales Road	Ventura County	Traffic Signal
Victoria Avenue @ US 101 Northbound Ramps	Caltrans	Traffic Signal
Victoria Avenue @ Valentine Road	City of Ventura	Traffic Signal
Valentine Road @ US 101 Southbound Ramps	Caltrans	Traffic Signal

Table 3.6-3. Relationship Between ICU Values and Levels of Service

ICU Value	Level of Service
0.00 to 0.60	A
> 0.60 to 0.70	B
> 0.70 to 0.80	C
> 0.80 to 0.90	D
> 0.90 to 1.00	E
> 1.00	F

Source: Ventura Co. Transportation Comm., 2009. Definitions: ICU = Intersection Capacity Utilization

The LOS values for each intersection are summarized in Table 3.6-4. All of the intersections operate at LOS A during the morning peak hour except for the intersection of Victoria Avenue at the Highway 101 northbound ramps, which operates at LOS C. All of the intersections operate at LOS A during the afternoon peak hour except for the intersection of Oxnard Boulevard at the Highway 101 northbound on/off ramps and the intersection of Victoria Avenue at Valentine Road, which operate at LOS B. All of the study area intersections currently operate at an acceptable level of service.

Table 3.6-4. Existing Intersection Levels of Service

Intersection	ICU Value & Level of Service	
	AM Peak Hour	PM Peak Hour
Ventura Road @ Vineyard Avenue	0.426 – A	0.525 – A
Ventura Road @ Wagon Wheel Road	0.373 – A	0.419 – A
Ventura Road @ Town Center Drive	0.175 – A	0.273 – A
Oxnard Boulevard @ Town Center Drive	0.288 – A	0.472 – A
Oxnard Boulevard @ US 101 Northbound On/Off Ramps	0.420 – A	0.657 – B
Oxnard Boulevard @ US 101 Southbound On/Off Ramps	0.326 – A	0.403 – A
Wagon Wheel Road @ US 101 Southbound Off Ramp	0.190 – A	0.481 – A
Victoria Avenue @ Gonzales Road	0.534 – A	0.522 – A
Victoria Avenue @ US 101 Northbound On/Off Ramps	0.703 – C	0.538 – A
Victoria Avenue @ Valentine Road	0.535 – A	0.604 – B
Valentine Road @ US 101 Southbound On/Off Ramps	0.369 – A	0.504 – A

Future Baseline Conditions

Construction of the proposed Project is anticipated to begin in fall or winter 2016 and to occur over a 27-month period. The most intense period of construction activity with regard to Project-generated traffic volumes is expected to occur during weeks 15 and 16 for ~~the preferred Project (Option 1B)~~ and weeks 18 through 22 for Option 1A (preferred). Depending on when the Project would begin in 2016, the peak time period for Project-generated traffic would occur in either 2016 or 2017. For purposes of the analysis, the year 2017 has been used for the target year of peak traffic activity because it represents a more conservative baseline scenario (i.e., higher traffic volumes) as compared to 2016.

The future baseline traffic conditions without the Project for the target year of 2017 were estimated by expanding the existing traffic volumes by a factor of six percent, which represents an annual growth rate of three percent per year for two years. This growth factor accounts for the effects of general ambient regional growth and the cumulative increase in traffic volumes that would be generated by other development projects proposed in the study area.

Based on the expanded peak hour traffic volumes, the turning movement counts, and the lane configuration at each intersection, the future (year 2017) baseline ICU values and levels of service were calculated for the eleven study area intersections, as summarized in Table 3.6-5. As shown, all of the intersections are projected to operate at LOS A during the morning peak hour except for the intersection of Victoria Avenue at the Highway 101 northbound ramps, which would operate at LOS C. All of the intersections are projected to operate at LOS A during the afternoon peak hour except for the intersection of Oxnard Boulevard at the Highway 101 northbound on/off ramps and the intersection of Victoria Avenue at Valentine Road, which would operate at LOS B. All of the study area intersections are projected to operate at an acceptable level of service for the year 2017 scenario without the proposed Project.

Intersection	ICU Value & Level of Service	
	AM Peak Hour	PM Peak Hour
Ventura Road @ Vineyard Avenue	0.452 – A	0.557 – A
Ventura Road @ Wagon Wheel Road	0.395 – A	0.444 – A
Ventura Road @ Town Center Drive	0.186 – A	0.289 – A
Oxnard Boulevard @ Town Center Drive	0.305 – A	0.500 – A
Oxnard Boulevard @ US 101 Northbound On/Off Ramps	0.445 – A	0.696 – B
Oxnard Boulevard @ US 101 Southbound On/Off Ramps	0.346 – A	0.427 – A
Wagon Wheel Road @ US 101 Southbound Off Ramp	0.201 – A	0.510 – A
Victoria Avenue @ Gonzales Road	0.566 – A	0.553 – A
Victoria Avenue @ US 101 Northbound On/Off Ramps	0.745 – C	0.570 – A
Victoria Avenue @ Valentine Road	0.567 – A	0.640 – B
Valentine Road @ US 101 Southbound On/Off Ramps	0.391 – A	0.534 – A

3.6.1.2 Applicable Regulations, Plans, and Standards

The roadway network within the study area is within the jurisdiction of four public agencies: the County of Ventura, the State of California Department of Transportation (Caltrans), the City of Oxnard, and the City of Ventura (San Buenaventura). These agencies are responsible for the operation and maintenance of the study area roadways. The State highways, which include Highway 101 and State Route 1 (Oxnard Boulevard south of Highway 101), are in Caltrans’ jurisdiction. Gonzales Road and most of Victoria

Avenue south of Highway 101 are in unincorporated Ventura County. Ventura Road, Vineyard Avenue, Town Center Drive, Wagon Wheel Road, and Oxnard Boulevard north of Highway 101 are in the City of Oxnard, and Victoria Avenue in the immediate vicinity of Highway 101 is in the City of Ventura. Any modifications to the roadway network would be subject to approval by the responsible public agency and any construction work within the right-of-way of any public roadway would require the issuance of an encroachment permit by the responsible agency.

Regional planning for the Project area is conducted by the Southern California Association of Governments (SCAG), which is the designated Metropolitan Planning Organization for a six-county region, including Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial Counties. SCAG is responsible for preparing a Regional Transportation Plan. Regional transportation planning is also conducted by the Ventura County Transportation Commission. This agency administers the Ventura County Congestion Management Program (CMP), which is mandated by State of California law. This law requires that the traffic generated by individual development projects be analyzed for potential impacts to the regional roadway system.

The roadways in unincorporated Ventura County must be consistent with the Transportation/Circulation Element of the Ventura County General Plan, which presents goals and objectives for the County's transportation system (summarized below) and establishes a hierarchy of roadway classifications with specific functions and geometric standards for each category. The General Plan addresses vehicular travel as well as alternative modes of transportation such as public transit, bicycles, and pedestrians. The roadways in Oxnard must be consistent with the Infrastructure and Community Services Element of the City of Oxnard General Plan and the roadways in Ventura must be consistent with the "Our Accessible Community" component of the City of Ventura General Plan.

The operation of any vehicle on the public roadways is subject to the regulatory requirements of the California Vehicle Code, the County of Ventura Code of Ordinances, the City of Oxnard Municipal Code, and the City of Ventura Municipal Code.

Ventura County General Plan Goals and Policies (Ventura County, 2015)

Goals

4.2.1-1 Facilitate the safe and efficient movement of persons and goods by encouraging the design, construction, and maintenance of an integrated transportation and circulation system consisting of regional and local roads, bus transit, bike paths, ridesharing, rail transit and freight service, airports, and harbors.

4.2.1-2 Facilitate the safe and efficient movement of persons and goods by designing, construction, and maintaining a Regional Road Network and Local Road Network that is consistent with the County road standards and that will function at an acceptable Level of Service (LOS).

4.2.1-4 Ensure that as discretionary development creates the need, existing roads within the Regional Road Network and Local Road Network are improved, and additional roads needed to complement the above networks are constructed, so as to keep all such roads safe and functioning at an acceptable LOS.

4.2.1-5 Ensure that development which would contribute to the cumulative need for improvements or additions to the Regional Road Network bears its pro-rata share of the costs of all such improvements or additions.

4.2.1-6 Promote measures to reduce vehicle miles traveled and disperse peak traffic to better utilize the existing transportation infrastructure.

4.2.1-7 Promote the expansion of a safe, efficient, convenient, integrated, and economical community, intercommunity, and countywide bus transit system.

4.2.1-8 Encourage transit providers and the Ventura County Transportation Commission to increase ridership and meet the needs of the commuting public and the special transportation needs of the elderly, school children, low income, physically handicapped, other low mobility groups, and bicyclists.

4.2.1-9 Encourage the use of bicycling and ridesharing as a percentage of total employee commute trips throughout the County in order to reduce vehicular trips and miles traveled and consequently vehicular emissions, traffic congestion, energy usage, and ambient noise levels.

4.2.1-10 In cooperation with the ten cities and the Ventura County Transportation Commission, plan a system of bicycle lanes and trails linking all county cities, unincorporated communities, and CSUCI.

4.2.1-11 Support the continued expanded operation and use of a rail system that offers efficient, safe, convenient, and economical transport of people and commodities throughout the region.

4.8.1 Strive to reduce the loss of life and property by providing effective fire prevention, suppression, and rescue services and facilities.

Policies

4.2.2-3 The minimum acceptable Level of Service (LOS) for road segments and intersections within the Regional Road Network and Local Road Network shall be as follows:

- (a) LOS-D for all County thoroughfares, Federal and State highways in the unincorporated area of the County, except as otherwise provided in subparagraph (b);
- (b) LOS-E for State Route 33 between the northerly end of the Ojai Freeway and the City of Ojai, Santa Rosa Road, Moorpark Road north of Santa Rosa Road, State Route 34 north of the City of Camarillo, and State Route 118 between Santa Clara Avenue and the City of Moorpark;
- (c) LOS-C for all County-maintained local roads; and
- (d) The LOS prescribed by the applicable city for all Federal and State highways, city thoroughfares, and city-maintained local roads located within that city, if the city has formally adopted General Plan policies, ordinances, or a reciprocal agreement with the County respecting development in the city that would individually or cumulatively affect the LOS of Federal and State highways, County thoroughfares, and County-maintained local roads in the unincorporated area of the County.

At any intersection between two roads, each of which has a prescribed minimum acceptable LOS, the lower LOS of the two shall be the minimum acceptable LOS for that intersection.

4.2.2-4 Discretionary development shall be evaluated for its individual impact on existing and future roads, with special emphasis on the following:

- (a) Whether the project would cause existing roads within the Regional Road Network or Local Road Network that are currently functioning at an acceptable LOS to function below an acceptable LOS;
- (b) Whether the project would add traffic to existing roads within the Regional Road Network or Local Road Network that are currently functioning below an acceptable LOS; and
- (c) Whether the project could cause future roads planned for addition to the Regional Road Network or Local Road Network to function below an acceptable LOS.

4.2.2-5 Discretionary development that would individually cause any of the impacts identified in subparagraphs (a) through (c) of Policy 4.2.2-4 shall be prohibited unless feasible mitigation measures are adopted that would ensure that the impact does not occur or unless a project completion schedule and full funding commitment for road improvements are adopted which ensure that the impact will be eliminated within a reasonable period of time. This policy does not apply to city thoroughfares, city-maintained local roads, or Federal or State highways located within a city unless the applicable city has formally adopted General Plan policies, ordinances, or a reciprocal agreement with the County (similar to Policies 4.2.2-3 through 4.2.2-6) respecting development in the city that would affect the LOS of County thoroughfares, County-maintained local roads, and Federal and State highways located within the unincorporated area of the County.

4.2.2-6 Development that would generate additional traffic shall pay its pro rata share of the costs of necessary improvements to the Regional Road Network per the County's Traffic Impact Mitigation Fee Ordinance as amended time to time.

4.2.2-8 Discretionary development shall be conditioned, where feasible, to minimize traffic impacts by incorporating pedestrian and bicycle pathways, bicycle racks and lockers, ridesharing programs, transit improvements (bus turnouts, shelters, benches) and/or transit subsidies for employees or residents of the proposed development.

4.2.2-10 Discretionary development that would endanger the efficient, safe operation of an airport or would result in significant land use incompatibility with an airport shall be prohibited.

4.8.2-1 Discretionary development shall be permitted only if adequate water supply, access, and response time for fire protection can be made available.

3.6.2 Environmental Impacts and Mitigation Measures

There are two primary categories of traffic impacts that would occur as a result of the proposed levee improvement Project. The first category would be the impacts associated with construction traffic on the roadways that provide access to the Project site. During the construction activities, vehicles would be traveling to and from the Project site, including trucks delivering materials to the site, trucks transporting waste material away from the site, and construction workers' vehicles commuting to and from the site. The second category of traffic impacts would be the impacts associated with the operation and maintenance of the proposed Project after construction is complete. The traffic impacts associated with each of these construction and operation/maintenance categories have been evaluated for the affected roadways and intersections by quantifying the traffic conditions without and with the Project to determine if the impacts of the additional Project-generated traffic would be significant. The potential impacts of the Project on pipelines are evaluated in Section 3.7 (Utilities).

3.6.2.1 Criteria for Determining Impact Significance

The Initial Study prepared for the SCR-3 Project concluded that the Project would not result in significant impacts related to the safety/design of public and private roads, tactical access for fire suppression, pedestrian and bicycle facilities, bus transit, railroads, airports, or harbors. For explanations of why impacts related to these transportation and circulation systems either would not occur or would not be significant, see the Initial Study in Appendix A.

Based on the Initial Study, implementation of the Project could result in significant impacts related to roadway level of service (due to Project-related trips during construction). Significance criteria for assessing impacts on the transportation and circulation systems are presented below.

Roads and Highways – Level of Service

According to the Ventura County Initial Study Assessment Guidelines, the minimum acceptable level of service (LOS) for County thoroughfares and State highways within the unincorporated area of the County is LOS D and the minimum acceptable LOS for all County maintained local roads is LOS C. A significant adverse Project-specific traffic impact would occur if a project would cause the existing LOS on a roadway segment to fall to an unacceptable level or if a project would add one or more peak hour trips to a roadway segment that is currently operating at an unacceptable LOS. A significant adverse project-specific traffic impact would occur at an intersection if a project would exceed the thresholds shown in Table 3.6-6.

Intersection LOS (Existing)	Increase in V/C (ICU) or Trips Greater Than
A	0.20
B	0.15
C	0.10
D	10 Peak Hour Trips ¹
E	5 Peak Hour Trips ¹
F	1 Peak Hour Trip ¹

Source: Ventura County, 2011. Definitions: V/C = volume-to-capacity ratio; ICU = Intersection Capacity Utilization
 Note: (1) To critical movements. These are the highest combination of left and opposing through/right-turn peak hour turning movements.

The City of Oxnard’s standards indicate that LOS C is the minimum acceptable LOS. A project would have a significant impact if the project traffic would cause an intersection that operates at an acceptable LOS to operate at an unacceptable LOS. A significant impact would occur at an intersection if the addition of project-generated traffic would increase the volume-to-capacity (V/C) ratio by two percent or more (>0.020) at an intersection that is already rated at LOS D, E, or F. (City of Oxnard, 2009)

According to the Caltrans guidelines, Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities. If an existing State highway facility is operating at less than the appropriate target LOS, the existing measure of effectiveness (MOE) should be maintained. (Caltrans, 2002)

The City of Ventura’s standards indicate that LOS E is the minimum acceptable LOS for freeway ramp intersections and intersections on the CMP network and that LOS D is the minimum acceptable LOS for all other principal intersections.

3.6.2.2 Direct and Indirect Impacts

To evaluate the impacts on the roads and highways, the existing and future baseline traffic conditions were quantified in terms of daily traffic volumes, peak hour traffic volumes, V/C ratios, and LOS on the most-directly affected roadway links and intersections in the study area. The volumes of traffic that would be generated by the Project during construction and operation were quantified and added to the baseline traffic conditions to determine the traffic conditions with and without the Project. The findings were used to determine if the traffic generated by the Project would result in a significant impact in accordance with the significance criteria of Ventura County, the City of Oxnard, the City of Ventura, and Caltrans, as appropriate.

Roads and Highways – Level of Service

To address the construction impacts associated with the proposed Project, the levels of traffic that would be generated by the construction activities were estimated and the impacts of this additional traffic on the affected roadways and intersections were quantified. Truck volumes as well as the volume of traffic generated by construction workers were estimated. Then, a comparative analysis was conducted of traffic volumes and levels of service with and without the proposed construction activities. The trip generation characteristics were based on work force estimates and quantities of material that would be transported to and from the site on a peak day of construction activity.

The preliminary construction schedule for the Project indicates that the construction activities for the levee improvements would have a duration of 27 months beginning in fall or winter 2016. While the volumes of truck traffic and worker traffic would vary throughout the construction phase, the traffic impact analysis is based on the time period during which the Project-generated traffic would be at its maximum levels. Based on the anticipated construction schedule, this would occur during weeks 15 and 16 of Phase 1 for Option 1B when the tasks of levee embankment fill, rock riprap, golf course fill, and installation of a 66-inch concrete pipe would occur simultaneously on Reaches 1-3. For Option 1A, the maximum traffic levels would occur during weeks 18 through 22 when the tasks of levee embankment fill and rock riprap would occur simultaneously on Reaches 1-3. For Reach 4, the maximum traffic levels would occur during weeks 50 and 51 of Phase 2 when the tasks of flood wall foundation excavation and construction of the concrete flood wall would occur simultaneously. As the scheduling of Phase 1 (Reaches 1-3) and Phase 2 (Reach 4) would not overlap, the Project-generated traffic for the two phases would not be additive.

Based on detailed estimates of the number of trucks and employee vehicles that would be generated by each Project task and the overlap of tasks discussed in the previous paragraph, the volumes of Project-generated traffic have been determined for a peak day of construction activity. The levels of traffic that would be generated during construction of the Project are shown in Table 3.6-7 for Reaches 1-3 Option 1B (~~preferred option~~), Table 3.6-8 for Reaches 1-3 Option 1A (preferred option), and Table 3.6-9 for Reach 4.

Table 3.6-7. Project-Generated Traffic during Construction – Reaches 1-3 Option 1B

Traffic Category	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Workers	38	0	38	0	38	38	38	38	76
Trucks	24	24	48	24	24	48	97	97	194
Total	62	24	86	24	62	86	135	135	270
Total PCE ¹	86	48	134	48	86	134	232	232	464

Note: (1) Passenger Car Equivalent

Table 3.6-8. Project-Generated Traffic During Construction – Reaches 1-3 Option 1A

Traffic Category	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Workers	32	0	32	0	32	32	32	32	64
Trucks	23	23	46	23	23	46	93	93	186
Total	55	23	78	23	55	78	125	125	250
Total PCE ¹	78	46	124	46	78	124	218	218	436

Note: (1) Passenger Car Equivalent

Table 3.6-9. Project-Generated Traffic during Construction – Reach 4

Traffic Category	AM Peak Hour			PM Peak Hour			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Workers	26	0	26	0	26	26	26	26	52
Trucks	7	7	14	7	7	14	29	29	58
Total	33	7	40	7	33	40	55	55	110
Total PCE ¹	40	14	54	14	40	54	84	84	168

Note: (1) Passenger Car Equivalent

A comparison of Tables 3.6-7 and 3.6-8 for the preferred option (Option 1B) and Option 1A (preferred option) for Reaches 1-3 indicates that the Project-generated traffic volumes during times of peak construction activity would be approximately the same for the two options, with Option 1B exhibiting slightly higher traffic levels (i.e., less than 10 percent greater traffic volumes). The levels of Project-generated traffic for the Reach 4 construction activities would be substantially lower than the traffic levels for Reaches 1-3; i.e., less than 40 percent. As the projected traffic volumes for Option 1B are the highest of the three scenarios, the volumes shown in Table 3.6-7 have been used for the traffic impact analysis to represent a worst-case scenario.

Table 3.6-7 indicates that the construction activities would generate a total of 270 vehicle trips per day on an average day (135 inbound and 135 outbound). Included in this traffic are 97 round-trip truck trips (97 inbound and 97 outbound for a total of 194 truck trips). For purposes of the roadway and intersection capacity analyses, it was assumed that each truck represents two “passenger car equivalents,” which means that a truck uses double the capacity of a passenger car. The total number of passenger car equivalent (PCE) vehicles generated by the project on a peak day of construction activity would be 134 trips during the AM peak hour (86 inbound and 48 outbound), 134 trips during the PM peak hour (48 inbound and 86 outbound), and 464 trips per day.

The peak hour truck volumes shown in Tables 3.6-7, 3.6-8, and 3.6-9 represent the assumption that approximately 25 percent of the daily truck traffic could potentially occur during the peak hour. It was also assumed that these trucks would enter the site and leave the site within a one-hour interval.

The site-generated traffic was distributed onto the roadway network based on the most probable geographical distribution of the Project-related traffic. The trucks traveling to the site, for example, would primarily transport fill material and other construction materials that would most likely originate at a facility that is located outside of the immediate Oxnard vicinity. The truck traffic was, therefore, assigned to Highway 101 and four travel route scenarios were evaluated based on use of the main staging areas, as noted below:

- Highway 101 to/from the north destined for the 2.4-acre east staging area (APN 1790070265) via Ventura Road.
- Highway 101 to/from the north destined for the west staging areas (0.4-acre and 0.6-acre; APN 1380190345 and APN 1380190315, respectively) via Victoria Avenue.
- Highway 101 to/from the south destined for the 2.4-acre east staging area via Ventura Road.
- Highway 101 to/from the south destined for the west staging areas via Victoria Avenue.

The workers’ vehicles were assumed to be distributed among various roadways with 30 percent of the traffic originating from the north on Highway 101, 25 percent from the south on Highway 101, and the remaining 45 percent distributed onto the arterial routes that provide access to the Project area.

It should be noted that the traffic analysis is based on the assumption that all Project-generated traffic would be traveling to and from the east and west staging areas (noted above and shown on Figures 2-32 through 2-54). The west staging areas are located on the west and east side of Victoria Avenue south of the Victoria Avenue bridge near Reach 1. The 2.4-acre east staging area is located on the west side of Ventura Road south of the levee alignment where Ventura Road curves near Reach 3. There is an additional staging area near the El Rio Drain and the UPRR Bridge on the southwest side of Ventura Road; however, use of this staging area would be limited due to its small size (0.1 acres). It is possible that some of the Project-related vehicles (e.g., the construction workers' vehicles) would be parked at alternate locations if such locations would be closer to a particular construction activity on a particular day. The traffic impacts at these locations would be minor because these areas would only be used by construction workers. The locations would not be used for truck access or parking.

An analysis of traffic impacts was conducted by adding the Project-generated traffic to the baseline conditions, then quantifying the before and after traffic volumes and determining the ICU values and levels of service at the study area intersections for the "without Project" and "with Project" scenarios. Two baseline scenarios are addressed in the analysis: existing conditions and the year 2017 conditions with ambient growth and the cumulative traffic generated by the other development projects in the area.

For the existing conditions baseline scenario with the truck traffic traveling to and from the north on Highway 101, the before-and-after ICU values and LOS at each of the study area intersections are summarized in Table 3.6-10 for the morning and afternoon peak hours. The table shows the existing traffic conditions, the traffic conditions with the addition of the Project-generated traffic, and the increase in the ICU values associated with the Project. The final column in the table indicates if the intersection would be significantly affected by the proposed Project. Two access scenarios are represented in Table 3.6-10. The upper part of the table represents the scenario where the 2.4-acre east staging area adjacent to Ventura Road would be used. The lower part of the table represents the scenario where the west staging areas adjacent to Victoria Avenue would be used. It is possible that all these staging areas would be used simultaneously. If this were to occur, the traffic impacts would be less than what is shown in the table.

The intersection of Ventura Road and Vineyard Avenue, for example, operates with an ICU value of 0.426 and LOS A for existing conditions and with an ICU value of 0.428 and LOS A for the existing plus Project scenario during the morning peak hour. The increase in the ICU value associated with the Project would be 0.002 and the Project would not result in a significant impact according to the criteria cited previously. Table 3.6-10 indicates that none of the study area intersections would be significantly affected by the construction of the proposed Project for the existing plus Project scenario.

The intersection impacts of the proposed Project for the existing conditions baseline scenario with the truck traffic traveling to and from the south on Highway 101 are summarized in Table 3.6-11. As shown, none of the study area intersections would be significantly affected by the construction of the proposed Project. As stated previously, the impacts summarized in Tables 3.6-10 and 3.6-11 are based on the traffic volumes that would be generated by Option 1B. The impacts are representative of Options 1A and 1B because the levels of traffic are similar for these two options, although Option 1B has slightly higher traffic levels. The Reach 4 construction activities would impact the same intersections that are shown for the 2.4-acre east staging area. As the traffic generated by the Reach 4 construction activities would be less than 40 percent of the Option 1B scenario represented in the tables, the impacts would be approximately 40 percent of what is shown in the tables and would not be significant.

3.6
Transportation and Circulation

Table 3.6-10. Project Impact on Intersection LOS – Existing Conditions as Baseline Trucks To/From Highway 101 North				
Intersection	ICU Value & Level of Service			Significant Impact?
	Existing Conditions	Existing Plus Project	Increase in ICU Value	
2.4-ACRE EAST STAGING AREA – VENTURA ROAD				
Ventura Road @ Vineyard Avenue AM Peak Hour PM Peak Hour	0.426 – A 0.525 – A	0.428 – A 0.527 – A	0.002 0.002	No No
Ventura Road @ Wagon Wheel Road AM Peak Hour PM Peak Hour	0.373 – A 0.419 – A	0.406 – A 0.457 – A	0.033 0.038	No No
Ventura Road @ Town Center Drive AM Peak Hour PM Peak Hour	0.175 – A 0.273 – A	0.179 – A 0.273 – A	0.004 0.000	No No
Oxnard Boulevard @ Town Center Drive AM Peak Hour PM Peak Hour	0.288 – A 0.472 – A	0.306 – A 0.493 – A	0.018 0.021	No No
Oxnard Boulevard @ US 101 Northbound On/Off Ramps AM Peak Hour PM Peak Hour	0.420 – A 0.657 – B	0.425 – A 0.660 – B	0.005 0.003	No No
Oxnard Boulevard @ US 101 Southbound On/Off Ramps AM Peak Hour PM Peak Hour	0.326 – A 0.403 – A	0.326 – A 0.406 – A	0.000 0.003	No No
Wagon Wheel Road @ US 101 Southbound Off Ramp AM Peak Hour PM Peak Hour	0.190 – A 0.481 – A	0.221 – A 0.511 – A	0.031 0.030	No No
WEST STAGING AREAS – VICTORIA AVENUE				
Victoria Avenue @ Gonzales Road AM Peak Hour PM Peak Hour	0.534 – A 0.522 – A	0.537 – A 0.523 – A	0.003 0.001	No No
Victoria Avenue @ US 101 Northbound On/Off Ramps AM Peak Hour PM Peak Hour	0.703 – C 0.538 – A	0.721 – C 0.556 – A	0.018 0.018	No No
Victoria Avenue @ Valentine Road AM Peak Hour PM Peak Hour	0.535 – A 0.604 – B	0.578 – A 0.638 – B	0.043 0.034	No No
Valentine Road @ US 101 Southbound On/Off Ramps AM Peak Hour PM Peak Hour	0.369 – A 0.504 – A	0.387 – A 0.522 – A	0.018 0.018	No No

Table 3.6-11. Project Impact on Intersection LOS – Existing Conditions as Baseline Trucks To/From Highway 101 South				
Intersection	ICU Value & Level of Service			Significant Impact?
	Existing Conditions	Existing Plus Project	Increase in ICU Value	
2.4-ACRE EAST STAGING AREA – VENTURA ROAD				
Ventura Road @ Vineyard Avenue				
AM Peak Hour	0.426 – A	0.428 – A	0.002	No
PM Peak Hour	0.525 – A	0.527 – A	0.002	No
Ventura Road @ Wagon Wheel Road				
AM Peak Hour	0.373 – A	0.391 – A	0.018	No
PM Peak Hour	0.419 – A	0.442 – A	0.023	No
Ventura Road @ Town Center Drive				
AM Peak Hour	0.175 – A	0.194 – A	0.019	No
PM Peak Hour	0.273 – A	0.288 – A	0.015	No
Oxnard Boulevard @ Town Center Drive				
AM Peak Hour	0.288 – A	0.321 – A	0.033	No
PM Peak Hour	0.472 – A	0.508 – A	0.036	No
Oxnard Boulevard @ US 101 Northbound On/Off Ramps				
AM Peak Hour	0.420 – A	0.470 – A	0.050	No
PM Peak Hour	0.657 – B	0.705 – C	0.048	No
Oxnard Boulevard @ US 101 Southbound On/Off Ramps				
AM Peak Hour	0.326 – A	0.341 – A	0.015	No
PM Peak Hour	0.403 – A	0.421 – A	0.018	No
Wagon Wheel Road @ US 101 Southbound Off Ramp				
AM Peak Hour	0.190 – A	0.191 – A	0.001	No
PM Peak Hour	0.481 – A	0.481 – A	0.000	No
WEST STAGING AREAS – VICTORIA AVENUE				
Victoria Avenue @ Gonzales Road				
AM Peak Hour	0.534 – A	0.537 – A	0.003	No
PM Peak Hour	0.522 – A	0.523 – A	0.001	No
Victoria Avenue @ US 101 Northbound On/Off Ramps				
AM Peak Hour	0.703 – C	0.721 – C	0.018	No
PM Peak Hour	0.538 – A	0.548 – A	0.010	No
Victoria Avenue @ Valentine Road				
AM Peak Hour	0.535 – A	0.578 – A	0.043	No
PM Peak Hour	0.604 – B	0.638 – B	0.034	No
Valentine Road @ US 101 Southbound On/Off Ramps				
AM Peak Hour	0.369 – A	0.387 – A	0.018	No
PM Peak Hour	0.504 – A	0.522 – A	0.018	No

The intersection impacts for the scenario with the year 2017 as the baseline are summarized in Table 3.6-12 for the scenario with the trucks traveling to and from the north on Highway 101 and in Table 3.6-13 for the scenario with the trucks traveling to and from the south on Highway 101. As shown, none of the study area intersections would be significantly affected by the construction of the proposed Project for the year 2017 scenario.

3.6
Transportation and Circulation

Table 3.6-12. Project Impact on Intersection LOS – Year 2017 as Baseline Trucks To/From Highway 101 North				
Intersection	ICU Value & Level of Service			Significant Impact?
	2017 Without Project	2017 With Project	Increase in ICU Value	
2.4-ACRE EAST STAGING AREA – VENTURA ROAD				
Ventura Road @ Vineyard Avenue AM Peak Hour PM Peak Hour	0.452 – A 0.557 – A	0.454 – A 0.559 – A	0.002 0.002	No No
Ventura Road @ Wagon Wheel Road AM Peak Hour PM Peak Hour	0.395 – A 0.444 – A	0.428 – A 0.482 – A	0.033 0.038	No No
Ventura Road @ Town Center Drive AM Peak Hour PM Peak Hour	0.186 – A 0.289 – A	0.190 – A 0.289 – A	0.004 0.000	No No
Oxnard Boulevard @ Town Center Drive AM Peak Hour PM Peak Hour	0.305 – A 0.500 – A	0.323 – A 0.521 – A	0.018 0.021	No No
Oxnard Boulevard @ US 101 Northbound On/Off Ramps AM Peak Hour PM Peak Hour	0.445 – A 0.696 – B	0.450 – A 0.699 – B	0.005 0.003	No No
Oxnard Boulevard @ US 101 Southbound On/Off Ramps AM Peak Hour PM Peak Hour	0.346 – A 0.427 – A	0.346 – A 0.430 – A	0.000 0.003	No No
Wagon Wheel Road @ US 101 Southbound Off Ramp AM Peak Hour PM Peak Hour	0.201 – A 0.510 – A	0.232 – A 0.540 – A	0.031 0.030	No No
WEST STAGING AREAS – VICTORIA AVENUE				
Victoria Avenue @ Gonzales Road AM Peak Hour PM Peak Hour	0.566 – A 0.553 – A	0.569 – A 0.554 – A	0.003 0.001	No No
Victoria Avenue @ US 101 Northbound On/Off Ramps AM Peak Hour PM Peak Hour	0.745 – C 0.570 – A	0.763 – C 0.588 – A	0.018 0.018	No No
Victoria Avenue @ Valentine Road AM Peak Hour PM Peak Hour	0.567 – A 0.640 – B	0.610 – B 0.674 – B	0.043 0.034	No No
Valentine Road @ US 101 Southbound On/Off Ramps AM Peak Hour PM Peak Hour	0.391 – A 0.534 – A	0.409 – A 0.552 – A	0.018 0.018	No No

Table 3.6-13. Project Impact on Intersection LOS – Year 2017 as Baseline Trucks To/From Highway 101 South				
Intersection	ICU Value & Level of Service			Significant Impact?
	2017 Without Project	2017 With Project	Increase in ICU Value	
2.4-ACRE EAST STAGING AREA – VENTURA ROAD				
Ventura Road @ Vineyard Avenue				
AM Peak Hour	0.452 – A	0.454 – A	0.002	No
PM Peak Hour	0.557 – A	0.559 – A	0.002	No
Ventura Road @ Wagon Wheel Road				
AM Peak Hour	0.395 – A	0.413 – A	0.018	No
PM Peak Hour	0.444 – A	0.467 – A	0.023	No
Ventura Road @ Town Center Drive				
AM Peak Hour	0.186 – A	0.205 – A	0.019	No
PM Peak Hour	0.289 – A	0.304 – A	0.015	No
Oxnard Boulevard @ Town Center Drive				
AM Peak Hour	0.305 – A	0.338 – A	0.033	No
PM Peak Hour	0.500 – A	0.536 – A	0.036	No
Oxnard Boulevard @ US 101 Northbound On/Off Ramps				
AM Peak Hour	0.445 – A	0.495 – A	0.050	No
PM Peak Hour	0.696 – B	0.744 – C	0.048	No
Oxnard Boulevard @ US 101 Southbound On/Off Ramps				
AM Peak Hour	0.346 – A	0.361 – A	0.015	No
PM Peak Hour	0.427 – A	0.445 – A	0.018	No
Wagon Wheel Road @ US 101 Southbound Off Ramp				
AM Peak Hour	0.201 – A	0.202 – A	0.001	No
PM Peak Hour	0.510 – A	0.510 – A	0.000	No
WEST STAGING AREAS – VICTORIA AVENUE				
Victoria Avenue @ Gonzales Road				
AM Peak Hour	0.566 – A	0.569 – A	0.003	No
PM Peak Hour	0.553 – A	0.554 – A	0.001	No
Victoria Avenue @ US 101 Northbound On/Off Ramps				
AM Peak Hour	0.745 – C	0.763 – C	0.018	No
PM Peak Hour	0.570 – A	0.580 – A	0.010	No
Victoria Avenue @ Valentine Road				
AM Peak Hour	0.567 – A	0.610 – B	0.043	No
PM Peak Hour	0.640 – B	0.674 – B	0.034	No
Valentine Road @ US 101 Southbound On/Off Ramps				
AM Peak Hour	0.391 – A	0.409 – A	0.018	No
PM Peak Hour	0.534 – A	0.552 – A	0.018	No

A roadway segment analysis was conducted to evaluate the Project’s impacts on daily traffic volumes. Table 3.6-14 shows the results of the analysis with existing conditions as the baseline for the scenario where the Project-generated trucks would travel on Highway 101 to and from the north. The table shows the existing daily traffic volumes, the volumes of Project traffic that would be added to each roadway segment, the existing plus Project traffic volumes, the volume/capacity (V/C) ratios, and the LOS values based on daily traffic volumes. The table indicates that all of the roadway segments would operate at an acceptable LOS and would not be significantly affected by the Project except for Highway 101 southeast of Victoria Avenue, which operates at LOS F. According to the criteria cited previously, a significant impact would occur if a project would add one or more peak hour trips to a roadway segment that is currently operating at an unacceptable LOS. This segment of Highway 101 would be significantly affected for both the east and west staging areas.

3.6
Transportation and Circulation

Table 3.6-14. Roadway Segment Analysis – Existing Conditions as Baseline Trucks To/From Highway 101 North					
Roadway	No. of Lanes & Capacity	Daily Traffic Volume			V/C Ratio & LOS w/ Project
		Existing	Project Traffic	Existing + Project	
2.4-ACRE EAST STAGING AREA – VENTURA ROAD					
Ventura Road					
Northeast of US 101	4 – 36,000	11,000	240	11,240	0.31 - A
Southwest of US 101	4 – 36,000	11,000	440	11,440	0.32 - A
North of Vineyard Avenue	4 – 36,000	13,000	20	13,020	0.36 - A
South of Vineyard Avenue	6 – 54,000	20,000	10	20,010	0.37 - A
Oxnard Boulevard					
North of US 101	4 – 36,000	20,000	220	20,220	0.56 - A
Towne Center Drive					
East of Ventura Road	5 – 40,000	10,000	230	10,230	0.26 - A
Wagon Wheel Road					
East of Ventura Road	2-4 – 16,000	5,000	200	5,200	0.33 - A
Vineyard Avenue					
West of Ventura Road	4 – 36,000	10,000	10	10,010	0.28 - A
East of Ventura Road	4 – 36,000	17,000	10	17,010	0.47 - A
US 101 – Ventura Freeway					
Northwest of Victoria Avenue	6 – 132,000	119,000	410	119,410	0.90 - D
Southeast of Victoria Avenue	6 – 132,000	139,000	410	139,410	1.06 - F
Northwest of Oxnard Blvd	8 – 176,000	149,000	210	149,210	0.85 - D
Southeast of Oxnard Blvd	8 – 176,000	129,000	20	129,020	0.73 - C
WEST STAGING AREAS – VICTORIA AVENUE					
Victoria Avenue					
South of US 101	4 – 58,000	38,700	450	39,150	0.68 - D
North of Gonzales Road	4 – 58,000	38,000	20	38,020	0.66 - D
South of Gonzales Road	4 – 58,000	41,000	10	41,010	0.71 - D
Gonzales Road					
West of Victoria Avenue	4 – 58,000	3,900	10	3,910	0.07 - A
East of Victoria Avenue	4 – 58,000	22,000	10	22,010	0.38 - B
US 101 – Ventura Freeway					
Northwest of Victoria Avenue	6 – 132,000	119,000	410	119,410	0.90 - D
Southeast of Victoria Avenue	6 – 132,000	139,000	20	139,020	1.05 - F
Northwest of Oxnard Blvd	8 – 176,000	149,000	20	149,020	0.85 - D
Southeast of Oxnard Blvd	8 – 176,000	129,000	20	129,020	0.73 - C

Bold represents unacceptable LOS.

The Project’s impacts on daily traffic volumes with existing conditions as the baseline for the scenario where the Project-generated trucks would travel on Highway 101 to and from the south are summarized in Table 3.6-15. The table indicates that all of the roadway segments would operate at an acceptable LOS and would not be significantly affected by the Project except for Highway 101 southeast of Victoria Avenue, which operates at LOS F. This finding is applicable to both the east and west staging areas.

Table 3.6-15. Roadway Segment Analysis – Existing Conditions as Baseline Trucks To/From Highway 101 South					
Roadway	No. of Lanes & Capacity	Daily Traffic Volume			V/C Ratio & LOS w/ Project
		Existing	Project Traffic	Existing + Project	
2.4-ACRE EAST STAGING AREA – VENTURA ROAD					
Ventura Road Northeast of US 101	4 – 36,000	11,000	430	11,430	0.32 - A
Southwest of US 101	4 – 36,000	11,000	440	11,440	0.32 - A
North of Vineyard Avenue	4 – 36,000	13,000	20	13,020	0.36 - A
South of Vineyard Avenue	6 – 54,000	20,000	10	20,010	0.37 - A
Oxnard Boulevard North of US 101	4 – 36,000	20,000	420	20,420	0.57 - A
Towne Center Drive East of Ventura Road	5 – 40,000	10,000	430	10,430	0.26 - A
Wagon Wheel Road East of Ventura Road	2-4 – 16,000	5,000	10	5,010	0.31 - A
Vineyard Avenue West of Ventura Road	4 – 36,000	10,000	10	10,010	0.28 - A
East of Ventura Road	4 – 36,000	17,000	10	17,010	0.47 - A
US 101 – Ventura Freeway Northwest of Victoria Avenue	6 – 132,000	119,000	20	119,020	0.90 - D
Southeast of Victoria Avenue	6 – 132,000	139,000	20	139,020	1.05 - F
Northwest of Oxnard Blvd	8 – 176,000	149,000	10	149,010	0.85 - D
Southeast of Oxnard Blvd	8 – 176,000	129,000	410	129,410	0.74 - C
WEST STAGING AREAS – VICTORIA AVENUE					
Victoria Avenue South of US 101	4 – 58,000	38,700	450	39,150	0.68 - D
North of Gonzales Road	4 – 58,000	38,000	20	38,020	0.66 - D
South of Gonzales Road	4 – 58,000	41,000	10	41,010	0.71 - D
Gonzales Road West of Victoria Avenue	4 – 58,000	3,900	10	3,910	0.07 - A
East of Victoria Avenue	4 – 58,000	22,000	10	22,010	0.38 - B
US 101 – Ventura Freeway Northwest of Victoria Avenue	6 – 132,000	119,000	20	119,020	0.90 - D
Southeast of Victoria Avenue	6 – 132,000	139,000	410	139,410	1.06 - F
Northwest of Oxnard Blvd	8 – 176,000	149,000	400	149,400	0.85 - D
Southeast of Oxnard Blvd	8 – 176,000	129,000	410	129,410	0.74 - C

Bold represents unacceptable LOS.

The Project’s impacts on daily traffic volumes for the year 2017 baseline scenario where the Project-generated trucks would travel on Highway 101 to and from the north are summarized in Table 3.6-16. The table indicates that all of the roadway segments would operate at an acceptable LOS and would not be significantly affected by the Project except for Highway 101 northwest and southeast of Victoria Avenue, which would operate at LOS E and LOS F, respectively. This finding is applicable to both the east and west staging areas.

3.6
Transportation and Circulation

Table 3.6-16. Roadway Segment Analysis – Year 2017 as Baseline Trucks To/From Highway 101 North					
Roadway	No. of Lanes & Capacity	Daily Traffic Volume			V/C Ratio & LOS w/ Project
		2017 Without Project	Project Traffic	2017 With Project	
2.4-ACRE EAST STAGING AREA – VENTURA ROAD					
Ventura Road					
Northeast of US 101	4 – 36,000	11,700	240	11,940	0.33 - A
Southwest of US 101	4 – 36,000	11,700	440	12,140	0.34 - A
North of Vineyard Avenue	4 – 36,000	13,800	20	13,820	0.38 - A
South of Vineyard Avenue	6 – 54,000	21,200	10	21,210	0.39 - A
Oxnard Boulevard					
North of US 101	4 – 36,000	21,200	220	21,420	0.60 - A
Towne Center Drive					
East of Ventura Road	5 – 40,000	10,600	230	10,830	0.27 - A
Wagon Wheel Road					
East of Ventura Road	2-4 – 16,000	5,300	200	5,500	0.34 - A
Vineyard Avenue					
West of Ventura Road	4 – 36,000	10,600	10	10,610	0.29 - A
East of Ventura Road	4 – 36,000	18,000	10	18,010	0.50 - A
US 101 – Ventura Freeway					
Northwest of Victoria Avenue	6 – 132,000	126,000	410	126,410	0.96 - E
Southeast of Victoria Avenue	6 – 132,000	147,000	410	147,410	1.12 - F
Northwest of Oxnard Blvd	8 – 176,000	158,000	210	158,210	0.90 - D
Southeast of Oxnard Blvd	8 – 176,000	137,000	20	137,020	0.78 - D
WEST STAGING AREAS – VICTORIA AVENUE					
Victoria Avenue					
South of US 101	4 – 58,000	41,000	450	41,450	0.71 - D
North of Gonzales Road	4 – 58,000	40,300	20	40,320	0.70 - D
South of Gonzales Road	4 – 58,000	43,500	10	43,510	0.75 - D
Gonzales Road					
West of Victoria Avenue	4 – 58,000	4,100	10	4,110	0.07 - A
East of Victoria Avenue	4 – 58,000	23,300	10	23,310	0.40 - B
US 101 – Ventura Freeway					
Northwest of Victoria Avenue	6 – 132,000	126,000	410	126,410	0.96 - E
Southeast of Victoria Avenue	6 – 132,000	147,000	20	147,020	1.11 - F
Northwest of Oxnard Blvd	8 – 176,000	158,000	20	158,020	0.90 - D
Southeast of Oxnard Blvd	8 – 176,000	137,000	20	137,020	0.78 - D

Bold represents unacceptable LOS.

The Project’s impacts on daily traffic volumes for the year 2017 baseline scenario where the Project-generated trucks would travel on Highway 101 to and from the south are summarized in Table 3.6-17. The table indicates that all of the roadway segments would operate at an acceptable LOS and would not be significantly affected by the Project except for Highway 101 northwest and southeast of Victoria Avenue, which would operate at LOS E and LOS F, respectively. This finding is applicable to both the east and west staging areas.

Table 3.6-17. Roadway Segment Analysis – Year 2017 as Baseline Trucks To/From Highway 101 South

Roadway	No. of Lanes & Capacity	Daily Traffic Volume			V/C Ratio & LOS w/ Project
		2017 Without Project	Project Traffic	2017 With Project	
2.4-ACRE EAST STAGING AREA – VENTURA ROAD					
Ventura Road Northeast of US 101	4 – 36,000	11,700	430	12,130	0.34 - A
Southwest of US 101	4 – 36,000	11,700	440	12,140	0.34 - A
North of Vineyard Avenue	4 – 36,000	13,800	20	13,820	0.38 - A
South of Vineyard Avenue	6 – 54,000	21,200	10	21,210	0.39 - A
Oxnard Boulevard North of US 101	4 – 36,000	21,200	420	21,620	0.60 - A
Towne Center Drive East of Ventura Road	5 – 40,000	10,600	430	11,030	0.28 - A
Wagon Wheel Road East of Ventura Road	2-4 – 16,000	5,300	10	5,310	0.33 - A
Vineyard Avenue West of Ventura Road	4 – 36,000	10,600	10	10,610	0.29 - A
East of Ventura Road	4 – 36,000	18,000	10	18,010	0.50 - A
US 101 – Ventura Freeway Northwest of Victoria Avenue	6 – 132,000	126,000	20	126,020	0.95 - E
Southeast of Victoria Avenue	6 – 132,000	147,000	20	147,020	1.11 - F
Northwest of Oxnard Blvd	8 – 176,000	158,000	10	158,010	0.90 - D
Southeast of Oxnard Blvd	8 – 176,000	137,000	410	137,410	0.78 - D
WEST STAGING AREAS – VICTORIA AVENUE					
Victoria Avenue South of US 101	4 – 58,000	41,000	450	41,450	0.71 - D
North of Gonzales Road	4 – 58,000	40,300	20	40,320	0.70 - D
South of Gonzales Road	4 – 58,000	43,500	10	43,510	0.75 - D
Gonzales Road West of Victoria Avenue	4 – 58,000	4,100	10	4,110	0.07 - A
East of Victoria Avenue	4 – 58,000	23,300	10	23,310	0.40 - B
US 101 – Ventura Freeway Northwest of Victoria Avenue	6 – 132,000	126,000	20	126,020	0.95 - E
Southeast of Victoria Avenue	6 – 132,000	147,000	410	147,410	1.12 - F
Northwest of Oxnard Blvd	8 – 176,000	158,000	400	158,400	0.90 - D
Southeast of Oxnard Blvd	8 – 176,000	137,000	410	137,410	0.78 - D

Bold represents unacceptable LOS.

Please note that the significant impacts on the Highway 101 roadway segments identified in the tables above would be temporary because they would only occur during construction of the Project.

Impact TC-1: Traffic generated during Project construction would affect the ICU values and LOS at the study area intersections.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

As shown above in Table 3.6-7, the construction of Reaches 1-3 for Option 1B would generate an estimated 134 vehicle trips during the a.m. peak hour, 134 trips during the p.m. peak hour, and 464 trips per day during the peak times of construction activity. As the majority of the traffic would be truck

trips, these traffic volumes represent passenger car equivalents (PCEs). Construction of Reach 4 would generate 54 trips during the a.m. peak hour, 54 trips during the p.m. peak hour, and 168 trips per day, as shown in Table 3.6-9. The construction of Reach 4 would not overlap with the construction of Reaches 1-3.

An analysis of the Project's impacts on the study area intersections indicates that the traffic generated by Option 1B during construction would not have a significant impact at any of the intersections, as summarized in Tables 3.6-10 and 3.6-11 for the existing conditions baseline scenario and in Tables 3.6-12 and 3.6-13 for the year 2017 baseline scenario.

In conclusion, construction of Option 1B would have an adverse, but less-than-significant impact (Class III) on the ICU values and LOS at the study area intersections. No mitigation measures would be required.

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

As shown above in Table 3.6-8, the construction of Reaches 1-3 for Option 1A would generate an estimated 124 vehicle trips during the a.m. peak hour, 124 trips during the p.m. peak hour, and 436 trips per day during the peak times of construction activity. As the majority of the traffic would be truck trips, these traffic volumes represent passenger car equivalents (PCEs). This level of traffic is slightly lower than the traffic that would be generated by Option 1B for the peak times of construction activity and the intersection impacts would be essentially the same. As the construction of Option 1A would have a longer duration than Option 1B, the traffic impacts would occur over a longer period of time. The traffic generated by the construction of Reach 4 would be the same for Options 1A and 1B and the construction of Reach 4 would not overlap with the construction of Reaches 1-3.

An analysis of the Project's impacts on the study area intersections indicates that the traffic generated by Option 1A during construction would not have a significant impact at any of the intersections, as summarized in Tables 3.6-10 and 3.6-11 for the existing conditions baseline scenario and in Tables 3.6-12 and 3.6-13 for the year 2017 baseline scenario.

In conclusion, construction of Option 1A would have an adverse, but less-than-significant impact (Class III) on the ICU values and LOS at the study area intersections. No mitigation measures would be required.

Impact TC-2: Traffic generated during Project construction would affect the volume/capacity ratios and LOS on the study area roadway segments.

Option 1B – Minimum Levee System (Preferred) with Reach 4 Floodwall

As shown above in Table 3.6-7, the construction of Reaches 1-3 for Option 1B would generate an estimated 464 trips per day during the peak times of construction activity. As the majority of the traffic would be truck trips, this traffic volume represents passenger car equivalents (PCEs). Construction of Reach 4 would generate 168 trips per day, as shown in Table 3.6-9. The construction of Reach 4 would not overlap with the construction of Reaches 1-3.

An analysis of the Project's impacts on the study area roadway segments indicates that the traffic generated by Option 1B during construction would have a significant impact on one roadway segment for the existing conditions baseline scenario; i.e., Highway 101 southeast of Victoria Avenue. The Project would have a significant impact on two roadway segments for the year 2017 baseline scenario; i.e., Highway 101 northwest of Victoria Avenue and Highway 101 southeast of Victoria Avenue. The impacts

would be significant because these roadways operate at an unacceptable level of service (LOS E or F) while the significance criteria state that a significant impact would occur if a project would add one or more peak hour trips to a roadway segment that is currently operating at an unacceptable LOS.

The analysis of the roadway segments is summarized in Tables 3.6-14 and 3.6-15 for the existing conditions baseline scenario and in Tables 3.6-16 and 3.6-17 for the year 2017 baseline scenario. Other than the two segments of Highway 101 that would be significantly affected by the Project, none of the other study area roadway segments would be significantly affected.

In conclusion, construction of Option 1B would have a significant adverse impact on two roadway segments, but the impact can be reduced to a less-than-significant level through implementation of Mitigation Measure TC-2 (Class II).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

As shown above in Table 3.6-8, the construction of Reaches 1-3 for Option 1A would generate an estimated 436 trips per day during the peak times of construction activity. As the majority of the traffic would be truck trips, this traffic volume represents passenger car equivalents (PCEs). This level of traffic is slightly lower than the traffic that would be generated by Option 1B for the peak times of construction activity and the roadway segment impacts would be essentially the same. As the construction of Option 1A would have a longer duration than Option 1B, the traffic impacts would occur over a longer period of time. The traffic generated by the construction of Reach 4 would be the same for Options 1A and 1B and the construction of Reach 4 would not overlap with the construction of Reaches 1-3.

An analysis of the Project’s impacts on the study area roadway segments indicates that the traffic generated by Option 1A during construction would have a significant impact on one roadway segment for the existing conditions baseline scenario; i.e., Highway 101 southeast of Victoria Avenue. The Project would have a significant impact on two roadway segments for the year 2017 baseline scenario; i.e., Highway 101 northwest of Victoria Avenue and Highway 101 southeast of Victoria Avenue. The impacts would be significant because these roadways operate at an unacceptable level of service (LOS E or F) while the significance criteria state that a significant impact would occur if a project would add one or more peak hour trips to a roadway segment that is currently operating at an unacceptable LOS.

The analysis of the roadway segments is summarized in Tables 3.6-14 and 3.6-15 for the existing conditions baseline scenario and in Tables 3.6-16 and 3.6-17 for the year 2017 baseline scenario. Other than the two segments of Highway 101 that would be significantly affected by the Project, none of the other study area roadway segments would be significantly affected.

In conclusion, construction of Option 1A would have a significant adverse impact on two roadway segments, but the impact can be reduced to a less-than-significant level through implementation of Mitigation Measure TC-2 (Class II).

Mitigation Measures

- TC-2 **Restrict Project Traffic from Using Highway 101 at Victoria Avenue during Peak Hours.** ~~The District and/or the construction contractors shall prohibit~~ No Project construction traffic from shall traveling on Highway 101 immediately north and south of Victoria Avenue between the hours of 7:00 to 8:00 a.m. and 5:00 to 6:00 p.m.

Impact TC-3: Project construction would result in physical disruptions to traffic flow on the roadways adjacent to the construction zones, such as temporary roadway and/or lane closures.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Construction of the proposed Project would result in temporary impacts associated with physical disruptions to traffic flow on the roadways immediately adjacent to the construction zones. For example, the construction of the proposed floodwall and levee along the north and south sides of Ventura Road on Reach 4 would require the physical blockage of the outside travel lanes of this four-lane roadway to accommodate the construction activities. Similarly, the construction of the proposed flood gate across Ventura Road on Reach 4 would necessitate the temporary closure of both travel directions while the flood gate and related features are being installed. While these construction activities would temporarily disrupt traffic operations along Ventura Road, the impacts would not be significant because the District and/or its construction contractors are committed to preparing construction area traffic control plans and detour plans that are subject to review and approval by the City of Oxnard and Ventura County prior to the start of any construction activities that would affect a public roadway. These required detour and traffic control plans, which would be completed prior to the issuance of any encroachment or construction permits, would alleviate the construction-related traffic impacts and additional mitigation would not be necessary. The effects of the construction activities would essentially be the same as a routine roadway repair or utility installation project in the public right-of-way.

In conclusion, construction of Option 1B would have an adverse, but less-than-significant impact (Class III) relative to physical disruptions to traffic flow on the roadways adjacent to the construction zones; e.g., temporary roadway and lane closures. No mitigation measures would be required.

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

The impacts of Option 1A relative to physical disruptions to traffic flow on the roadways adjacent to the construction zones associated with temporary roadway and lane closures would be the same as Option 1B (Class III). No mitigation measures would be required.

Impact TC-4: Project construction would result in temporary traffic impacts at the locations on Ventura Road and Victoria Avenue where the construction vehicles would be entering and exiting these roadways.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Construction of the Project would result in temporary traffic impacts at the locations on Ventura Road and Victoria Avenue where the construction vehicles would be entering and exiting these roadways via the staging area access roads and other access routes to and from the Project alignment. Trucks turning onto and off of the roadways could potentially result in traffic operational and safety issues. The impacts would not be significant because the District and/or its construction contractors are committed to preparing traffic management plans that are subject to review and approval by the City of Oxnard and Ventura County. These plans may include such features as warning signs, speed limit reductions, turning restrictions, time of day restrictions, and flaggers at the ingress/egress locations. The implementation of the plans would alleviate the impacts associated with these traffic movements and additional mitigation would not be necessary.

In conclusion, construction of Option 1B would have an adverse, but less-than-significant impact (Class III) associated with traffic entering and exiting Ventura Road and Victoria Avenue via the staging area access roads and other access routes to and from the Project site. No mitigation measures would be required.

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

The impacts of Option 1A relative to traffic entering and exiting Ventura Road and Victoria Avenue via the staging area access roads and other access routes to and from the Project site would be the same as Option 1B (Class III). As the construction of Option 1A would have a longer duration than Option 1B, the traffic impacts would occur over a longer period of time. No mitigation measures would be required.

Impact TC-5: O&M of the Project would result in an increase in site-generated traffic volumes.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Operation and maintenance of the proposed Project would include routine inspections and repair of the flood control facilities and equipment. While these activities currently occur for the existing facilities, the amount of activity and the associated volumes of Project-generated traffic would increase for the proposed facilities. The traffic impacts would be minor because it is anticipated that the routine operation and maintenance activities would generate less than 10 vehicle trips on a typical day. If a major repair were needed, the levels of site-generated traffic would temporarily increase; however, this type of activity would occur only on an occasional basis; i.e., less than once per year.

In conclusion, O&M of Option 1B would have an adverse, but less-than-significant impact (Class III) associated with Project-generated traffic. No mitigation measures would be required.

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

The impacts of Option 1A relative to traffic that would be generated by operation and maintenance of the Project would be the same as Option 1B (Class III Impact). No mitigation measures would be required.

Impact TC-6: Flooding would periodically result in a closure of Ventura Road.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

During a flood event, Ventura Road would be closed to through traffic because of water over the roadway and the deployment of the flood gate across Ventura Road. These events would not necessarily constitute a Project-related impact because the flooding and resulting road closure would have occurred with or without the presence of the proposed Project. Mobile traffic control devices (signals, barricades and signs) would be installed temporarily set up as needed to notify motorists during times when the flood gate would be deployed to alleviate traffic operations and safety issues. The proposed Project would result in an improvement as compared to existing conditions because it would reduce the area of flooding on Ventura Road and would provide traffic control devices that would notify motorists of a flood event that affects the roadway.

In conclusion, Option 1B would have a beneficial impact (Class IV) relative to roadway flooding. No mitigation measures would be required.

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

The impacts of Option 1A relative to roadway flooding would be the same as Option 1B and the effects would be beneficial (Class IV). No mitigation measures would be required.

3.6.2.3 Cumulative Impacts

Introduction

The geographic area of the cumulative analysis for the transportation and circulation analysis is the area generally defined by Highway 101 on the north, Oxnard Boulevard/Pacific Coast Highway on the east, Vineyard Avenue on the south, and Victoria Avenue on the west. This geographic area includes a northern part of the City of Oxnard, a southern part of the City of Ventura, and unincorporated areas of Ventura County. This geographic area was selected because it includes the roadways that would primarily be affected by the proposed Project.

The list of development projects and infrastructure improvement projects that were considered in the cumulative analysis included projects within a three-mile radius of the proposed levee improvements, some of which are beyond the geographical limits of the transportation and circulation analysis. These projects could have an impact on traffic volumes and physical conditions on the study area roadways and other transportation facilities. The projects considered in the cumulative analysis are listed in Section 3.0 and their locations are shown on Figure 3-1. The traffic that would be generated by these projects was considered in the determination of the baseline traffic volumes for the future analysis scenario of 2017, which is the time period when the proposed Project's peak construction activities would occur.

The transportation network that serves the study area has been developed primarily by public agencies to accommodate the demand for local and regional travel through and within the area. The roadway, bikeway, and pedestrian facilities were implemented by Caltrans, Ventura County, the City of Oxnard, and the City of Ventura, while the rail facilities were installed by the Union Pacific Transportation Company. The transportation infrastructure has been expanded and improved through the years to serve the continually growing population, number of residences, and quantities of commercial, industrial, and institutional uses in the area. As these land uses have historically experienced steady growth, the volumes of traffic on the roadways and the demand for travel in all modes have likewise experienced steady increases. It is anticipated that these trends will continue into the future as the area is expected to continue the pattern of population, housing, and employment growth in the coming years. In addition, some of the projects would result in temporary physical blockages or disruptions to the transportation facilities during project construction.

The cumulative projects closest to the Project site are The Village (Wagon Wheel Development Project), Bailard Landfill Gas Field Project, Ventura/Vineyard Homes (Casden Properties), Olivas Drive Extension, Santa Clara River Levee (SCR-1), Santa Clara River Bridge Mitigation Planting Project, and the Santa Clara River Trail Master Plan. Because of the proximity of these projects to the Project site, the impacts of these projects could potentially coincide with the construction of the proposed Project.

Project Contribution to Cumulative Impacts

Cumulative traffic impacts would occur on the roadways and other transportation facilities that would be affected by the proposed Project if other construction activities such as utility projects, pipeline projects, roadway construction and repair, or property development projects were to be implemented

simultaneously with the construction of the proposed Project. The projects that could have a cumulative impact on traffic conditions during construction of the proposed Project are those that would physically affect a roadway segment that is also being impacted by the proposed Project.

The cumulative traffic impacts could be substantial if simultaneous construction activities resulted in roadway blockages or other transportation disruptions that affected a roadway to a greater extent than the proposed Project alone. For example, if construction of the proposed Project requires a travel lane to be blocked at a particular location and if the construction of another project also requires a lane blockage in the same general location and time, the cumulative impacts could be substantial, unless the construction activities and traffic management plans were coordinated and compatible. As construction activities within the public right-of-way would require an encroachment and/or construction permit from the responsible public agencies, any anticipated cumulative impacts would be managed appropriately and therefore not cumulatively considerable.

In addition to the direct impacts of simultaneous construction discussed above, the cumulative projects listed above would have an indirect cumulative traffic impact if they were to be constructed prior to or simultaneously with the construction of the proposed Project because they would generate additional traffic on the roadways impacted by the proposed Project. This impact was considered by applying an ambient growth factor to the existing traffic volumes while forecasting the future 2017 baseline traffic volumes. The cumulative impacts for this scenario are summarized in Tables 3.6-12 and 3.6-13 for the study area intersections and in Tables 3.6-16 and 3.6-17 for the study area roadway segments. The tables indicate that none of the study area intersections would be significantly impacted by the proposed Project for the cumulative analysis. Two roadway segments, however, would be significantly impacted by the proposed Project for the cumulative analysis; i.e., Highway 101/Ventura Freeway northwest and southeast of Victoria Avenue.

The Project's significant cumulative impacts to transportation and circulation during the construction phase would be alleviated by the implementation of Mitigation Measure TC-2 (Restrict Project Traffic from Using Highway 101 at Victoria Avenue during Peak Hours), which is presented in full text in Section 3.6.2.2. This measure would effectively mitigate the Project's adverse cumulative impacts to transportation and circulation. As such, the proposed Project's impacts would not be cumulatively considerable.

As discussed in Section 3.6.2.2, the operation and maintenance activities for the proposed Project would have only negligible effects relative to transportation and circulation because the volumes of Project generated traffic would be minor under normal circumstances. The cumulative impacts during operations and maintenance would likewise be minor and no mitigation would be needed.

3.6.2.4 Impact Significance Summary

Table 3.6-18, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.6-18 also indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project's contribution to construction and O&M transportation and circulation impacts were determined not to be cumulatively considerable.

3.6
Transportation and Circulation

Impacts	Mitigation Measures	Significance Conclusion
Impact TC-1: Traffic generated during Project construction would affect the ICU values and LOS at the study area intersections.	No mitigation measures are required.	Class III
Impact TC-2: Traffic generated during Project construction would affect the volume/capacity ratios and LOS on the study area roadway segments.	TC-2: Restrict Project Traffic from Using Highway 101 at Victoria Avenue during Peak Hours.	Class II
Impact TC-3: Project construction would result in physical disruptions to traffic flow on the roadways adjacent to the construction zones, such as temporary roadway and/or lane closures.	No mitigation measures are required.	Class III
Impact TC-4: Project construction would result in temporary traffic impacts at the locations on Ventura Road and Victoria Avenue where the construction vehicles would be entering and exiting these roadways.	No mitigation measures are required.	Class III
Impact TC-5: O&M of the Project would result in an increase in site-generated traffic volumes.	No mitigation measures are required.	Class III
Impact TC-6: Flooding would periodically result in a closure of Ventura Road.	No mitigation measures are required.	Class IV

Class I: Significant impact; cannot be mitigated to a level that is not significant. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: Significant impact; can be mitigated to a level that is not significant. A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR.

Class III: Adverse; less than significant. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: Beneficial impact. A Class IV impact represents a beneficial effect that would result from project implementation.

3.7 Utilities

This section addresses the proposed Project's potential impacts on certain utilities and services – electric facilities, natural gas, and communication. This section also provides the environmental and regulatory settings and discusses mitigation measures to reduce significant impacts.

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. No comments related to utilities were raised during scoping.

3.7.1 Environmental Setting

The proposed Project is located in unincorporated Ventura County generally along the southern bank of the Santa Clara River, with components of the Project also located within the City of Oxnard, California. Project activities would extend east generally north of and parallel to the Bailard Landfill, Coastal Landfill, Ventura Regional Sanitation District (VRSD) Flare, River Ridge Golf Course and golf maintenance yard, and Santa Clara Landfill, and then continue east parallel to North Ventura Road to the north boundary of the Union Pacific Rail Road (UPRR) property (see Figure 2-1, Project Location).

3.7.1.1 Existing Conditions

Electric Facilities

Electrical power is provided to Ventura County by the Southern California Edison Company, which owns and operates substations and transmission lines, and purchases electricity from a variety of different generating sources (e.g., oil and gas fired, solar, hydro-electric, geothermal, and nuclear generators) (Ventura County, 2015). There is currently no electrical service to the proposed Project site, and electrical service is not expected to be needed during operation. However, temporary electrical service may be needed during construction.

Natural Gas

The Southern California Gas Company (SoCalGas) supplies natural gas to all of Ventura County through a fixed transmission and distribution system (Ventura County, 2015). SoCalGas operates high-pressure distribution pipelines (i.e., pipelines that operate at pressures above 60 pounds per square inch (psi) and deliver gas in smaller volumes to the lower pressure distribution system) underneath N. Ventura Road, north and south of the Santa Clara River (SoCalGas, 2015). A 12-inch natural gas pipeline is located east of the groins along the Santa Clara River where the proposed levee transitions from Reach 3 to Reach 4. To ensure gas line safety, the VCWPD would design the proposed Project to avoid these lines and coordinate with Underground Service Alert. South of the Santa Clara River, SoCalGas also operates transmission pipelines (i.e., generally large diameter pipelines that operate at pressures above 200 psi and transport gas from supply points to the gas distribution system) underneath N. Ventura Road (SoCalGas, 2015). Natural gas would not be required during construction or operation of the proposed Project.

Landfill Gas

Landfill gas recovery pipelines carry landfill gas to the VRSD Flare Station as well as the former cogeneration facility located at the current golf course maintenance yard. Gas pipelines are buried and above ground, and may be active or inactive (particularly near the former cogeneration facility).

Communication

Telephone service is provided by Verizon Communications. Verizon provides telephone service to the cities of Camarillo, Oxnard, Port Hueneme, Santa Paula, and Thousand Oaks; plus the unincorporated areas of Newbury Park, Somis, and Westlake. (Ventura County, 2015)

Cable TV service is provided by Time-Warner Cable. County communication equipment, operated by the County's Information Systems Department, includes radio, microwave, and telephone switching equipment, which is located at 17 separate sites, including each of the three community colleges. In addition, there are other governmental and privately operated communications equipment facilities (including radio and television transmitting and receiving antennas, radar stations, and microwave towers) scattered throughout the County's hilltops. (Ventura County, 2015)

There is currently no known communication service to the proposed Project site and none is expected during construction or operation of the proposed Project.

3.7.1.2 Applicable Regulation, Plans, and Standards

State Regulations

California Government Code - Protection of Underground Infrastructure

The responsibilities of California utility operators working in the vicinity of utilities are detailed in Section 1, Chapter 3.1, "Protection of Underground Infrastructure" (Article 2 of California Government Code §§4216 - 4216.9). This law requires that an excavator must contact a regional notification center at least two days prior to excavation of any subsurface installation. Any utility provider seeking to begin a project that may damage underground infrastructure can call Underground Service Alert, the regional notification center. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the Project. Representatives of the utilities are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.

Local Regulations

Ventura County General Plan (Public Utilities) (Ventura County, 2015)

Goal

4.5.1 Promote the efficient distribution of public utility facilities and transmission lines to assure that public utilities are adequate to service existing and projected land uses, avoid hazards and are compatible with the natural and human resources.

Policies

4.5.2 (1) New gas, electric, cable television and telephone utility transmission lines shall use or parallel existing utility rights-of-way where feasible and avoid scenic areas when not in conflict with the rules and regulations of the California Public Utilities Commission. When such areas cannot be avoided, transmission lines should be designed and located in a manner to minimize their visual impact.

4.5.2 (2) All transmission lines should be located and constructed in a manner which minimizes disruption of natural vegetation and agricultural activities and avoids unnecessary grading of slopes when not in conflict with the rules and regulations of the California Public Utilities Commission.

4.5.2 (3) *Discretionary development* shall be conditioned to place utility service lines underground wherever feasible.

City of Oxnard General Plan (Gas and Electric Utilities) (City of Oxnard, 2015)

Goal ICS-17: Adequate and efficient public utilities that meet the needs of residents of the City.

ICS-17.1 Electric Facilities: Ensure that electric facilities (such as the Southern California Edison generating facilities located within the City) are built in accordance with the California Public Utilities Commission regulations and incorporate feasible solar, wind, and other renewable sources of energy.

ICS-17.2 Easements: Ensure that gas and electric service mains not installed in the public right-of-way have established easements.

ICS-17.4 Service Extension: Coordinate with gas and electricity providers for the extension of gas and electrical facilities.

ICS-17.5 Underground of Utility Lines: Require undergrounding of utility lines in new development, except where it is not feasible due to electrical transmission load or other operational issues.

City of Oxnard General Plan (Communications) (City of Oxnard, 2015)

Goal ICS-18: Expand communication system services to improve personal convenience for residents of the City.

ICS-18.1 Telecommunications Services: Work with telecommunications providers to ensure that residents and businesses have access to telecommunications services, including broad band service. To maximize access to inexpensive telecommunications services, the City shall encourage marketplace competition from multiple service providers.

ICS-18.3 Wireless Telecommunications: Encourage wireless providers to meet the following conditions, to the maximum extent feasible:

- Incorporate best available technology;
- Locate away from residential and open space areas;
- Not be visible from public rights-of-way and local and State scenic highways;
- When possible, locate on existing buildings, existing poles, or other existing support structures; and
- Incorporate well-designed stealth techniques that disguise the facility from the point of view of nearby residents.

3.7.2 Environmental Impacts and Mitigation Measures

Information on the placement and presence of existing utilities at the Project site was attained to determine potential impacts of the proposed Project on existing utilities.

3.7.2.1 Criteria for Determining Impact Significance

A proposed project could result in impacts to utilities if it would cause a disruption or re-routing of an existing utility facility, or increase demand on a utility that results in expansion of an existing utility facility which has the potential for secondary environmental impacts (Ventura County, 2011). These facilities include: electrical generation plants, transmission substations and transmission lines; fixed natural gas transmission and distribution systems; and communications structures such as radio and television transmitting and receiving antennas, radar stations, microwave towers and cellular and hard line telephone facilities.

3.7.2.2 Direct and Indirect Impacts

The installation of the flood gate in N. Ventura Road would require the relocation of numerous utilities under the roadway in order to install the flood gate. These utilities include existing natural gas, water, and sewer lines, as well as storm drains. The utilities would be lowered to provide adequate room for installation of the flood gate. The existing utility lines would remain functional until the newly relocated lines are complete, reducing potential disruption to service. The original lines would then be removed to provide adequate room for the installation of the flood gate.

Disruptions to the gas monitoring system associated with the landfills in Reaches 1-3 are expected during construction as a result of levee foundation preparation (Options 1A and 1B) and retaining wall (Option 1A) construction. Impacts resulting from this disruption are discussed in Section 3.4 (Hazards).

Disruption of Utilities

Impact U-1: Construction of the Project could accidentally damage buried utilities resulting in service disruption.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

Utilities including existing natural gas, water, and sewer lines, as well as storm drains are not expected to be disrupted during construction of the proposed flood gate, as the existing utility lines would remain functional until newly relocated lines are completed. The following lines would potentially be relocated during installation of the flood gate:

- 6" high-pressure gas line
- 18" domestic (potable) water line
- 16" recycled water line
- Electrical line

Any unplanned disruption of utility service or physical impact to existing utility lines would be considered significant. The VCWPD would coordinate with utility service providers prior to installation of the flood gate to identify potential conflicts, ensure that installation and removal of utility lines do not cause disruption to existing utility operations, and to formulate strategies for any unanticipated problems that may arise during installation. Impacts would not be significant (Class III).

Landfill gas recovery pipelines carry landfill gas to the VRSD Flare Station as well as the former cogeneration facility located at the current golf course maintenance yard. Gas pipelines are buried and above ground, and may be active or inactive (particularly near the former cogeneration facility). Damaging or rupturing a pipeline containing landfill gas could occur during grading for the Reach 1

landfill tie-ins. Placing new levee fill over an existing gas pipeline may impede future maintenance of the pipeline. Mitigation Measure HAZ-3 (Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines) would ensure that the existing landfill gas recovery pipelines would not be damaged and therefore would not result in disruption of service (Class II). Existing gas recovery pipelines in the work areas could also result in a public health impact to workers and possibly the public if the line was damaged during construction; this impact is discussed in Section 3.4 (Hazards).

An existing 12-inch natural gas pipeline is located east of the groins along the Santa Clara River, where the proposed levee transitions from Reach 3 to Reach 4. This natural gas pipeline would be protected in place and no impacts are expected to occur (Class III).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

See discussion above under Option 1B. Impacts would be less than significant with implementation of Mitigation Measure HAZ-3 (Class II).

Mitigation Measures

Mitigation Measure HAZ-3 (Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines) – See Section 3.4.2.2 (Hazards).

Increase Demand for Utility Service

No increased demand for utility service would occur under the proposed Project as the service provided by the existing utility lines would continue to be provided without disruption. The proposed Project would not result in an increase to the existing population in the area. Therefore, no increase in demand for utility service would occur.

3.7.2.3 Cumulative Impacts

Introduction

The geographic area for the analysis of cumulative impacts for utilities would be the immediate Project location and surrounding community, which includes portions of unincorporated Ventura County and the City of Oxnard. Any potential disruptions to the service provided by these utility lines would affect the service provided to other parts of unincorporated Ventura County and the City of Oxnard.

Other planned or proposed projects in the area would have the potential to result in significant impacts to utilities if they would result in increased demand for utility services or result in the disruption of utility service. Each individual project would be required under CEQA to assess potential project impacts and provide measures to mitigate significant impacts to the extent feasible.

Project Contribution to Cumulative Impacts

The proposed Project would not result in any significant impacts related to utilities. However, any potential disruption to service of the existing utility lines would contribute to a cumulative impact if there are other disruptions to utility service at the same time. Any potential disruption to utility service would be temporary in nature during construction. Therefore, the proposed Project would not result in a cumulatively considerable contribution to cumulative impacts.

3.7.2.4 Impact Significance Summary

Table 3.7-1, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for each significant impact, but are not required for impacts that are not significant. Table 3.7-1 also indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project’s contribution to impacts on utilities during construction and O&M were determined not to be cumulatively considerable.

Table 3.7-1. Summary of Utilities Impacts and Mitigation Measures		
Impacts	Mitigation Measures	Significance Conclusion
U-1: Construction of the Project could accidentally damage buried utilities resulting in service disruption.	HAZ-3: Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines.	Class II

- Class I: Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
- Class II: Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR.
- Class III: Adverse; less than significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
- Class IV: Beneficial impact.** A Class IV impact represents a beneficial effect that would result from project implementation.

3.8 Flood Control and Drainage

This section describes effects on flood control and drainage from implementation of the proposed Project. The section describes existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts from the construction, operation, and maintenance of the Project. Existing laws and regulations relevant to flood control and drainage are described in relation to the proposed Project. In some cases, compliance with existing laws and regulations would reduce or avoid impacts that might otherwise occur with implementation of the Project.

During the scoping period for the EIR (February 26 through March 27, 2015), written comments were received from agencies, organizations, and the public. These comments identified various substantive issues and concerns relevant to the EIR analysis. The following substantive issues related to flood control and drainage were raised during scoping and are addressed in this section.

- Analysis should include peak flow reduction modeling and clarify the determination of the 100-year flood zone.

Additional scoping comments on this subject are addressed in the analysis of alternatives in Chapter 4.

3.8.1 Environmental Setting

The proposed Project is located in western Ventura County along the southern bank of the Santa Clara River and occupies unincorporated land in Ventura County as well as land within the City of Oxnard. The area surrounding the proposed Project is characterized as a generally flat, coastal plain. The westernmost extent of the proposed Project is located approximately 2.5 miles east of the outlet of the Santa Clara River to the Pacific Ocean. Before entering the proposed Project area, the river runs southwest towards the ocean. At the eastern end of the SCR-3 Project (Reaches 3 and 4), the river bends to the west and continues due west to its outlet at the ocean.

Surface watersheds in California are divided into ten hydrologic regions, as defined by the California Department of Water Resources (DWR). The proposed Project is located within the South Coast Hydrologic Region, a large coastal watershed in southern California (CDF, 2004). The South Coast Hydrologic Region covers nearly seven million acres and is bounded on the west by the Pacific Ocean, on the north by the Transverse Ranges, on the east by the Colorado River Hydrologic Region, and on the south by the international boundary with Mexico (DWR, 2003). Hydrologic Regions are subdivided into Hydrologic Units, and further into Hydrologic Areas. Within the South Coast Hydrologic Region, the proposed Project is located within the Santa Clara-Calleguas Hydrologic Unit and the Oxnard Plain Hydrologic Area. The Hydrologic Unit that contains the proposed Project is subject to the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB), and is governed by the Water Quality Control Plan for the Los Angeles Region (LARWQCB, 1994).

Land uses within the Oxnard Plain include agriculture, open space, and residential, commercial, and industrial urban development. Land use changes over time have led to a change in local and regional hydrology. The Santa Clara River is one of the largest watersheds in coastal southern California, with elevations that range from sea level to nearly 2,700 meters (Stillwater Sciences, 2007). It drains an area of over 1,600 square miles and is one of the most natural and undisturbed of southern California's large watersheds (Stillwater Sciences, 2007). The watershed is largely unregulated by dams and high flow variability exists (Stillwater Sciences, 2007). Many past land use changes affect the flows of the Lower

Santa Clara River, the functioning of the estuary system and the Oxnard floodplain, and the sediment supply to the lower watershed (Stillwater Sciences, 2007). These changes directly affect the functioning, efficacy, and design criteria for flood control systems in the Project area. For instance, under an increased sediment deposition regime, overtopping of levees may be of greater concern than toe erosion (Stillwater Sciences, 2007). Land use changes, including urbanization, have already and will continue to exert an influence on the hydrologic regime of the Santa Clara River watershed. Urbanization has resulted in changes in the regional hydrology, including wildfire suppression, increased impermeability, and flood plain constriction due to levees (Stillwater Sciences, 2007). These changes have contributed to increased flood depths within the Project area (see new Figure 2-2, Extent of Flooding for the One Percent Annual Chance Flood).

3.8.2 Applicable Regulations, Plans, and Standards

3.8.2.1 Federal

The National Flood Insurance Act of 1968, as amended, and The Flood Disaster Protection Act of 1973, as amended, 42 U.S.C. 4001 et. seq

The purpose of these Acts is to “substantially increase the limits of coverage authorized under the National Flood Insurance Program; to provide for the expeditious identification of, and the dissemination of information concerning, flood-prone areas; to require states or local communities, as a condition of future federal financial assistance, to participate in the flood insurance program and to adopt adequate flood plain ordinances with effective enforcement provisions consistent with federal standards to reduce or avoid future flood losses; and to require the purchase of flood insurance by property owners who are being assisted by federal programs or by federally supervised, regulated, or insured agencies or institutions in the acquisition or improvement of land or facilities located or to be located in identified areas having special flood hazards.”

The National Flood Insurance Act of 1968 implemented the National Flood Insurance Program (NFIP), and The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for property owners within a Special Flood Hazard Area (SFHA).

Since the passage of the 1968 and 1973 acts, several laws have been passed that have revised or amended the NFIP (FEMA, 2015). These laws include:

- The National Flood Insurance Act of 1994 – strengthened mandatory purchase requirements, created mitigation insurance, and developed a mitigation assistance program.
- The Flood Insurance Reform Act of 2004 – focused on reducing losses to properties for which repetitive flood insurance claim payments have been made.
- The Biggert-Waters Flood Insurance Reform Act of 2012 – authorized and funded the national mapping program and implemented NFIP rate increases by removing subsidies.
- The Consolidated Appropriations Act of 2014 – prohibited implementation of certain rate increases under the Biggert-Waters Act.
- Homeowner Flood Insurance Affordability Act of 2014 – repealed portions of the Biggert-Waters Act, restored grandfathering, put limits on certain rate increases, and applied an annual surcharge to all policyholders to ensure the financial health of the NFIP.

44 CFR §65.10 – Mapping of areas protected by levee systems

This section describes the type of information FEMA needs to recognize, on NFIP maps, that a levee system provides protection from the base flood. For levees to be recognized by FEMA, evidence that adequate design and operation and maintenance systems are in place to provide reasonable assurance that protection from the base flood exists must be provided. Design criteria include requirements for freeboard, closures, embankment protection, embankment and foundation stability, settlement, interior drainage, and other design criteria. Operation plans and criteria include requirements for closures, interior drainage systems, and other operation plans and criteria. This section also includes requirements for maintenance plans and criteria and certification requirements.

Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. 403

This act requires a permit from the U.S. Army Corps of Engineers (USACE) for any project that would excavate or fill, or in any manner alter or modify the course, location, condition, or capacity of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army prior to the beginning the same.

Clean Water Act

The Clean Water Act (CWA) (33 U.S.C. Section 1251 *et. seq.*, formerly the Federal Water Pollution Control Act of 1972) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCB). The proposed Project is within areas administered by the LARWQCB.

The SCR-3 Project would be required to obtain NPDES coverage under the California General Permit for Discharges of Storm Water Associated with Construction Activity. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices (BMPs) the discharger would use to prevent and retain stormwater runoff. The SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a waterbody listed on the 303(d) list for sediment.

Section 401 of the CWA requires that any activity which may result in a discharge into waters of the U.S. be certified by the RWQCB. This certification ensures that the proposed activity does not violate State and/or federal water quality standards. The proposed Project could result in discharges to waters of the U.S., and would likely require Section 401 certification.

Section 404 of the CWA authorizes the USACE to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. Discharges to waters of the U.S. must be avoided where possible, and minimized and mitigated where avoidance is not possible. The proposed Project would be along the south bank of the Santa Clara River, which is a jurisdictional water of the United States.

Executive Orders 11988 and 13690

Executive Order 11988 requires a federal agency, when taking an action, to avoid short- and long-term adverse effects associated with the occupancy and the modification of a floodplain, and to avoid direct and indirect support of floodplain development whenever there is a reasonable and feasible alternative. In accomplishing this objective, "each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains in carrying out its responsibilities." Executive Order 13690 revises Executive Order 11988 and includes more protective standards for floodplain protection. Although the proposed Project is not a federally owned or operated levee, these executive orders would apply to the SCR-3 Project because the issuance of a CWA Section 404 permit by the USACE would qualify as a federal action under these orders.

3.8.2.2 State

Porter-Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act of 1967, Water Code Section 13000 *et. seq.*, requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for the SCR-3 Project area are contained in the Water Quality Control Plan for the Los Angeles Region (LARWQCB, 1994). Constraints in the water quality control plans relative to the proposed Project relate primarily to the avoidance of altering the sediment discharge rate of surface waters, and the avoidance of introducing toxic pollutants to the water resource. A primary focus of water quality control plans is to protect designated beneficial uses of waters. In addition, anyone proposing to discharge waste that could affect the quality of the waters of the state must make a report of the waste discharge to the Regional Water Board or State Water Board as appropriate, in compliance with Porter-Cologne.

California Streambed Alteration Agreement

Sections 1600–1616 of the California Fish and Game Code require that any public utility (or other entity) that proposes an activity that would substantially divert or obstruct the natural flow of any river, stream or lake; substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or, deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, must notify the California Department of Fish and Wildlife (CDFW). If the CDFW determines the alteration may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement would be prepared. The Agreement includes conditions necessary to protect those resources. The Agreement applies to any stream including ephemeral streams and desert washes.

3.8.2.3 Local

Ventura County General Plan – Goals, Policies & Programs (Ventura County, 2015)

Goals

2.10.1-1 Minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from flood hazards.

2.10.1-2 Design and construct appropriate surface drainage and flood control facilities as funding permits.

4.6.1 Provide adequate and appropriate flood control and drainage facilities to protect life and property from damage or destruction from flood and storm waters.

Policies

2.10.2-2 Within areas subject to flooding as determined by FEMA on the latest available DFIRMs, the County shall require the recordation of a Notice of Flood Hazard or dedication of a flowage easement with the County Recorder for all divisions of land and discretionary permits.

2.10.2-4 The design of any structures which are constructed in floodplain areas as depicted on the Hazards Protection Maps shall be governed by Federal regulations, specifically Title 44 Code of Federal Regulations Sections 59 through 70, as well as the County Floodplain Management Ordinance and shall incorporate measures to reduce flood damage to the structure and to eliminate any increased potential flood hazard in the general area due to such construction.

4.6.2-1 All necessary flood control and drainage facilities shall be constructed to meet the minimum standards of the Public Works Agency (PWA) and VCWPD consistent with the goals, policies, and programs of the General Plan.

4.6.2-2 Discretionary development shall be conditioned to provide flood control and drainage facilities deemed by the PWA and VCWPD as necessary for the development, and shall be required to contribute toward flood control facilities necessitated by cumulative development.

Programs

2.10.3-3 The floodplain limits will be reviewed annually, as required by Government Code Sec. 65302(a), by the Public Works Agency. All changes will be conveyed to the Planning Division, which will process an amendment to the Hazards Protection Maps.

4.6.3 The VCWPD will periodically update the Comprehensive Plan for Flood Control

Ventura County Flood Plain Management Ordinance No. 3841, as amended

The purpose of this ordinance is to promote public health, safety, and general welfare, and to minimize public and private losses due to flood conditions by prohibiting certain uses within the floodplain, by requiring that structures are protected against flood damage at the time of initial construction, by controlling the alteration of the natural floodplain, and by preventing or regulating the construction of flood barriers which would unnaturally divert flood waters or which may increase flood hazards in other areas.

City of Oxnard General Plan – Goals & Policies

Infrastructure and Community Services

Goal ICS-13: Stormwater Drainage: Adequately sized storm drain systems and discharge treatment, certified levees, and implementation of appropriate NPDES permits and regulations.

- ICS-13.1, 100-year Floodplain: Discourage development, major infill, and structural improvements (except for flood control purposes) within the 100-year floodplain as required by FEMA.
- ICS-13.5, FEMA-Certified Levees: Work expeditiously with County, State, and Federal agencies and the private sector to achieve full certification of Santa Clara River Levees that impact Oxnard and the Planning Area.

Safety & Hazards

Goal SH-3: New Development Mitigations: New development required to take necessary precautions prior to any construction to mitigate hazards and protect the health and safety of the inhabitants.

- SH-3.1, Location of New Development: Encourage new development to avoid areas with high geologic, tsunami, flood, beach erosion, and fire or airport hazard potential.
- SH-3.2, New Development Flood Mitigation: As a condition of approval, continue to require new development to mitigate flooding problems identified by the NFIP and/or other expert information.
- SH-3.3, Updating Flood Insurance Rate Maps: Continue to provide information to FEMA to ensure that FIRMs are updated periodically.
- SH-3.4, Avoiding Blockage of Natural Drainage: Continue to review development proposals to ensure that the capacity or ability of natural drainage is not impacted.

3.8.3 Environmental Impacts and Mitigation Measures

Consistent with the requirements of CEQA, the significance of potential impacts is evaluated through the application of the significance criteria described in Section 3.8.3.1. The significance criteria in CEQA Appendix G have been modified based on relevance to the proposed Project and guidance developed by Ventura County. The objective of the flood control and drainage analysis is to identify potential adverse effects and significant impacts on the existing flood control and drainage system within or near the proposed Project area. Appropriate mitigation measures to avoid or minimize impacts are identified. In some cases, compliance with applicable laws and regulations would serve to avoid or minimize potential impacts.

Construction of the proposed Project includes the raising of the existing levee (Reaches 1 and 3), filling of the River Ridge Golf Course swale (Reach 2), and construction of floodwalls (Reach 4). While the construction and operation of these structures is generally expected to improve flood hazard conditions in the area, the SCR-3 Project could result in an increased flood hazard risk for people or structures downstream of the proposed Project. The following discussion provides an overview of the direct and indirect impacts that would result from the construction and operation of the proposed Project.

The proposed Project includes two different options that are analyzed in this EIR. Option 1B, ~~the preferred option~~, reduces the extent of levee improvements. It includes an earthen raised levee within Reaches 1 and 3, filling of the River Ridge Golf Course Swale in Reach 2 (no levee improvements would occur in Reach 2), and a floodwall along N. Ventura Road within Reach 4. The second option, Option 1A (preferred option), would include an earthen raised levee within Reaches 1 and 3 and the majority of Reach 2, a floodwall in front of the River Ridge Golf Course maintenance facilities in Reach 2, and a

floodwall within the entirety of Reach 4, described above under Option 1B, along N. Ventura Road. Option 1A does not include the filling of the River Ridge Golf Course Swale. For additional details on the proposed Project options refer to Sections 2.5.1 and 2.5.2 of the Project Description (Chapter 2).

3.8.3.1 Criteria for Determining Impact Significance

According to the Ventura County Initial Study Assessment Guidelines, a project would be considered to have a significant impact associated with VCWPD flood control facilities/watercourses if one of the criteria listed below is met during project construction or operation (Ventura County, 2011).

Any project that will, either directly or indirectly, impact flood control facilities and watercourses by obstructing, impairing, diverting, impeding, or altering the characteristics of the flow of water, resulting in exposing adjacent property and the community to increased risk for flood hazards, shall be considered to have a potentially significant impact. Examples are listed below.

- Reducing the capacity of flood control facilities and watercourses. This includes the planting of any vegetation within the watercourse or on the banks thereof.
- Eroding watercourse bed and banks due to high velocities, changes in adjacent land use, encroachments into the channel such as bridges, and loading the top of the channel embankment with structures.
- Deposition of any material of any kind in a watercourse.
- Placement of a structure that encroaches on a flood control facility or that does not have sufficient setback from a watercourse.

3.8.3.2 Direct and Indirect Impacts

CEQA defines direct impacts as those impacts that result from a project and occur at the same time and place. Examples include but are not limited to the placement of a structure in a watercourse such that the natural drainage would be blocked or the deposition of material of any kind in a watercourse. Indirect impacts are caused by a project, but can occur later in time or are farther removed in distance while still reasonably foreseeable and related to the project. Potential impacts are categorized as temporary or permanent. Temporary impacts could include short-term reductions in drainage or flood control capacity. Permanent impacts could include long-term changes to the flooding patterns of an area or long-term changes to the FEMA flood hazard classification of areas within, adjacent to, or downstream of a project.

Exposure of Property and the Community to Increased Flood Hazard Risks

Impact FC-1: The Project may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements.

Option 1B – Minimum Levee System (~~Preferred~~) with Reach 4 Floodwall

This option reduces the amount and extent of levee improvements compared to Option 1A. Existing high ground in the proposed Project area would be incorporated into the proposed system of levee improvements under this option, which would eliminate the need to improve the existing levee in Reach 2. Instead, the drainage swale associated with the River Ridge Golf Course would be filled in to close a potential path for floodwater to escape the Santa Clara River and affect residential areas south of the golf course. Within Reaches 1 and 3, the existing levees would be raised through partial excavation of the existing material and the placement of new fill material, including soil and riprap.

Interior drainage systems would be improved through the installation of one-way gates at the openings of storm drain outlets within the SCR-3 levee system. Within Reach 4 (the most upstream reach of the proposed Project), a new floodwall would be constructed to provide flood protection for properties downstream of the UPRR and southeast of the Santa Clara River. The levee and flood protection facility improvements described above would be implemented to achieve FEMA certification under 44 CFR §65.10 for protection from the one percent annual chance flood event.

The existing levee system was previously certified by FEMA as providing adequate protection from the one percent annual chance flood event (VCWPD, 2014). In 2008, FEMA released a Preliminary DFIRM that showed approximately 1,800 parcels in the northern portion of the City of Oxnard as being located within a Special Flood Hazard Area (SFHA) – Zone A (subject to the one percent annual chance flood event). In 2010, FEMA published Effective DFIRM panels for Ventura County that also showed those City of Oxnard parcels as being located within SFHA Zone A. One day after publishing the Effective DFIRMs, the agency issued a Letter of Map Revision (LOMR) and Revised Mapping Panel No. 905 that showed the City of Oxnard parcels as being located within SFHA Zone X – Shaded. SFHA Zone X (Shaded) represents areas with a moderate risk of flooding that are outside of the one percent annual chance flood hazard zone but inside the 0.2 percent annual chance flood hazard zone (also known as the 500-year floodplain). This revision effectively reverted back to the previously effective FIRM that was based on 1985 data and analyses (VCWPD, 2014). The purpose of this map revision was to prevent delays in releasing updated digital flood maps for Ventura County as a whole while improvements to the SCR-3 levee system are developed and implemented. Currently, property owners within areas designated as SFHA Zone X (Shaded) are not required to purchase flood insurance. If the SCR-3 Project is not implemented, it is expected that portions of the City of Oxnard will be reclassified as SFHA Zone A, and residents with federally-backed mortgages would be required to purchase flood insurance. The number of structures that are currently located within the one percent annual chance (100-year) floodplain protected by the SCR-3 levee system is estimated at approximately 3,800 (Tetra Tech, 2014).

Project Description Figure 2-2 (NEW) provides the current, best available floodplain information showing the extent of flooding for the one percent annual chance flood (blue shading), at least until FEMA issues an updated map in the future. Figure 2-2 does not depict the current effective FEMA floodplain.

Option 1B is designed and engineered to achieve FEMA certification under 44 CFR §65.10 for protection from the one percent annual chance flood event. The VCWPD will submit to FEMA a Conditional Letter of Map Revision (CLOMR), which will provide a preliminary request for revision of the effective NFIP map, along with evidence of adequate design and operation and maintenance systems that can provide protection from the base flood. Although construction and operation of the proposed Project would obstruct, divert, and alter the flow of water, these changes to the existing drainage pattern are designed to protect people and property in the northern portion of the City of Oxnard from injury and loss of life or property associated with the one percent annual chance flood event. If improperly designed, engineered, or constructed, the proposed improvements to the SCR-3 levee system could result in the exposure of adjacent property and the community to increased risk for flood hazards. However, compliance with the FEMA design, operation, and maintenance standards that are detailed in 44 CFR §65.10 would ensure that the proposed Project would provide the intended level of protection from flood hazards. Therefore, construction and operation of the proposed Project would represent a benefit for portions of the City of Oxnard that are currently at risk of inundation by the one percent annual chance flood event.

Construction and operation of the proposed Project could indirectly expose downstream and cross-river properties and communities to increased risk for flood hazards. Although the SCR-3 Project would be designed and constructed to protect portions of the City of Oxnard from the one percent annual chance flood event, the obstruction, diversion, and alteration of the flow of water in the Santa Clara River could result in increased flood hazard risks for people and properties north of the river (across from the levee improvements) as well as for people and properties downstream of the proposed Project during larger storms generating a higher water surface elevation in the Santa Clara River than the current top of levee; no change would occur during storms with a water surface elevation lower than the current top of levee. Most of the land across from and downstream of the SCR-3 Project is occupied by agricultural uses, open space, and golf courses. However, some scattered commercial and residential properties are located across from and downstream of the proposed levee improvements. The proposed Project improvements may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements during larger storms as described above. Based on the results of a hydraulic analysis completed by Michael Baker International (MBI), which is provided as Appendix E, the increased flood hazard risk for properties outside of the Project area would be minor. The downstream and across the river base flood elevation for the one percent annual chance storm would increase by 0.097 foot (1.1 inches) or less with implementation of the proposed Project. The proposed Project in combination with the Olivas Park Drive and Wagon Wheel levees, which are not part of this Project but are considered in the cumulative scenario, would increase the water surface elevation downstream of the Olivas Park Drive levee (Station 18374) during a one percent annual chance storm event between 0.03 and 0.1 feet (0.4 to 1.2 inches) (Appendix E, Table No. 2). Furthermore, the velocity of the flood flows as a result of the proposed Project would increase by a maximum of 0.05 feet per second adjacent to the Santa Clara Landfill (Appendix E, Table No. 3). As such, no additional people or structures would be exposed to injury or loss of property or life based on the proposed levee improvements (MBI, 2015).

Based on the analysis provided above for construction and operation of the proposed Project (Option 1B), the direct and indirect impacts related to flood control and drainage would not be significant and no mitigation is required (Class III).

Option 1A – Full Levee System (Preferred) with Reach 4 Floodwall

This option would provide for continuous flood protection (a raised earthen levee on top of the existing levee and floodwalls in certain locations) for the full limits of the Project improvements. Construction activities would be more extensive than under Option 1B. This option is also designed to achieve FEMA certification under 44 CFR §65.10 for protection from the one percent annual chance flood event. The same portions of the City of Oxnard that would be protected under Option 1B would also be protected under this option. In addition, this option would provide protection from the one percent annual chance flood event for the VRSD flare, the City of Oxnard River Ridge Golf Course maintenance yard, and the existing closed landfills located immediately adjacent to SCR-3. As in Option 1B, compliance with the FEMA design, operation, and maintenance standards that are detailed in 44 CFR §65.10 would ensure that this option would provide the intended level of protection from flood hazards. Therefore, construction and operation of Option 1A would represent a benefit for portions of the City of Oxnard that are currently at risk of inundation by the one percent annual chance flood event.

Similar to Option 1B, this option could indirectly result in increased flood hazard risks for people and properties north of the river (across from the levee improvements) as well as for people and properties downstream of the proposed Project during larger storms generating a higher water surface elevation

in the Santa Clara River than the current top of levee; no change would occur during storms with a water surface elevation lower than the current top of levee. Some scattered commercial and residential properties are located across from and downstream of the proposed levee improvements. The Option 1A improvements may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements during larger storms as described above. Based on the results of a hydrologic analysis completed by MBI, the increased flood hazard risk under Option 1A for properties outside of the Project area would be minor (MBI, 2015 – Provided as EIR Appendix E). The downstream and across river base flood elevation for the one percent annual chance storm would increase by a maximum of 0.097 foot (1.1 inches), and no additional people or structures would be exposed to injury or loss of property or life based on the proposed levee improvements.

Based on the analysis provided above for construction and operation of the proposed Project (Option 1A), the direct and indirect impacts related to flood control and drainage would not be significant and no mitigation is required (Class III).

3.8.3.3 Cumulative Impacts

Introduction

The geographic area of analysis for cumulative impacts related to flood control is the current flood zone that would be protected from flooding by the proposed Project, as well as downstream areas affected by the Project.

The area surrounding the proposed Project is characterized as a generally flat, coastal plain. Land use changes, including urbanization, have already and will continue to exert an influence on the hydrologic regime of the Santa Clara River watershed. Urbanization has resulted in changes in the regional hydrology, including wildfire suppression, increased impermeability, and flood plain constriction due to levees. These changes have contributed to increased flood depths within the Project area.

Project Contribution to Cumulative Impacts

The proposed Project would reduce flooding hazards for properties in north Oxnard, resulting in a beneficial effect. Other flood control projects are planned, such as the Olivas Drive levee proposed on the north side of the river, which would reduce flood hazards along other portions of the Santa Clara River. Other projects could be planned in the future to address flooding along other reaches of the river or its tributaries. The proposed Project would make a cumulatively considerable contribution to this flood control benefit by implementing improvements that would protect over 3,800 structures in north Oxnard.

As discussed under Impact FC-1 in Section 3.8.2 above, the proposed Project would result in a very small increase in the base flood elevation for areas across from or downstream of SCR-3. The Project would not affect base flood elevations upstream. This effect does not increase the number of properties or structures subject to flooding and the increase in base flood elevation would be taken into consideration if any additional flood control projects are constructed in the future. Therefore, the proposed Project does not make a significant contribution to cumulative flood hazards.

3.8.3.4 Impact Significance Summary

Table 3.8-1, below, provides a summary of each identified direct and indirect impact and associated mitigation measures to reduce or avoid the impact, if warranted. Mitigation measures are required for

each significant impact, but are not required for impacts that are not significant. Table 3.8-1 also indicates the significance conclusion for each identified impact. For cumulative impacts, the proposed Project's contribution was determined to result in cumulatively beneficial flood control impacts, and therefore would not result in cumulatively considerable flood hazard impacts.

Table 3.8-1. Summary of Flood Control and Drainage Impacts and Mitigation Measures		
Impacts	Mitigation Measures	Significance Conclusion
Impact FC-1: The Project may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements.	No mitigation measures are required.	Class III

Class I: Significant impact; cannot be mitigated to a level that is not significant. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: Significant impact; can be mitigated to a level that is not significant. A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this EIR.

Class III: Adverse; less than significant. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: Beneficial impact. A Class IV impact represents a beneficial effect that would result from project implementation.

4. Alternatives

4.1 Introduction

An important aspect of the environmental review process is the identification and assessment of a “reasonable range of alternatives to the project, or to the location of the project, which would 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” (State CEQA Guidelines §15126.6(a)). As such, the selection of alternatives focuses on those alternatives capable of eliminating or reducing any significant environmental effects of the proposed Project, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly (State CEQA Guidelines §15126.6(b)).

The range of alternatives required within an EIR is governed by the “rule of reason”; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed Project (State CEQA Guidelines §15126.6(f)). An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote or speculative (State CEQA Guidelines §15126.6(f)(3)). Additionally, the “no project” alternative must be evaluated along with its impacts. The “no project” analysis discusses the existing conditions at the time the Notice of Preparation (NOP) is published, as well as what would be reasonably expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services (State CEQA Guidelines §15126.6(e)(2)).

Based on the alternatives analysis, an environmentally superior alternative is designated from among the alternatives. If the environmentally superior alternative is the “no project” alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (State CEQA Guidelines §15126.6(e)(2)).

4.2 Criteria for Selection of Alternatives

To determine a reasonable range of feasible alternatives, the following screening criteria were applied, which are based on the State CEQA Guidelines (§15126.6 et seq.):

- Does the alternative meet most of the basic Project objectives?
- Is the alternative feasible (e.g., site suitability; economic viability; availability of infrastructure; general plan consistency; other plans or regulatory limitations; ability to reasonably acquire, control, or otherwise have access to the alternative site)?
- Does the alternative avoid or substantially lessen any significant effects of the proposed Project (including consideration of whether the alternative itself could create significant effects potentially greater than those of the proposed Project)?

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Alternatives

As discussed in Section 2.4 (Statement of Project Objectives), the purpose of the SCR-3 Project is to provide flood protection to the residences and properties in the City of Oxnard from the one percent annual flood event. The objectives of the Project are:

- Construct new, upgrade existing, and maintain the SCR-3 structures to provide continuous flood protection to properties in the City of Oxnard that would otherwise require flood insurance under the NFIP and do so in a cost-effective manner prior to FEMA revision of adjacent FIRMs.
- Achieve compliance with FEMA levee certification requirements as identified in 44 CFR §65.10 through implementation of structural improvements to the SCR-3 levee system capable of withstanding a one percent annual chance flood event.
- Design flood protection structures that accommodate a future bikeway along N. Ventura Road in support of the City of Oxnard Santa Clara River Trail Master Plan.

Of these objectives, the first two represent the primary or “basic” Project objectives, by which the alternatives are to be evaluated. The following analysis also focuses on identifying alternatives that would reduce or avoid the identified significant impacts. Significant impacts have been identified related to air quality, biological resources, scenic resources, hazards, noise and vibration, and transportation and circulation. Most of these impacts can be reduced to a less-than-significant level with feasible mitigation.

4.3 Alternatives Eliminated from Further Consideration

Per State CEQA Guidelines Section 15126.6(c), it is required that the EIR identify any alternatives that were considered by the Lead Agency, but were rejected as infeasible, and to provide a brief explanation as to the reasons underlying the Lead Agency’s determination. As discussed above, alternatives were assessed for their ability to reasonably achieve the primary or basic Project objectives and reduce the significant environmental impacts of the proposed Project. Also, their technical, legal, and regulatory feasibility was evaluated. Based on these screening criteria, alternatives that were considered and then eliminated from detailed analysis in the EIR are described below, along with an explanation of the rationale for their elimination.

A number of potential alternatives were identified during the evaluation and design phase for the Project, as detailed in a report titled “Santa Clara River Levee System (SCR-3) Reaches 1-4 Evaluation and Design Report” (2013 Evaluation and Design Report) completed by Wood Rodgers in March 2013. As summarized in the Wood Rodgers 2013 Evaluation and Design Report, initially two designs for Reaches 1-3 were considered (Wood Rodgers Alternatives 1A and 1B), as well as a hybrid design (Alternative 1C). Of these designs, Alternative 1A was eliminated from further consideration, as discussed below. Alternative 1B is representative of proposed Project, Reaches 1-3 Option 1A. The hybrid design (Alternative 1C) has been carried forward as an alternative in this EIR, with some refinements, and is presented in Section 4.4 as EIR Alternative 1.

The Wood Rodgers 2013 Evaluation and Design Report notes that nine preliminary designs were considered for Reach 4 beginning in 2010, which over the course of five rounds of screening and design development were reduced to three design alternatives. Of the potential alternatives, one has been eliminated from further consideration, as described below. One is representative of the proposed Project. The other two alternatives have been carried forward for analysis in this EIR and are described in Section 4.4 as EIR Alternatives 2 and 3.

Potential alternatives were also suggested at or subsequent to the Pre-Scoping Meeting held June 4, 2014, and during the EIR Scoping Meeting held March 4, 2015, and throughout the scoping comment period (February 26 to March 27, 2015).

The alternatives considered but eliminated from detailed analysis in this EIR are discussed below.

Reaches 1-3: Raised Earthen Levee with Landfill Tie-ins

This proposed alternative would provide for a raised earthen levee on top of the existing levee that ties into the landfill areas as high ground (Wood Rodgers Alternative 1A). This alternative would minimize the construction required by taking advantage of the high ground along the existing landfills. However, this disadvantages of this alternative include the greater number of landfill tie-ins and the fact that the levee maintenance road would not be above the design water surface along its entire length. This alternative represents a minor variation of another alternative carried forward for analysis, Reaches 1-3: Levee System with Landfill Tie-ins and Protection to Golf Course (Alternative 1); therefore, this alternative has been removed from further consideration.

Reach 4: Floodwall along South Side of Ventura Road and Pump Station

This proposed alternative (Wood Rodgers Alternative 5C) would include a floodwall that ties into the Reach 3 levee immediately upstream of the redirective weirs, a floodgate extending across Ventura Road (near the east end of the Reach 3 levee), and then a floodwall extending almost entirely on the south side of Ventura Road up to the UPRR bridge. This alternative is a variation of the proposed Project in Reach 4, with the floodgate placed farther west along N. Ventura Road as opposed to placing the floodgate at the high point in Ventura Road. From an engineering standpoint, this proposed alternative was found to be less attractive because it would result in a taller floodwall (7-13 feet) located closer to residences (25-40 feet), especially along the western portion where there is less space between the roadway and the existing homes, resulting in potentially greater visual intrusion and creating a constrained pathway through the area which may not be pleasing to recreationists that use the path/sidewalk through this area. Therefore, this alternative has been removed from further consideration.

Reach 4: Raise N. Ventura Road to Eliminate Floodgates

Based on comments from the Pre-Scoping Meeting which requested eliminating the need for floodgate(s) in N. Ventura Road, a preliminary alternative was considered which raised the height of N. Ventura Road along Reach 4. The VCWPD prepared a grading plan for this alternative, including cross-sections which show that the raised road on the west end of Reach 4 would be above the existing residential garden walls prompting the need for an additional sound wall to minimize traffic noise for residences along this western portion of Reach 4 (see Figures 4-1 and 4-2). Continuing east along N. Ventura Road, the roadway would continue to be raised, as well as raising the existing levee on the south side of the road to an elevation slightly below the existing garden walls (Figure 4-2). Based on this preliminary design, it was determined that this alternative would result in greater long-term visual and traffic noise impacts to the residences along Reach 4 than the proposed Project. From an engineering standpoint, this alternative was deemed infeasible due to the constraints associated with the UPRR bridge. To pass under the UPRR bridge, the raised road would need to dip back down at a reasonable/drivable slope, such that Reach 4 would receive little benefit from the raised roadway. Conversely, if the road were to go over the UPRR bridge, the cost would be extraordinary, and it would be difficult in just over 0.1 mile (approximately 775 feet) to reduce the road elevation sufficiently and

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at an acceptable slope for vehicles to pass safely under the Highway 101 bridge. The other option would be to cross the UPRR bridge at the level of the train tracks, which would create an “at-grade” crossing or new intersection between the railroad and Ventura Road, increasing the risk for collisions. It is unlikely UPRR would approve a change to its facility that would reduce public and rail safety. As such, this alternative has been removed from further consideration.

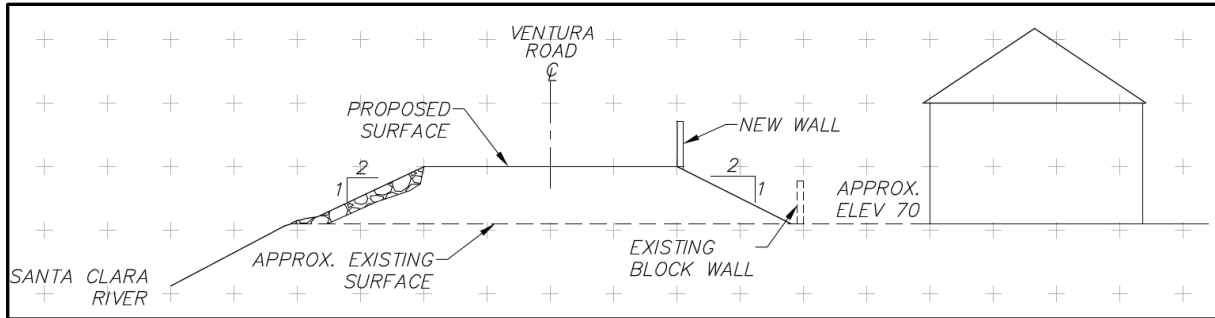


Figure 4-1. Cross-section at east end of N. Ventura Road with Raised Roadway (VCWPD, 2014)

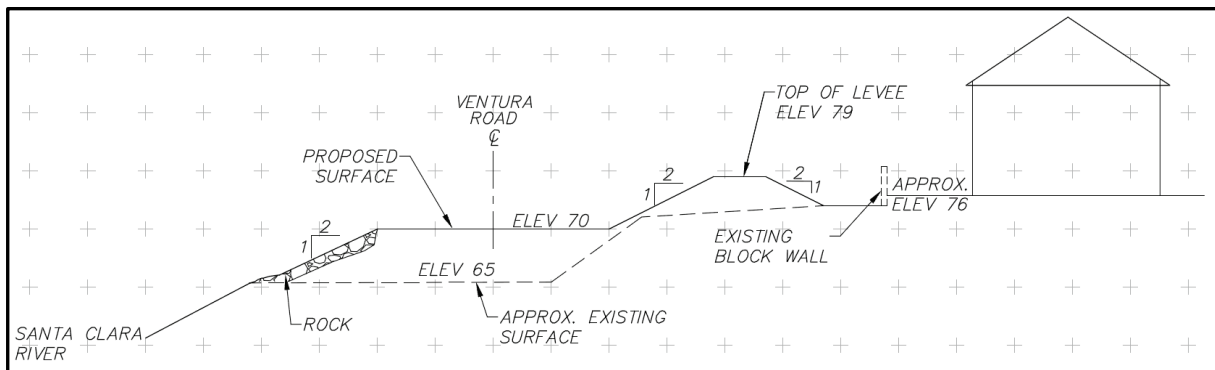
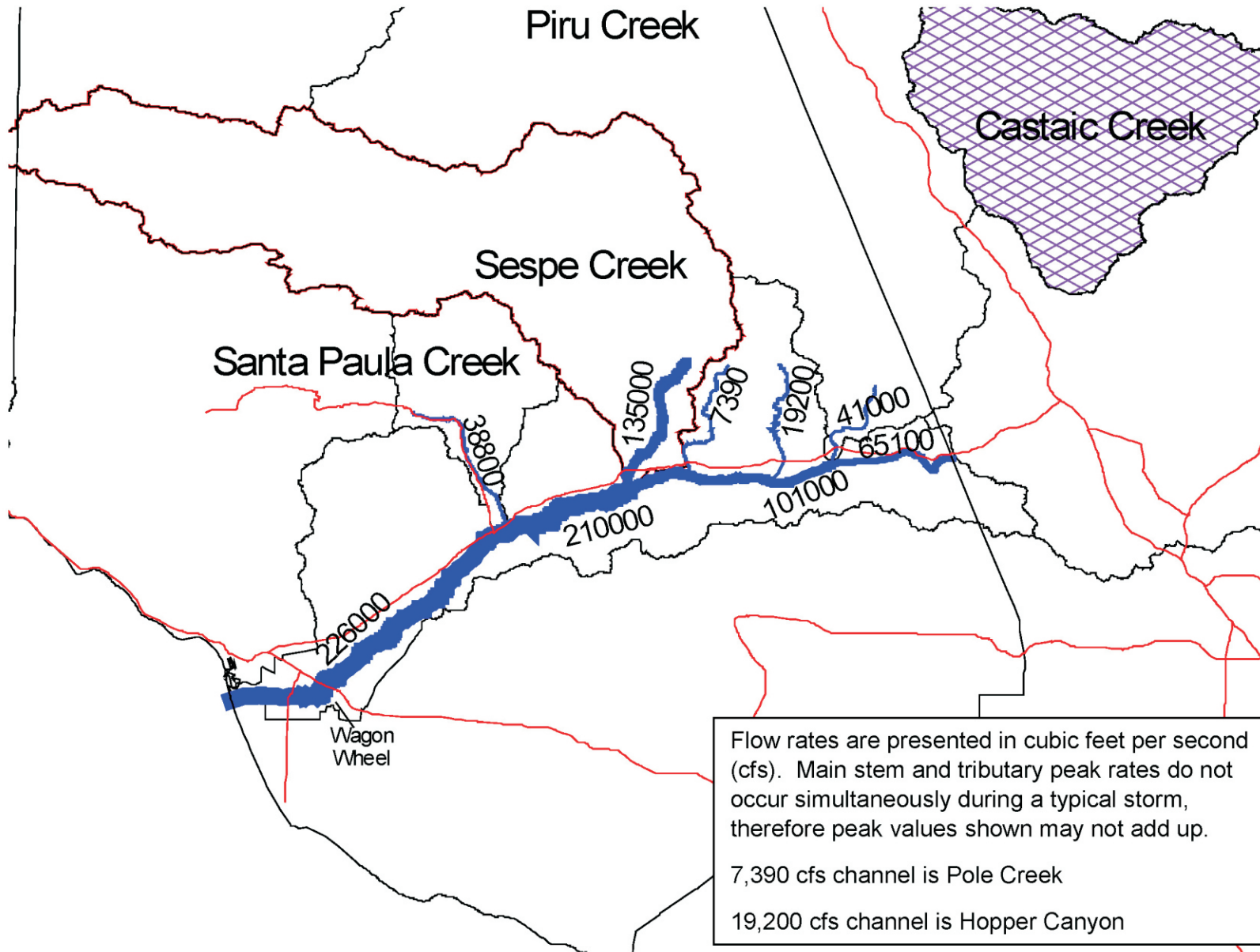


Figure 4-2. Cross-section at west end of N. Ventura Road with Raised Roadway (VCWPD, 2014)

Reaches 1-4: Watershed Management Techniques

Public input from the Pre-Scoping and Scoping Meetings suggested various watershed management techniques as alternatives to the proposed Project. The general goal of these techniques is to reduce runoff flow rates and volume from the watershed so that additional flood protection along SCR-3 (Reaches 1-4) would not be required. The desired benefits of watershed management techniques are storm water retention to promote recharge of the underlying groundwater basins, preservation of existing undeveloped 100-year floodplain, preservation of existing riparian habitat, minimization of flood control structures such as levees and floodwalls along the south bank of the Santa Clara River, and recreational access. The proposed alternatives implementing watershed management techniques are discussed below; however, a brief overview of the Santa Clara River watershed is provided to help understand the existing conditions in the Project area, as detailed in the “SCR-3 Alternatives Analysis Supplementary Evaluation” memo prepared by Michael Baker International for the VCWPD in July 2015 (see Appendix F).

The Santa Clara River is one of the largest river systems in Southern California that remains in a relatively natural state, receiving flows from Castaic Creek (Los Angeles County), Piru Creek, Sespe Creek, Santa Paula Creek, as well as the Pole Creek and Hopper Canyon channels (see Figure 4-3). Based on previous studies, the watershed is predominately natural undeveloped open space, with developed areas representing less than eight percent of the total watershed area.



Source: MBI, 2015.

Figure 4-3
Santa Clara River Watershed One Percent Annual Chance
Flood Flow Rates in Ventura County

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The river has an estimated 100-year (1 percent annual chance) flood peak flow rate for the current (existing) watershed condition of 226,000 cubic feet per second (cfs), as shown in Figure 4-3, with a 24-hour storm runoff volume of 331,000 acre-feet. The design flow rate for the improvements along the SCR-3 Project was established to be 250,000 cfs to account for the potential effects of climate change and with consideration of the area’s hydrological trend toward increased peak runoff over the last 50 years.

Hydraulic modeling of the river indicates that the existing system can convey a peak flow rate of approximately 175,000 cfs along the SCR-3 Project (Reaches 1-4) before flooding occurs in the developed overbank areas downstream of the UPRR crossing. Based on this information, an evaluation was prepared for each of the three general watershed management categories suggested during the Pre-Scoping and Scoping Meetings: upstream detention, low impact development (LID), and natural floodplain attenuation.

Upstream Detention

This potential alternative was identified as an approach to reduce the peak flow rates in the Santa Clara River to a level that would not require additional flood protection along SCR-3. The concept was to place storm water detention basins on existing agricultural lands adjacent to the river, upstream of SCR-3.

As noted above, the maximum flow rate in the Santa Clara River that would not overtop the existing SCR-3 levee was determined to be 175,000 cfs. The 100-year peak flow rate for the river at this location is 226,000 cfs. Therefore, the upstream storm water detention basins would need to reduce the peak flow rate by about 51,000 cfs. The required volume of the detention basins was estimated by assuming that the storm runoff above 175,000 cfs could be diverted from the river to a series of adjacent basins. The volume was then estimated from the 100-year storm hydrograph as the area above the flow rate of 175,000 cfs, as shown in Figure 4-4. The required storage volume was calculated to be approximately 30,000 acre-feet (less than 10 percent of the total storm runoff volume).

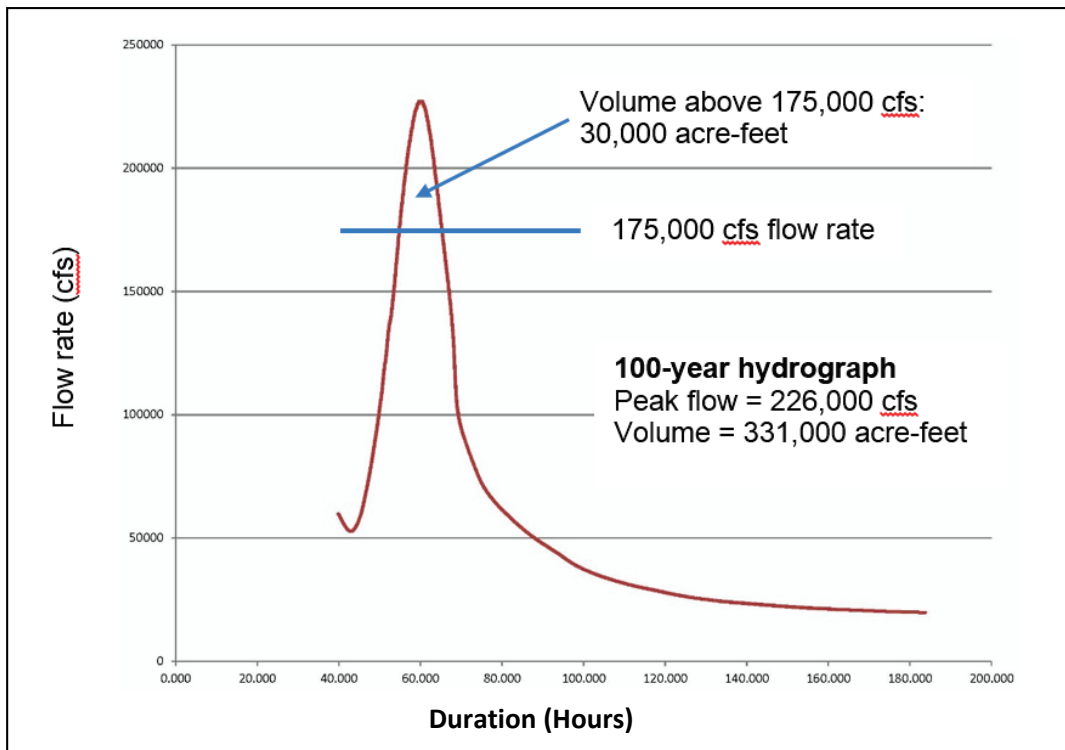


Figure 4-4. Santa Clara River 100-year Flood Hydrograph at Highway 101 (MBI, 2015)

Assuming a maximum depth of 10 feet, the required surface area for the basins would be in excess of 3,000 acres. Additional acreage would be needed if vegetation were allowed to grow in the basins for habitat purposes, as its presence would reduce total water storage capacity. Using a market value of \$150,000 per acre for agricultural land, the estimated land cost alone would be \$450 million (design, permitting, mitigation, and construction costs would need to be added to this value). This cost is more than 20 times the estimated cost of the proposed Project, which makes this alternative economically infeasible.

This alternative would also have the potential for substantial environmental impacts due to the loss of agricultural land, as well as air quality, noise, and traffic impacts associated with the excavation, grading, and export of over five million cubic yards (CY) of earthen material to create the detention basins. To ensure excess flows reach the detention basins from the Santa Clara River, a diversion and conveyance system would be required. Regulatory feasibility would be uncertain due to potential entrapment of federally-endangered steelhead trout in this diversion and detention basin system. It may be necessary to construct flood protection for this system of detention basins as they would likely be located within the Santa Clara River 100-year floodplain. Because sediment transport in this steep, predominantly natural watershed can be substantial during large flood events, the detention basins would require periodic maintenance to remove accumulated sediments and preserve their flood capacity. If riparian vegetation were to grow on these sediments, recurring mitigation would likely be required to offset habitat loss during sediment removal maintenance episodes. To avoid recurring mitigation costs, annual operations would include removal of all vegetation on the 3,000-acre basin.

In the event of successive large flow events, the flood protection intended to be provided by the detention basins could be reduced. For example, in 1969, a significant storm was documented January 18-22 and was immediately followed by another storm January 23-27. The watershed was soaked by the January 18-22 storm, such that water from the January 23-27 storm resulted in record breaking runoff and severe flood damages over much of Ventura County. If full detention basins cannot be emptied in time to receive runoff from a subsequent storm event generating flow greater than 175,000 cfs, residential, commercial, and public structures along SCR-3 would remain vulnerable to flooding.

Due to the substantial cost, environmental impacts, and the speculative nature of being able to acquire the lands to build the detention basins, this alternative has been removed from further consideration.

Low Impact Development (LID)

This approach was considered as a method to modify existing watershed development to reduce impervious areas and lower storm water runoff to mimic pre-development conditions. As identified above under "Upstream Storm Water Detention", the peak runoff in the Santa Clara River needs to be lowered by 51,000 cfs to avoid flooding impacts to the properties along SCR-3. LID can be used as an effective method to reduce the impacts of a development project and attempt to mimic the natural hydrology of a watershed area. However, LID techniques are most beneficial for reducing peak runoff from developed areas associated with more frequent storms, such as the 2-, 5-, and 10-year events. For larger storm events, such as the 100-year event being used for the SCR-3 levee design, it is assumed that the ground conditions are mostly saturated as a result of preceding storm events. Therefore, LID methods to reduce impervious areas and promote infiltration are less effective in reducing runoff from developed areas as the ground conditions are assumed to already be saturated, cancelling their ability to provide flood storage during a 100-year event.

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As discussed above, the majority of the watershed remains in a natural condition with developed areas representing less than eight percent of the watershed; therefore, only a small portion of the watershed could potentially be retrofitted to reduce runoff by increasing pervious areas.

The Santa Clara River has historically exceeded its meandering channel banks and flooded the Oxnard Plain in the Project area during larger storm events. Aerial photography from 1945 shows an active flood terrace in the areas proposed to be protected by the SCR-3 levee system (Figure 4-5). The limits of the southern flood terrace are shown with a yellow line on the figure. The location of the SCR-3 Project is shown as a blue line. Note that watershed development at the time of the 1945 photograph was substantially less than the current condition, which is eight percent of the total watershed area.

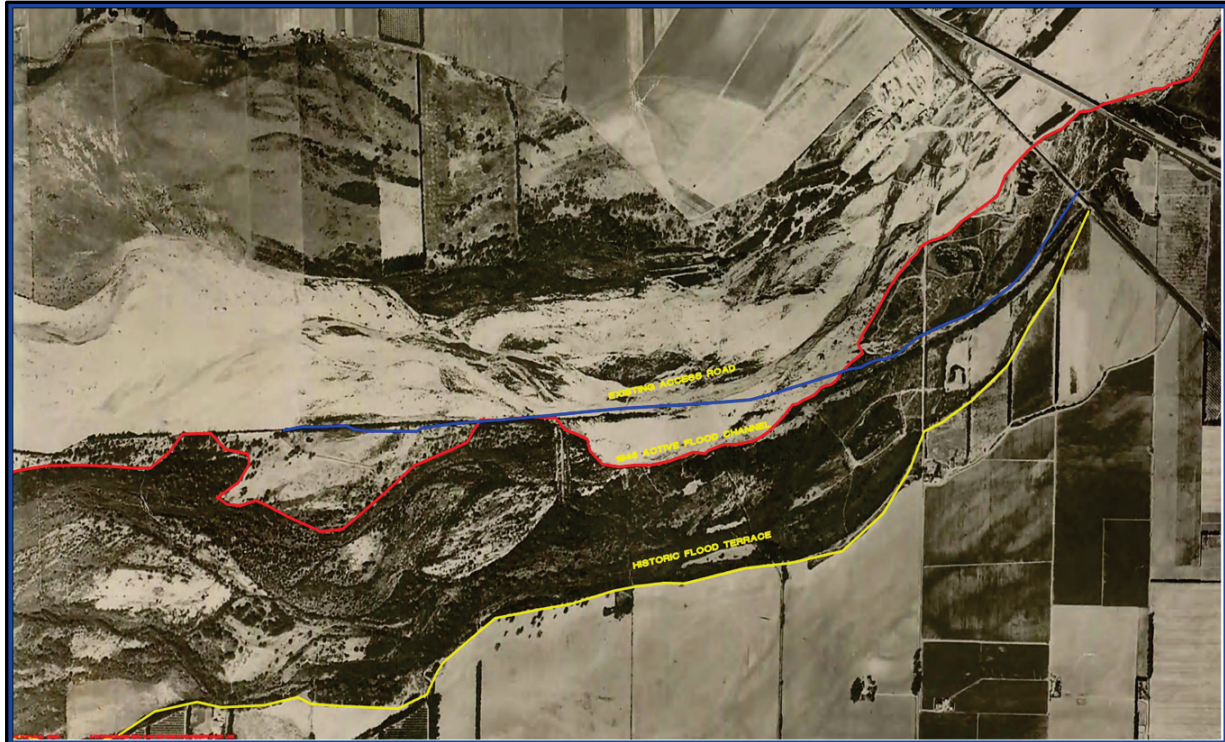


Figure 4-5. Santa Clara River 1945 Profiles (VCWPD, 1945)

This information suggests that the Santa Clara River in the SCR-3 Project area has historically flooded its overbanks during large storm events under pre-watershed development conditions, and that while LID approaches to reduce or eliminate impervious areas within the watershed may have some limited effect on a reduction to the peak flow rate, they would not be sufficient to reduce the peak flow rates along the SCR-3 Project area to a degree that would mitigate the existing flood hazard. Additionally, it is not reasonable to assume that all of the existing impervious surfaces within the watershed could be mitigated using LID techniques, particularly for the rare storm events during saturated soil conditions associated with watershed-scale flooding. Since the majority of the runoff in the river originates in the natural undeveloped watershed areas, the use of LID techniques focused on developed areas would not be sufficient to mitigate the existing flooding problems. As such, this proposed alternative has been removed from further consideration.

Natural Floodplain Attenuation

For this proposed alternative, the concept is to allow the Santa Clara River’s overbank areas (floodplains) to provide a natural benefit for peak flow attenuation and flood risk reduction through storage of runoff volume. The Santa Clara River currently benefits from this natural function by allowing the river to overflow its banks for much of the river’s length from the Ventura County line downstream to the Freeman Diversion structure. Many of the existing overbank areas along this segment are maintained as agricultural areas and allowed to flood during extreme events. A depiction of the estimated 100-year floodplain along the river downstream of the City of Fillmore and the Sespe Creek confluence is shown in Figure 4-6. The light blue areas show the approximate limits of flooding during a 100-year event, which highlights the flood flows spreading out on the river overbank areas outside the river channel.

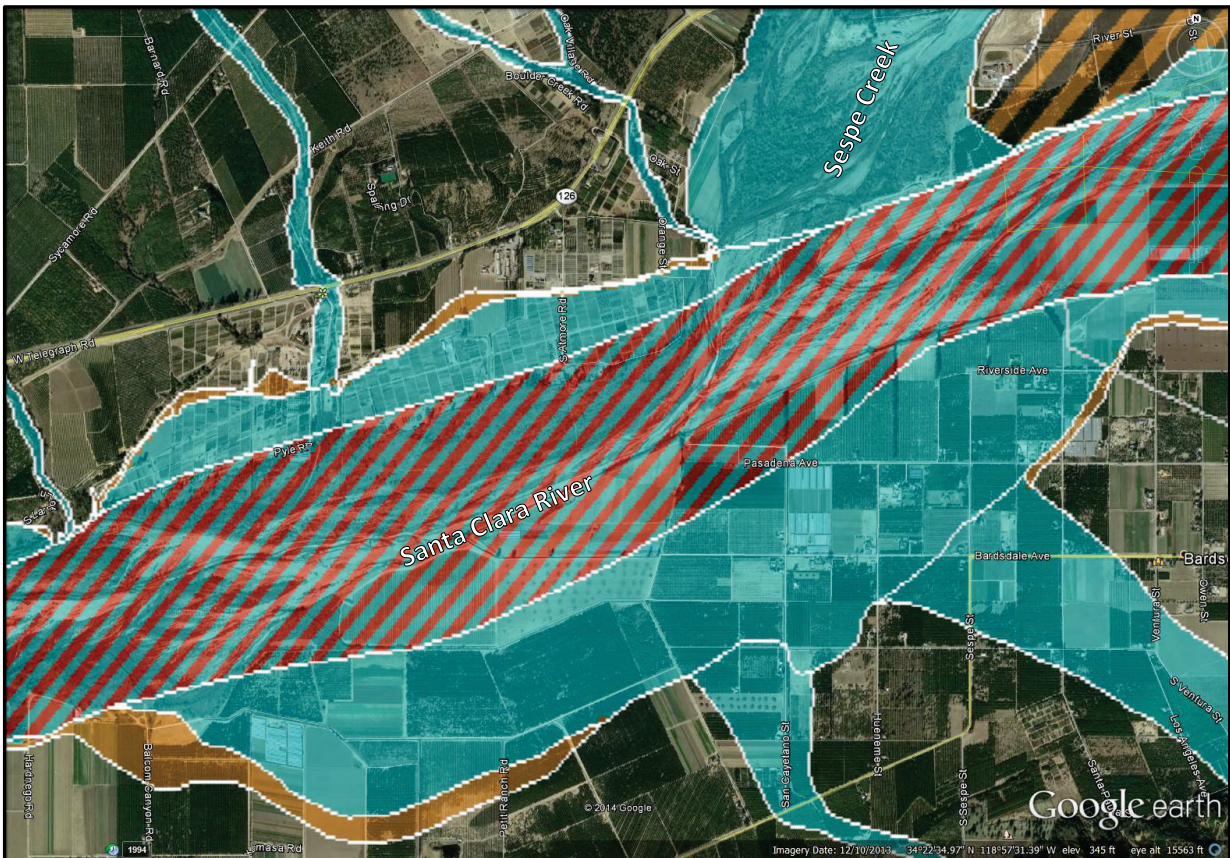


Figure 4-6. Map of Santa Clara River Floodplain (Light Blue Shaded Area) and Floodway (Red Striped Area) below the Sespe Creek Confluence (FEMA, 2010)

Preservation of these natural benefits will not address the current flood hazards along the downstream areas of the river; therefore, this potential alternative has been removed from further consideration.

It is important to note that the natural and beneficial functions of the floodplain must be protected to avoid having to construct additional structural improvements along the river in the future. The *Santa Clara River Parkway, Floodplain Restoration Feasibility Study* (Floodplain Feasibility Study) and the *Levee Setback Assessment of the Lower Santa Clara River, Ventura County, California – Implications for Flood Risk Management and Ecologic Benefit* (Levee Setback Assessment) prepared for the State of California Coastal Conservancy (Stillwater Sciences, 2007 and 2011) identify floodplain overbank areas along the river proposed to be maintained for flood management and ecological benefit. Figure 4-7

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from the Floodplain Feasibility Study illustrates the parcels in the vicinity of the SCR-3 Project that have been purchased or are proposed to be purchased for flood hazard management and habitat preservation by the Coastal Conservancy. The proposed levee and floodwall are consistent with the recommendations in the Floodplain Feasibility Study for preservation of floodplain overbank areas.

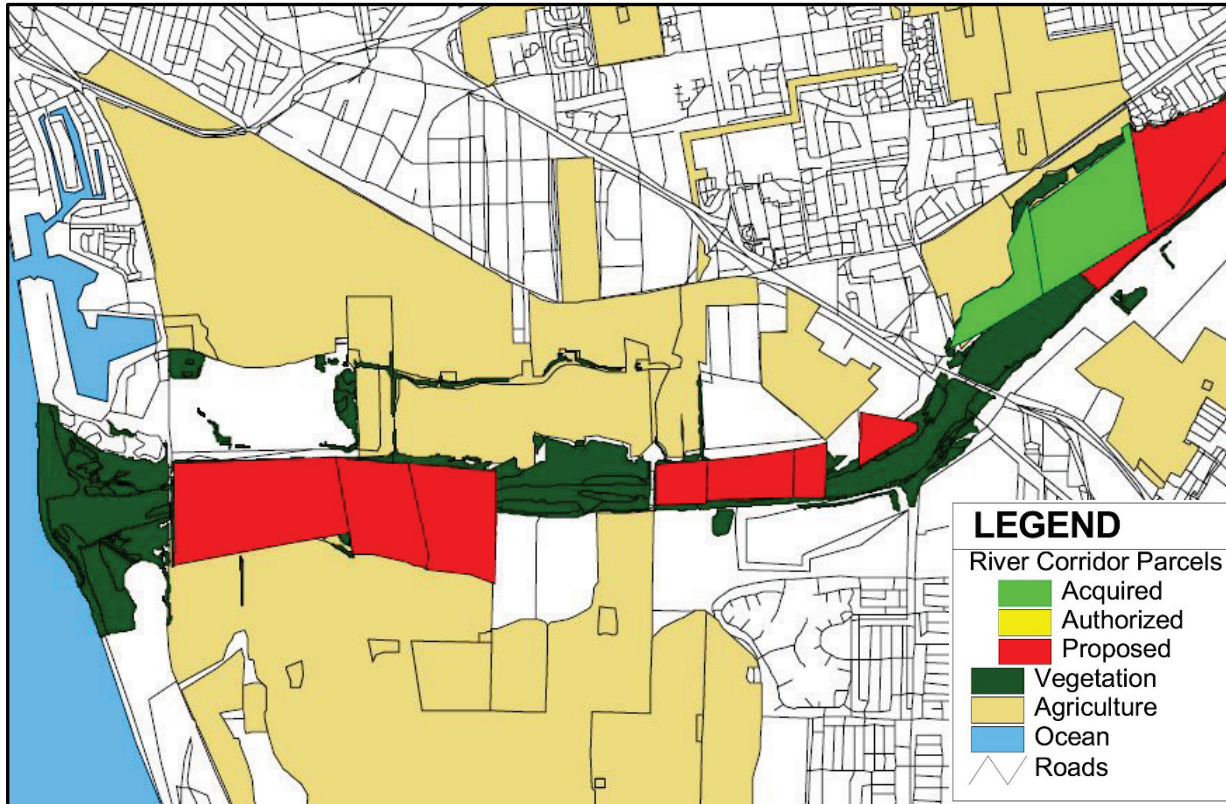


Figure 4-7. River Corridor Parcels Proposed for Flood Hazard Management or Habitat Preservation (Stillwater Sciences, 2007)

The Levee Setback Assessment (Stillwater Sciences, 2011) also evaluated locations along the lower Santa Clara River where levee setbacks are possible. The study investigated the potential benefits associated with levee setbacks during an extreme event (100-year flood) and a more frequent event (25-year storm). The results of the analysis identified potential setback areas in the vicinity of the SCR-3 Project, shown in yellow on Figure 4-8.

These exhibits indicate that the proposed Project, which includes improving the conditions of the existing levees along the SCR-3 levee, is consistent with the Santa Clara River Parkway watershed planning efforts currently being implemented along the Santa Clara River.

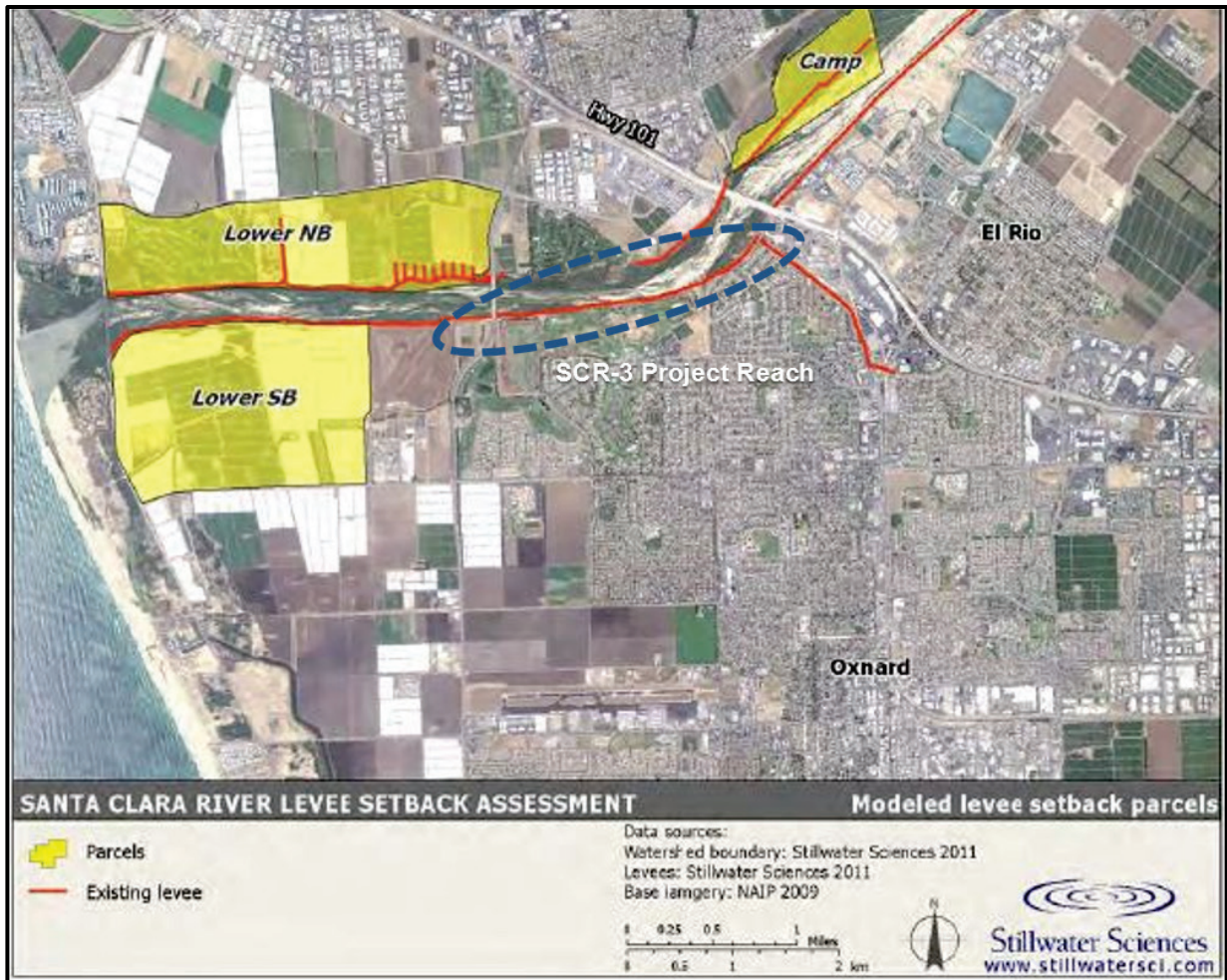


Figure 4-8. Lower Santa Clara River Levee Setback Locations (Stillwater Sciences, 2011)

Note: El Rio Drain as shown in Figure 4-8 is not considered a levee system.

4.4 Summary of Alternatives Considered

As discussed in Section 4.2 (Criteria for Alternatives Analysis), alternatives were assessed for their feasibility, their ability to reasonably attain the basic Project objectives, and their potential to reduce the significant environmental impacts of the proposed Project. Based on these screening criteria, as well as performing additional technical studies, including detailed hydraulics, scour calculations, geotechnical investigations, and a review of FEMA certification requirements, the following alternatives were selected for detailed analysis within this EIR.

4.4.1 Alternative 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection

Alternative 1 provides for a design within Reaches 1-3 that falls somewhere between Option 1A (Full Levee System) and Option 1B (Minimum Levee System), as shown in Figure 4-9. Under Alternative 1, the design for the levee in Reaches 1 and 3 would be identical to Option 1A and Option 1B, providing a raised earthen levee that ties into existing landfills as high ground. In Reach 2, raising of the earthen levee would be extended beyond the closest landfill tie-in (Coastal Landfill) to provide flood protection

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for the Ventura Regional Sanitation District (VRSD) flare and River Ridge Golf Course maintenance yard (Station 150+00 to 165+00). A retaining wall would also be constructed to protect the maintenance yard. Between approximately Station 165+00 and 178+00, the existing access road would be raised above the design water surface elevation. Additionally, near the center of the Santa Clara Landfill (from approximately Station 178+00 to 183+00), along the golf course swale, the existing levee would be raised.

This alternative provides for full flood protection within Reaches 1-3. The design in Reach 4 would be identical to the proposed Project.

4.4.2 Alternative 2 – Reach 4: River Side Floodwall

Alternative 2 includes an approximately 2,600-foot-long floodwall along the river side of N. Ventura Road from the east end of Reach 3 (Station 217+50) to Highway 101 (Reach 4), as shown in Figure 4-10. The floodwall would vary in height from 6 feet to over 22 feet. The largest heights would be in the vicinity of the UPRR bridge, where the visible wall at this location would be approximately 22 feet high. The floodwall would be located approximately 17.5 feet from the existing roadway pavement of N. Ventura Road. This distance accommodates the future bikeway (16-feet wide), planned as part of the Santa Clara River Trail Master Plan (considered a secondary objective of the Project), and a curb and gutter along the roadway. Where curb and gutter already exist, the floodwall would be offset by 16 feet. As with the proposed Project, a 15-foot-wide soil cement maintenance access road would be installed along the toe of the slope adjacent to the floodwall on the river side of the floodwall to permit regular facility inspections. Rock riprap would be placed on the slope to protect the floodwall from scour.

To provide flood protection until the upstream SCR-1 levee improvements are completed (not part of this Project), a 13-foot-high flood gate would be installed across N. Ventura Road just downstream of the Highway 101 overpass. The flood gate is proposed to be a FloodBreak Automatic Floodgate system (or equal), similar to the flood gate under the proposed Project. Construction of the flood gate requires modifications to N. Ventura Road, construction of the concrete abutments on each side of the gate, and earthen fill to tie the abutment to the levee on the north side and to the Highway 101 embankment on the south side.

As with the proposed Project, the installation of the flood gate in N. Ventura Road would require the relocation of numerous utilities under the roadway impacted by the gate. These utilities include existing gas, water, and sewer lines, as well as storm drains. In general, the utilities would be lowered to provide adequate room for installation of the flood gate. If the gate is used in the automatic mode, interconnected signals would be installed to close the street prior to the gate starting to rise. Once the flood waters recede, the gate would be lowered and the street re-opened. Following a flood event, it is anticipated that approximately one week could be required to clean any sediment and debris deposited on the roadway as a result of the flood event. Upon completion of the SCR-1 improvements, the flood gate would be removed or deactivated. It is anticipated that this flood gate would be in service for a number of years, as the SCR-1 levee improvements are not anticipated to be completed for approximately ten years.

To prepare the site for installation of the river side floodwall, approximately 2.5 acres of existing vegetation would be cleared along the alignment. Four high-pressure gas valves would also need to be relocated, as there is a high-pressure gas pipeline which runs along the north side of N. Ventura Road. Additionally, approximately 1,000 CY of riprap would be removed and replaced. The existing riprap is

located within the western limits of the floodwall area and currently provides flood protection along N. Ventura Road. This riprap would be removed to allow for the construction of the floodwall, footings, and sheet pile scour protection. The riprap would then be replaced where necessary after construction of the wall. Upon completion of the floodwall, approximately 200 feet of five-foot chain link fencing and a swing gate would be added at the tie-in to Reach 3 to restrict access to SCR-3 until the City of Oxnard completes Santa Clara River Trail (SCRT) improvements.

This alternative provides for full flood protection for the areas downstream of Highway 101 along Reach 4 and would not impact the future SCR-1 levee improvements. The design in Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

4.4.3 Alternative 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain

Alternative 3 includes a river side/land side floodwall with a floodgate at the high point in N. Ventura Road, same as the proposed Project; however, instead of the floodwall crossing the El Rio Drain and tying directly into the UPRR embankment, the floodwall would instead turn south along the west side of the El Rio Drain and extend approximately 3,500 feet to E. Pacific Coast Highway (PCH)/N. Oxnard Boulevard where it would terminate on higher ground (Figure 4-11).

This alternative provides for full flood protection downstream of the UPRR bridge, and full flood protection downstream of the Highway 101 overpass once the Wagon Wheel improvements are constructed. The design for Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

4.4.4 Alternative 4 – Reach 4: East Slope Lining of the UPRR Embankment

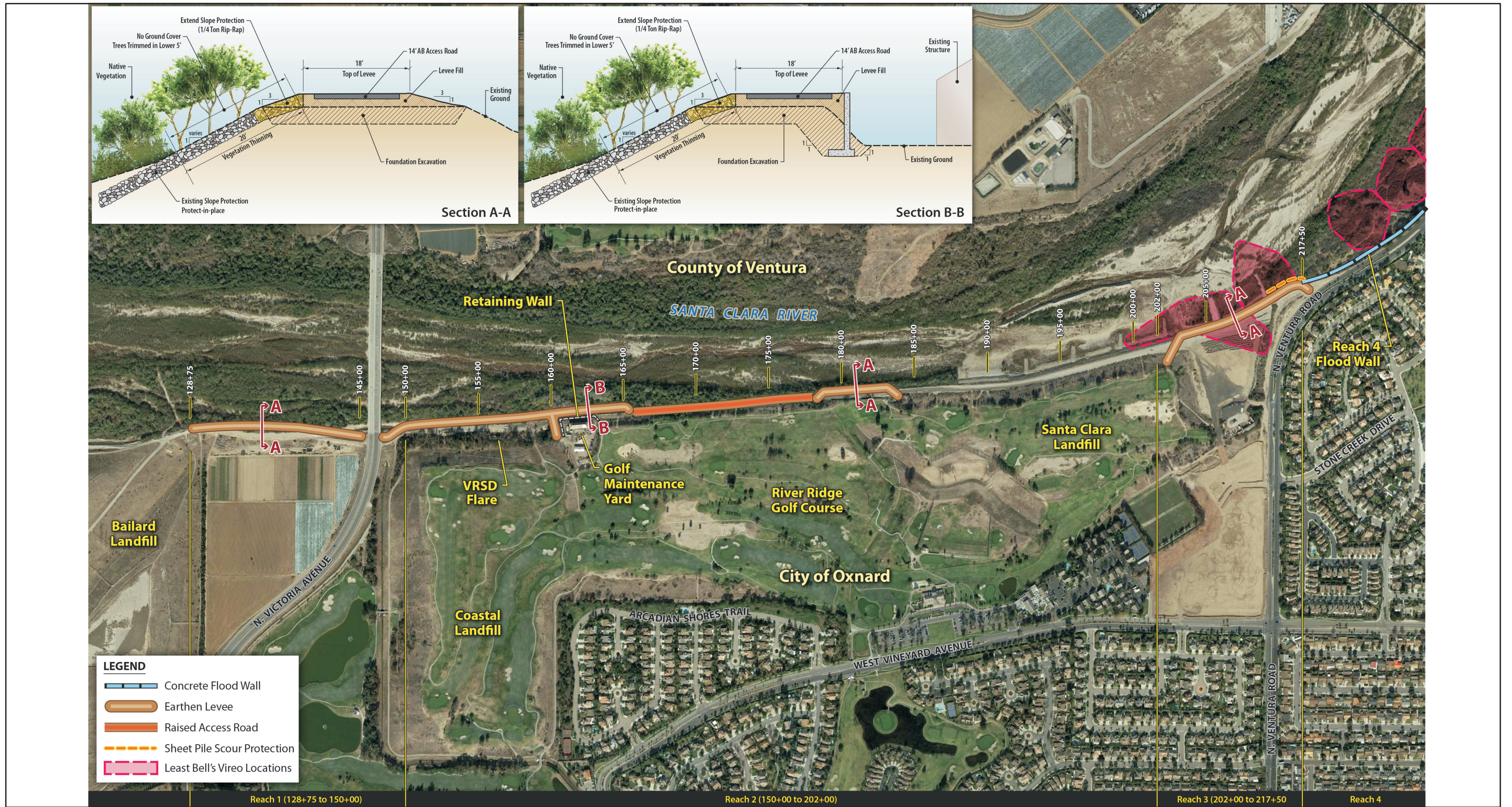
Alternative 4 includes a river side/land side floodwall with a floodgate at the high point in N. Ventura Road, same as the proposed Project. However, instead of stopping with the earthen fill on the west side of the UPRR bridge, which assumes additional improvements to the north would be completed by the Wagon Wheel developer, this alternative would add concrete lining on the east side of the railroad embankment parallel to the El Rio Drain from N. Ventura Road to E. PCH/Oxnard Boulevard (approximately 0.7 mile), as shown in Figure 4-12. This alternative provides for full flood protection downstream of the UPRR bridge in the event the Wagon Wheel improvements do not occur. The design for Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

4.4.5 Alternative 5 – No Project Alternative

Under the No Project Alternative, the proposed Project would not be constructed, and no development would occur along SCR-3. During the one percent annual chance flood event, flood waters would not be blocked and properties located within the inundation area on the landward side of SCR-3 would experience flooding. As a result, people who own property within the City of Oxnard located within the inundation area on the landward side of SCR-3, which includes over 3,800 structures, and who have federally-backed mortgages, would be required to purchase flood insurance. According to the land use inventory and economic analysis prepared for the Santa Clara River Levee, damages from the one percent annual flood event have been estimated at approximately \$345.5 million (Tetra Tech, 2014).

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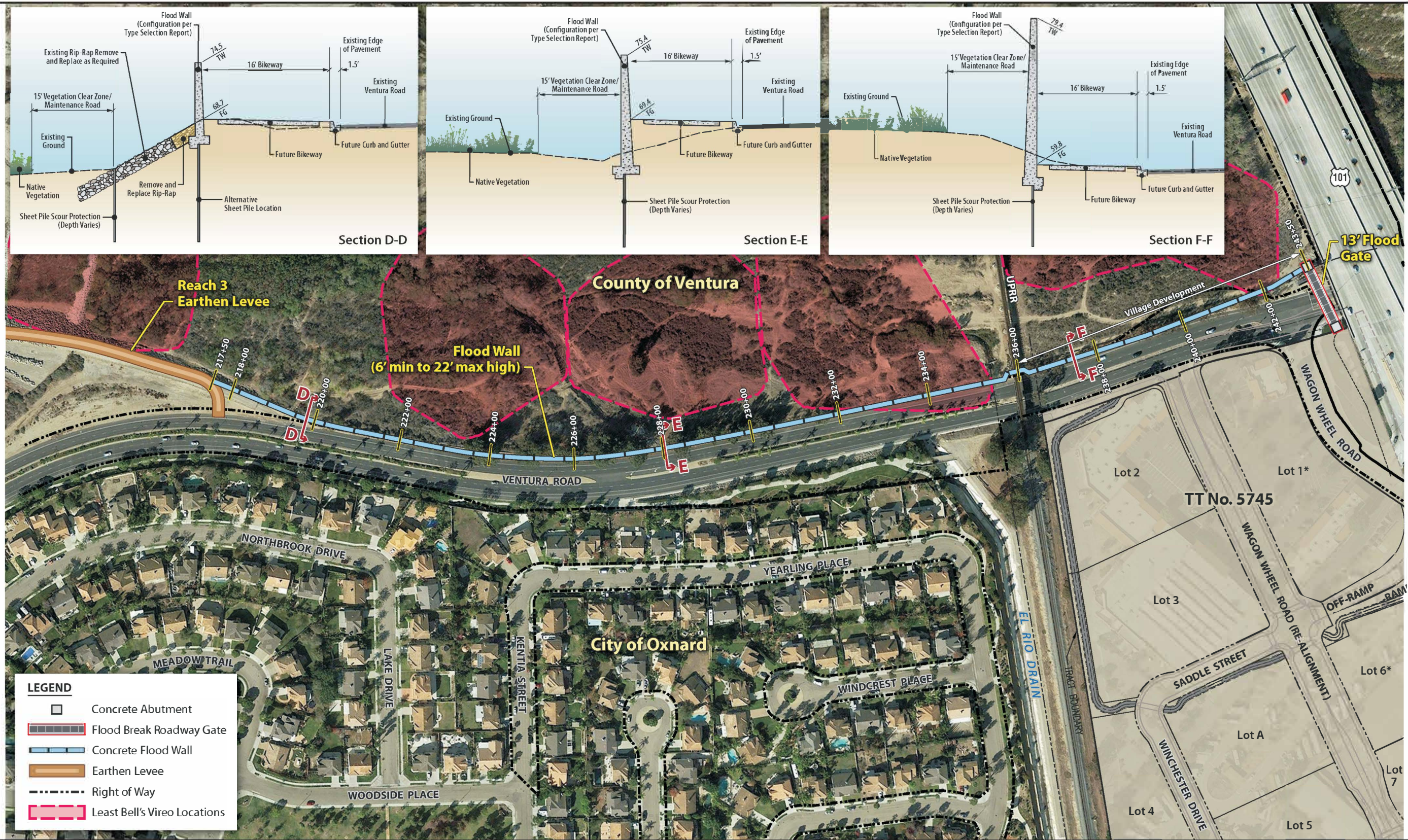
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Source: MBI, 2016



Figure 4-9 (REVISED)
Alternative 1 – Reaches 1-3:
Levee System with Landfill Tie-ins and Golf Course Protection

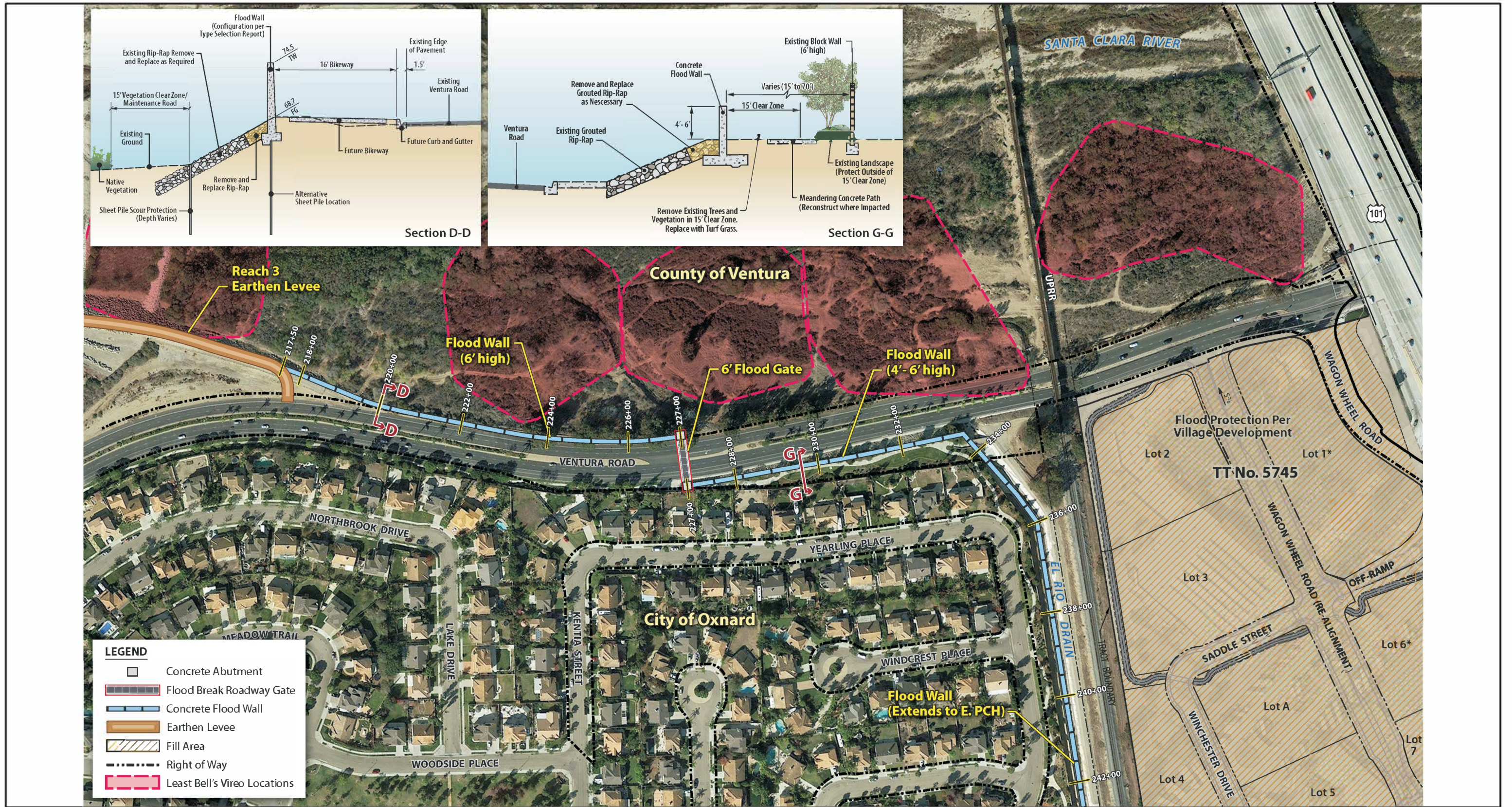


Source: RBF, 2015



Figure 4-10

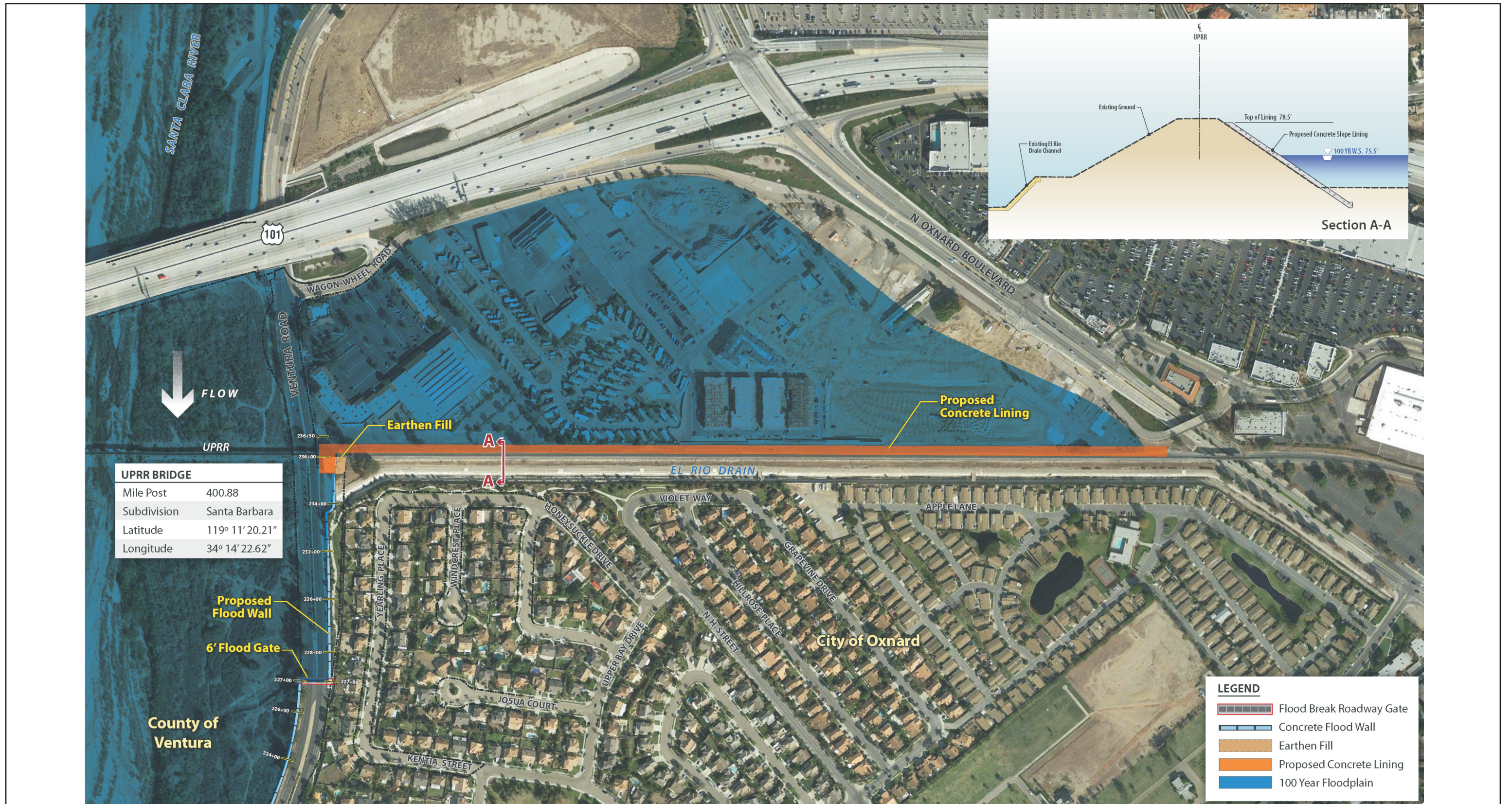
Alternative 2 - Reach 4: River Side Floodwall



Source: RBF, 2015



Figure 4-11
Alternative 3 - Reach 4:
River Side/Land Side Floodwall Extending Up El Rio Drain



Source: RBF, 2015



Figure 4-12

Alternative 4 - Reach 4:
East Slope Lining of the
UPRR Embankment

4.5 Alternatives Impact Analysis

This section presents an analysis of the alternatives to the proposed Project, and provides a comparative analysis focused on the differences in impacts among the various alternatives for the environmental issue areas addressed in this EIR, with particular emphasis given to differences in significant effects. In all cases, the comparison of impacts assumes that all feasible mitigation measures, as identified in this EIR, would be implemented. In accordance with State CEQA Guidelines Section 15126.6(d), the discussion of environmental effects of the alternatives shall include sufficient information to allow for meaningful evaluation, analysis, and comparison with the proposed Project, but may be less detailed than that provided for the proposed Project. This section is intended to provide decision makers with information about the merits and disadvantages of the alternatives that will assist them in their consideration of the proposed Project, and to assist the public in understanding the differences between the alternatives.

4.5.1 Alternative 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection

As described in Section 4.4.1, Alternative 1 would be identical to Options 1A and 1B in Reach 1 and Reach 3. In Reach 2, raising of the earthen levee would extend from Reach 1 east to provide flood protection for the VRSD flare and River Ridge Golf Course maintenance yard. A retaining wall would also be constructed at the golf course maintenance yard. The existing access road would be raised to be above the design water surface elevation, and along the center of the Santa Clara Landfill (along the swale portion of the golf course) the existing levee would also be raised. This alternative requires ~~five~~four landfill tie-ins. This alternative provides for full flood protection within Reaches 1-3. The design in Reach 4 would be identical to the proposed Project.

Air Quality

Assuming similar construction schedules and task overlaps, the construction and O&M air quality impacts would be similar in magnitude to those determined for Option 1A (see Table 3.1-13, Option 1A Controlled Total Construction Emissions), and the same mitigation measures would be assumed to be implemented (Mitigation Measures AQ-3a through AQ-3c). However, due to the slight decrease in overall construction requirements, specifically the full levee is not being raised with this alternative, the construction emissions and health risk based impacts (Impacts AQ-3, AQ-5, and AQ-7) may be slightly less adverse for this alternative than for Option 1A, but slightly more adverse than for Option 1B (preferred option). There is no appreciable difference in project O&M requirements under this alternative.

Biological Resources

Construction of Alternative 1 would result in additional disturbance of native habitats, jurisdictional waters, developed areas, and maintained landscapes when compared to Option 1B of the proposed Project. When compared to Option 1A, Alternative 1 would reduce the overall impact to the same habitats and land cover types discussed above. The types of impacts to biological resources resulting from the construction and maintenance of Alternative 1 would be similar to those described for the proposed Project.

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Scenic Resources

The impacts under Alternative 1 would essentially be the same as Option 1A of the proposed Project; Reach 2 is not visible from public viewing locations. Therefore, due to the temporary nature of the construction and O&M activities, the impacts to scenic resources from public viewing locations (Impact SR-1) under the Reaches 1-3 portion of Alternative 1 would not be significant.

Under Alternative 1, the design in Reach 4 would be identical to the proposed Project. Therefore, Impacts SR-2, SR-3, and SR-4 would be the same as discussed under Option 1B of the proposed Project.

Hazards

Liquefaction. Alternative 1 would be underlain by the same potentially liquefiable alluvial sediments as the proposed Project and would therefore have the same potential for earthquake-induced liquefaction related lateral spreading and compaction at the Project site. Project components for Alternative 1 are similar to components of both Options 1A and 1B and could therefore suffer the same type of potential damage due to liquefaction. The potential for adverse effects due to liquefaction for Alternative 1 are slightly greater than Option 1B with the added levees and retaining wall, and minimally less than Option 1A with the shorter levee length in Reach 2. Compliance with U.S. Army Corps of Engineers (USACE) requirements, the Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the Project to a less-than-significant level.

Hazardous Waste. Compared to the proposed Project, Alternative 1 would include two additional landfill tie-ins at the Santa Clara Landfill where the levee would be raised near the existing golf course swale. Implementation of Mitigation Measure HAZ-2 (*Preconstruction testing for hazardous waste and landfill gas*) for all Alternative 1 components would result in no new hazardous waste impacts and would remain less than significant with mitigation.

Public Health. Alternative 1 has greater potential for conflicts with existing landfill gas recovery wells and pipelines compared to Option 1B of the proposed Project due to the additional levee construction in the vicinity of the existing landfill gas recovery lines and wells. Mitigation Measure Measures HAZ-2 (*Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater*) and HAZ-3 (*Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*) would apply and impacts would remain less than significant.

Noise and Vibration

Under Alternative 2, construction noise and vibration impacts would be very similar to the proposed Project. Impacts would differ primarily in Reach 2 where construction activities would be more extensive than Option 1B, but less than Option 1A. However, Reach 2 has no nearby residences, which limits noise-sensitive receptors to players at the adjacent golf course. Construction activities in Reaches 3 and 4, which have nearby noise-sensitive residences, would be identical to the proposed Project and therefore would have identical noise impacts.

Transportation and Circulation

The traffic and circulation impacts of Alternative 1 would be very similar to those of the proposed Project. A similar amount of traffic would be generated to deliver equipment and materials during construction, and construction would employ approximately the same number of workers as the proposed Project. Equipment and material deliveries and worker commute trips would utilize the same

routes as the proposed Project and therefore would affect the same streets and intersections. These construction-related trips would have temporary adverse effects on the operation of local intersections, levels of service (LOS) on area roadway segments, and traffic flow on roadways adjacent to construction zones. Similarly, traffic associated with O&M activities would be very similar to the proposed Project.

Utilities

Construction of Reaches 1-3 under Alternative 1 would include a greater potential for conflicts with existing landfill gas pipelines due to more construction in the vicinity of the existing landfill gas recovery lines; however, impacts would be mitigated with implementation of Mitigation Measure HAZ-3 (*Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*). The existing natural gas pipeline would be protected in place as part of the Project design. Construction within Reach 4, where utility disruptions are anticipated for flood gate installation, would be identical to the proposed Project. As such, impacts under this alternative would be slightly greater than the proposed Project. Coordination with utility service providers prior to construction would minimize any potential utility impacts, such that impacts would be less than significant.

Flood Control and Drainage

Alternative 1 would provide the same level of flood protection as the proposed Project using similar methods (i.e. a combination of levees and floodwall); however, a greater portion of the levee access road would be raised allowing for greater access during flood conditions compared to Option 1B, but less than Option 1A. Therefore, impacts related to flood control would be similar to the proposed Project.

Conclusion and Relationship to Project Objectives

Alternative 1 would have impacts that are very similar to the proposed Project. One of the primary differences between Alternative 1 and the proposed Project is that it would have ~~five~~four landfill tie-ins compared to either ~~one~~no tie-ins (Option 1A) or ~~two~~three tie-ins (Option 1B) for the proposed Project. This slightly increases the chances of encountering hazardous waste during excavation work, which is a potential impact that can be effectively mitigated. Alternative 1 also does not involve the filling of the drainage swale across the River Ridge Golf Course, which reduces the amount of jurisdictional waters affected by the Project in comparison to Option 1B. In other regards, the impacts of Alternative 1 are similar to the proposed Project, but vary somewhat in area and magnitude. Generally, the impacts of Alternative 1 would be slightly greater than Option 1B in Reaches 1-3, and slightly less than Option 1A. This is because Option 1A involves construction of a full levee in Reaches 1-3, whereas Alternative 1 involves less levee construction in Reach 2, and Option 1B only includes levees in Reaches 1 and 3, which is less than Alternative 1. In comparison to Option 1A, Alternative 1's reduced footprint results in less construction and maintenance impacts, including less maintenance of adjacent habitat along the Santa Clara River. In comparison to Option 1B, Alternative 1 has a larger footprint and involves more construction, including more construction adjacent to the river channel.

Alternative 1 would provide the necessary level of protection against a one percent annual chance flood event. However, because of the ~~five~~four levee tie-ins to high ground rather than raising the entire existing levee, it is not certain whether Alternative 1 would meet FEMA levee certification requirements. Alternative 1 would accommodate a future bikeway along N. Ventura Road, same as the proposed Project (Option 1A or Option 1B).

4.5.2 Alternative 2 – Reach 4: River Side Floodwall

As described in Section 4.4.2, Alternative 2 includes an approximately 2,600-foot-long floodwall along the river side of N. Ventura Road from the east end of Reach 3 to Highway 101, which would vary in height from 6 feet to over 22 feet (at the UPRR bridge). This alternative would also include a floodgate across N. Ventura Road just west of the Highway 101 overpass. Substantial UPRR coordination is anticipated for implementation of this alternative. This alternative provides for full flood protection for the areas downstream of Highway 101 along Reach 4 and would not affect the future SCR-1 levee improvements. The design in Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

Air Quality

Assuming similar construction schedules and task overlaps, the construction and O&M air quality impacts would be similar in magnitude to those determined for the proposed Project, Options 1B or 1A, (see Table 3.1-8, Option 1B Controlled Total Construction Emissions and Table 3.1-12, Option 1A Controlled Total Construction Emissions), and the same mitigation measures would be assumed to be implemented (Mitigation Measures AQ-3a through AQ-3c). However, due to the slight increase in overall construction requirements, specifically the construction of a taller and longer floodwall, the emissions and health risk based impacts (Impacts AQ-3, AQ-5, and AQ-7) may be slightly more adverse for this alternative. There is no appreciable difference in Project O&M requirements under this alternative.

Biological Resources

Within Reaches 1 – 3, implementation of Alternative 2 would result in similar impacts to those described for both Option 1B and 1A of the proposed Project. The construction of the river side floodwall, however, would have the potential to result in greater impacts to least Bell's vireo when compared to the proposed Project. The floodwall would be constructed within and adjacent to known least Bell's vireo territories. If construction were to occur during the breeding season, direct impacts as a result of vegetation clearing and indirect impacts related to noise and fugitive dust may result in nest failure for this species. The river side floodwall would also result in additional impacts to both native and non-native habitat types, CDFW jurisdictional waters, and federally jurisdictional wetlands and waters.

Scenic Resources

In comparison to the Reach 4 floodwall under the proposed Project, the floodwall under Alternative 2 would be nearly 800 feet longer and over 16 feet higher along some portions of the wall. This view of Reach 4 under Alternative 2 is depicted in Figure 4-13a, which shows the existing conditions from N. Ventura Road looking northeast towards the UPRR bridge and Highway 101. As seen in this photo, the existing viewshed consists of open natural space, including a row of tall eucalyptus trees between the road and the river. Figure 4-13b is a visual simulation of Reach 4 showing the proposed floodwall on the north side of N. Ventura Road, which would eliminate the eucalyptus trees and block the view of open natural space. As such, the impacts to scenic resources would be greater in comparison to the proposed Project since the floodwall under Alternative 2 would extend entirely along Reach 4 on the river side of N. Ventura Road. Construction and O&M activities would be temporary and would have a less-than-significant impact on scenic resources. However, the activities would be directly visible from public viewing locations over a longer distance under this alternative. Therefore, Impact SR-1 regarding



Figure 4-13a: Existing view of Reach 4 on N. Ventura Road looking northeast towards the UPRR bridge and Highway 101



Figure 4-13b Visual simulation of Reach 4 under Alternative 2 where the floodwall would be constructed along the north (river) side of N. Ventura Road

Figure 4-13
Alternative 2 Reach 4, N. Ventura Road Looking Northeast

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the visibility of scenic resources from public reviewing locations would be greater under Alternative 2 in comparison to the proposed Project.

In addition, the existing scenic resources and the viewshed of the Santa Clara River and the surrounding open natural space would be permanently altered by a continuous structure that would be longer and higher than the floodwall under the proposed Project. The impacts to recreationists along the proposed SCRT would also be greater under this alternative. Under Impact SR-3, Mitigation Measure SR-1 (*Graffiti Avoidance*) would also be required under Alternative 2 to reduce the potential for graffiti along the floodwall. Nonetheless, Impacts SR-2 and SR-4 regarding the alteration of scenic resources under Alternative 2 would be significant and unavoidable, and would be greater in comparison to the proposed Project.

The design in Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B) under Alternative 2. Therefore, the impacts associated with Reach 1-3 would be the same as discussed under Option 1B of the proposed Project.

Hazards

Liquefaction. Alternative 2 would be underlain by the same potentially liquefiable alluvial sediments as the proposed Project and would therefore have the same potential for liquefaction-related lateral spreading and compaction at the Project site. Project components for Alternative 2 along Reaches 1-3 would have identical potential liquefaction impacts as Reaches 1-3 under Options 1A or 1B and similar but slightly increased potential for impacts along Reach 4 due to the increased length of floodwall along this Alternative. Compliance with USACE requirements, the Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the Project to a less-than-significant level.

Hazardous Waste. Compared to the proposed Project, Alternative 2 has no additional hazardous waste impacts as construction of a flood wall on the river side north of Ventura Road avoids known hazardous waste sites and landfill. No additional impacts would occur and no mitigation is required.

Public Health. The new flood wall on the river side of Ventura Road along Reach 4 is not located near landfills or landfill gas recovery systems. Alternative 2 has no additional conflicts beyond those anticipated in Option 1A or 1B with existing landfill gas recovery wells and pipelines and no new impacts would occur.

Noise and Vibration

Similar to the proposed Project, construction activities for Reach 4 would require the temporary use of noise-generating construction equipment. Clearing and grubbing during weeks 5 and 6 would be the noisiest activity; however, much of this work would be on the river side of the levee away from noise sensitive receptors. Therefore, weeks 18 through 38, when activities include riverside floodwall construction, were selected for modeling.

During weeks 18 through 38 and when activity is centered near the center of Reach 4, the unmitigated Leq(hr) noise levels in the nearest backyards would increase to 67 dBA. The ambient noise levels in the backyards nearest N. Ventura Road are in the range of 61 dBA. The noise levels from construction are calculated to exceed the significance criterion (ambient of 61 dBA plus 3 dB) for the nearest residences. Mitigation Measure NV-1a (*Moveable Construction Noise Barriers*) would need to be implemented to reduce Leq(hr) noise levels. An estimated 10-foot high moveable barrier extending approximately 30

feet in both directions is recommended to reduce noise levels to below the significance criteria; however, placement of such a structure within the confined space between the construction area and the existing property walls may not be practical or possible. Monitoring would help to check if noise levels are below the significance threshold (Mitigation Measure NV-1b), but would not guarantee that the threshold (ambient plus 3 dBA) will be met. As such, noise impacts remain significant, same as the proposed Project.

Maximum noise levels can be estimated based upon the difference between Lmax and Leq(h) for construction activities during week 18 through 38. The noisiest equipment are within 1 dB of the Leq(h). Therefore, the Leq(h) contours near the construction sites are within 1 dB of the Lmax contours and impacts to all noise sensitive receptors would remain below the instantaneous maximum significance criterion of 75 dBA and would not be significant, same as the proposed Project.

Vibration impacts for Alternative 2 are similar to the proposed Project. Vibration levels at residences within approximately 260 feet from a vibratory roller and within approximately 120 feet of most other construction equipment are estimated to exceed the 72 VdB (0.0159 inches/sec) annoyance threshold for residences and buildings where people sleep. Residences within approximately 190 feet from the vibratory roller and 100 feet of most other construction equipment may experience vibration levels that exceed the daytime annoyance criterion of 75 VdB (0.0225 inches/sec).

Transportation and Circulation

The traffic and circulation impacts of Alternative 2 would be greater than the proposed Project due to the longer and taller floodwall in Reach 4, which would require a greater number of equipment and material deliveries during construction. These trips would likely extend over a longer period of time (assuming the same intensity as the proposed Project), or result in an increase in traffic as a result of increased work intensity. Equipment and material deliveries and worker commute trips would utilize the same routes as the proposed Project and, therefore, would affect the same streets and intersections. These construction-related trips would have temporary adverse effects on the operation of local intersections, levels of service (LOS) on area roadway segments, and traffic flow on roadways adjacent to construction zones. These effects would be experienced for a longer period of time because the construction schedule for this alternative would be extended compared to the proposed Project in order to construct the additional floodwall. Traffic associated with O&M activities would be nearly identical to the proposed Project.

Utilities

The proposed Project would include potential for conflicts with existing landfill gas pipelines, a natural gas line across the Santa Clara River, as well as utilities within N. Ventura Road. Implementation of Alternative 2 would result in the same utilities impacts as the proposed Project and would not result in any significant impacts associated with utilities.

Flood Control and Drainage

Alternative 2 would provide similar flood protection as the proposed Project using similar methods (i.e. a combination of levees and floodwall); however, a river side only floodwall would provide greater flood protection to N. Ventura Road. Therefore, impacts related to flood control would be less than the proposed Project.

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Conclusion and Relationship to Project Objectives

Alternative 2 would have impacts that are largely similar to the proposed Project. The primary differences between Alternative 2 and the proposed Project are the alignment and length of the floodwall in Reach 4. Placing the entire floodwall on the river side of N. Ventura Road places more construction closer to the river channel and increases the average height of the wall. The riverside location of the floodwall would increase adverse impacts to habitat and sensitive species in the river channel, including loss of native vegetation and habitat, and disturbance of wildlife during construction. The increased height of the riverside floodwall, primarily in the vicinity of the UPRR bridge, and longer length would increase adverse visual impacts and further obstruct views of the river channel. Noise and vibration impacts would be slightly reduced as construction of the eastern portion of the floodwall would be farther away from nearby residences. Overall, Alternative 2 has only minor advantages over the proposed Project, but offers several distinct disadvantages, primarily related to impacts on biological and scenic resources.

Alternative 2 would provide the necessary level of protection against a one percent annual chance flood event and it is also expected to meet FEMA levee certification requirements. Alternative 2 would accommodate a future bikeway along N. Ventura Road.

4.5.3 Alternative 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain

As described in Section 4.4.3, Alternative 3 is essentially the same as the proposed Project; however, instead of the floodwall crossing the El Rio Drain and tying directing into the UPRR embankment, the floodwall would instead turn south along the west side of the El Rio Drain and extend to E. PCH (a distance of approximately 0.7 mile–feet). This alternative involves substantially greater floodwall construction than any of the other action alternatives. This alternative provides for full flood protection downstream of the UPRR bridge, and full flood protection downstream of Highway 101 once the Wagon Wheel improvements are constructed. The design for Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

Air Quality

Assuming similar construction schedules and task overlaps, the construction and O&M air quality impacts would be similar in magnitude to those determined for the proposed Project, Options 1B or 1A (see Table 3.1-8, Option 1B Controlled Total Construction Emissions and Table 3.1-12, Option 1A Controlled Total Construction Emissions), and the same mitigation measures would be assumed to be implemented (Mitigation Measures AQ-3a through AQ-3c). However, due to the increase in overall construction requirements from the much longer floodwall, the emissions and health risk based impacts (Impacts AQ-3, AQ-5, and AQ-7) may be slightly more adverse for this alternative. There is no appreciable difference in project O&M requirements under this alternative.

Biological Resources

Impacts to biological resources with the construction of Alternative 3 would result in similar impacts as described for the proposed Project. This alternative, however, would result in additional impacts to maintained landscape and developed areas and less impacts to State and federal jurisdictional waters.

Scenic Resources

The design of the Reach 4 floodwall under Alternative 3 would be approximately 3,500 feet longer than the floodwall under the proposed Project. Construction and O&M activities would be temporary and would have a less-than-significant impact on scenic resources. However, the activities would be visible from public viewing locations over a longer distance, including E. PCH, under this alternative. Therefore, Impact SR-1 regarding the visibility of scenic resources from public reviewing locations would be greater under Alternative 3 in comparison to the proposed Project.

In addition, the floodwall would permanently alter scenic resources and the viewshed to the north from the E. PCH corridor. Mitigation Measure SR-1 (*Graffiti Avoidance*) would also be required under Alternative 3 to reduce the potential for graffiti along the floodwall. Nonetheless, Impacts SR-2 and SR-4 regarding the alteration of scenic resources under Alternative 3 would be significant and unavoidable, and would be greater in comparison to the proposed Project.

The design in Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B) under Alternative 3. Therefore, the impacts associated with Reaches 1-3 would be the same as discussed under Option 1B of the proposed Project.

Hazards

Liquefaction. Alternative 3 would be underlain by the same potentially liquefiable alluvial sediments as the proposed Project and would therefore have the same potential for liquefaction-related lateral spreading and compaction at the Project site. Project components for Alternative 3 along Reaches 1-3 would have identical potential liquefaction impacts as Reaches 1-3 under Options 1A or 1B. Along Reach 4 the potential for adverse effects due to liquefaction are slightly increased compared to the proposed Project due to the increased length of floodwall along this Alternative. Compliance with USACE requirements, the Flood Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the SCR-3 Project to a less-than-significant level.

Hazardous Waste. Compared to the proposed Project, Alternative 3 has no additional hazardous waste impacts because construction of a flood wall on the west side of El Rio Drain avoids known hazardous waste sites and landfills. No additional impacts would occur and no mitigation is required.

Public Health. The new flood wall on the west side of El Rio Drain is not located near landfills or landfill gas recovery systems. Alternative 3 has no conflicts with existing landfill gas recovery wells and pipelines and no new impacts would occur.

Noise and Vibration

Under Alternative 3, construction activities along N. Ventura Road would be similar to the proposed Project. This alternative differs from the proposed Project in that the floodwall would extend up El Rio Drain, which would place more residences in proximity to floodwall construction activities and associated noise. The noise impacts would be similar to the proposed Project, including noise and vibration levels that could disturb sensitive receptors during construction in Reach 4. Because more sensitive receptors (residences along the El Rio Drain) would be exposed to construction noise and vibration, impacts for this alternative would be greater than the proposed Project.

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Transportation and Circulation

The traffic and circulation impacts of Alternative 3 would be greater than those of the proposed Project because this alternative includes an additional component, which is the floodwall along the El Rio Drain. Due to the construction of this additional floodwall, a greater amount of traffic would be generated to deliver equipment and materials during construction. Equipment and material deliveries and worker commute trips would utilize the same routes as the proposed Project and therefore would affect the same streets and intersections. These construction-related trips would have temporary adverse effects on the operation of local intersections, levels of service (LOS) on area roadway segments, and traffic flow on roadways adjacent to construction zones. These effects would be experienced for a longer period of time because the construction schedule for this alternative would be extended compared to the proposed Project in order to construct the additional floodwall. Traffic associated with O&M activities would be similar to the proposed Project.

Utilities

The proposed Project would include potential for conflicts with existing landfill gas pipelines, a natural gas line across the Santa Clara River, as well as utilities within N. Ventura Road. Implementation of Alternative 3 would result in the same utilities impacts as the proposed Project and would not result in any significant impacts associated with utilities.

Flood Control and Drainage

Alternative 3 would provide similar flood protection as the proposed Project using similar methods (i.e. a combination of levees and floodwall); however, extending the floodwall up the El Rio Drain would provide full flood protection downstream of the UPRR bridge, and full flood protection downstream of the Highway 101 overpass once the Wagon Wheel improvements are constructed. Therefore, impacts related to flood control would be less than the proposed Project.

Conclusion and Relationship to Project Objectives

Alternative 3 would have impacts that are similar to the proposed Project, but several impacts would be increased either in magnitude or geographic extent. The primary difference between Alternative 3 and the proposed Project is the addition of a floodwall along the west side of the El Rio Drain extending about 0.7 mile to E. PCH. The floodwall along the El Rio Drain is an additional component that is not included in the proposed Project. As a result, construction is increased in comparison to the proposed Project resulting in increased air pollutant emissions, noise intrusion into new areas, and additional construction traffic. Slightly increased landscape removal and associated urban wildlife disturbance is also expected under Alternative 3. Visual impacts would also be increased in comparison to the proposed Project due to the addition of the floodwall along the El Rio Drain.

Alternative 3 would provide the necessary level of protection against a one percent annual chance flood event and it is also expected to meet FEMA levee certification requirements. Alternative 3 would accommodate a future bikeway along N. Ventura Road.

4.5.4 Alternative 4 – Reach 4: East Slope Lining of the UPRR Embankment

As described in Section 4.4.4, Alternative 4 is essentially the same as the proposed Project; however, concrete lining would be added on the northeast side of the UPRR embankment and parallel to the El Rio Drain from N. Ventura Road to E. PCH/Oxnard Boulevard (approximately 0.7 mile). This alternative

would ensure adequate protection downstream of the UPRR in the event the Village Specific Plan (Wagon Wheel) development and its required flood protection are not constructed. The design for Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B).

Air Quality

Assuming similar construction schedules and task overlaps, the construction and O&M air quality impacts would be similar in magnitude to those determined for the proposed Project, Options 1B or 1A (see Table 3.1-8, Option 1B Controlled Total Construction Emissions and Table 3.1-12, Option 1A Controlled Total Construction Emissions), and the same mitigation measures would be assumed to be implemented (Mitigation Measures AQ-3a through AQ-3c). However, due to the increase in overall construction requirements from the additional concrete lining work in Reach 4, the emissions and health risk based impacts (Impacts AQ-3, AQ-5, and AQ-7) may be slightly more adverse for this alternative. There is no appreciable difference in project O&M requirements under this alternative.

Biological Resources

Impacts to biological resources resulting from the construction of Alternative 4 would result in similar impacts as described for both Options 1B and 1A of the proposed Project. This alternative would result in additional impacts to maintained landscape and developed areas.

Scenic Resources

Alternative 4 includes installation of a concrete lining on the eastern side of the UPRR embankment, which is an additional component that is not part of the proposed Project. Construction and O&M activities would be temporary and would have a less-than-significant impact on scenic resources. However, the activities would be visible from additional public viewing locations over a longer distance, including E. PCH, under this alternative. Therefore, Impact SR-1 regarding the visibility of scenic resources from public reviewing locations would be greater under Alternative 4 than the proposed Project.

In addition, the concrete lining would result in a minor alteration of scenic resources and the viewshed to the north from the E. PCH corridor. Mitigation Measure SR-1 (*Graffiti Avoidance*) would also be required under Alternative 4 to reduce the potential for graffiti along the floodwall. Nonetheless, Impacts SR-2 and SR-4 regarding the alteration of scenic resources under Alternative 4 would be significant and unavoidable, and would be greater in comparison to the proposed Project.

Reaches 1-3 would be identical to the proposed Project (either Option 1A or 1B) under Alternative 4. Therefore, the impacts associated with Reach 1-3 would be the same as discussed under Option 1B of the proposed Project.

Hazards

Liquefaction. Alternative 4 would be underlain by the same potentially liquefiable alluvial sediments as the proposed Project and would therefore have the same potential for liquefaction-related lateral spreading and compaction at the Project site. Project components for Alternative 4 along Reaches 1-3 would have identical potential liquefaction impacts as Reaches 1-3 under Options 1A or 1B. Along Reach 4 the potential for adverse effects due to liquefaction are nearly identical as compared to the proposed Project; only very slightly increased due to the minimal potential for damage to the proposed concrete lining along the northern side of the El Rio Drain. Compliance with USACE requirements, the Flood

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Control Design Manual, geotechnical recommendations, and commitment of VCWPD to repair post-seismic event damage would reduce the potential for exposing people or structures to adverse effects due to liquefaction along the Project to a less-than-significant level.

Hazardous Waste. Compared to the proposed Project, Alternative 4 has no additional hazardous waste impacts because construction of the UPRR embankment concrete lining is not located near known hazardous waste sites or landfills. No additional impacts would occur and no mitigation is required.

Public Health. The new UPRR embankment is not located near landfills or landfill gas recovery systems. Alternative 4 has no conflicts with existing landfill gas recovery wells and pipelines and no new impacts would occur.

Noise and Vibration

Construction noise impacts for Alternative 4 would be the same as described for the proposed Project, but with the addition of noise associated with lining the east side of the UPRR embankment. Similar to Alternative 3, residences located near the El Rio Drain and railroad would be exposed to construction activities (i.e. embankment lining) and associated noise. This is additional construction activity that would not occur with the proposed Project. However, the additional construction activity would occur on the east side of the railroad embankment and nearby residences are located west of the railroad. The railroad embankment would also help shield construction noise. Regardless, because more sensitive receptors (residences along the El Rio Drain) would be exposed to construction noise and vibration, impacts for this alternative would be greater than the proposed Project.

Transportation and Circulation

The traffic and circulation impacts of Alternative 3 would be greater than those of the proposed Project because this alternative includes concrete lining of the UPRR embankment, which is not included in the proposed Project. The installation of this concrete lining would result in the generation of additional trips to deliver equipment and materials during construction. Equipment and material deliveries and worker commute trips would utilize the same routes as the proposed Project and therefore would affect the same streets and intersections. These construction-related trips would have temporary adverse effects on the operation of local intersections, levels of service (LOS) on area roadway segments, and traffic flow on roadways adjacent to construction zones. These effects would be experienced for a longer period of time because the construction schedule for this alternative would be longer than the proposed Project in order to install the concrete lining. Traffic associated with O&M activities would be similar to the proposed Project.

Utilities

The proposed Project would include potential for conflicts with existing landfill gas pipelines, a natural gas line across the Santa Clara River, as well as utilities within N. Ventura Road. Implementation of Alternative 3 would result in the same utilities impacts as the proposed Project and would not result in any significant impacts associated with utilities.

Flood Control and Drainage

Alternative 4 would provide the similar flood protection as the proposed Project using similar methods (i.e. a combination of levees and floodwall); however, with the addition of concrete lining of the UPRR embankment full flood protection downstream of the UPRR bridge would be provided in the event the

Wagon Wheel improvements do not occur. Impacts related to flood control would be less than the proposed Project.

Conclusion and Relationship to Project Objectives

Alternative 4 would have impacts that are similar to the proposed Project, but several impacts would be increased either in magnitude or geographic extent. The primary difference between Alternative 4 and the proposed Project is the addition of concrete lining to the east side of the UPRR embankment. This concrete lining is an additional component that is not included in the proposed Project. Construction would be increased in comparison to the proposed Project, resulting in increased air pollutant emissions, noise intrusion into new areas, and additional construction traffic. Minor increases in landscape removal and associated urban wildlife disturbance may also occur under Alternative 4. Concrete lining along the UPRR embankment is also likely to attract graffiti, thereby creating an adverse visual effect.

Alternative 4 would provide the necessary level of protection against a one percent annual flood chance event and it is also expected to meet FEMA levee certification requirements. Alternative 4 would accommodate a future bikeway along N. Ventura Road.

4.5.5 Alternative 5 – No Project Alternative

As described in Section 4.4.5, under the No Project Alternative no development would occur along the SCR-3 levee system. People who own property within the City of Oxnard located within the inundation area south of SCR-3 and who have federally-backed mortgages would be required to purchase flood insurance. In the event of the one percent annual chance flood event, flood waters would not be blocked and properties within the inundation area on the landward side of SCR-3 would experience flooding. Damages from the one percent annual flood event have been estimated at approximately \$345.5 million (Tetra Tech, 2014).

Air Quality

This alternative would have no direct construction or O&M air quality impacts. However, if a one-percent annual chance flood event were to happen, the clean-up work would have air quality impacts that could exceed those of the proposed Project depending on the extent of the damage and clean-up.

Biological Resources

Under the No Project Alternative, construction and operation of the proposed Project would not occur. The baseline environmental conditions for the No Project Alternative are the same as for the proposed Project, as provided in Section C (Environmental Setting, Analysis, and Mitigation Measures). These baseline conditions would continue to occur into the future, undisturbed, in the absence of project-related construction activities, unless other construction activities took place on the site.

Scenic Resources

Under Alternative 4, no development would occur along the proposed Project alignment. Therefore, no impacts to scenic resources and no changes to the viewshed would occur. In the event of a one percent annual chance flood event, flood damage would result in adverse visual impacts (debris, mud, and property damage) that would persist until the damage is repaired and cleanup activities are completed.

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Liquefaction. The No Project Alternative would not change the existing levee system; however, the liquefaction potential of the alluvial sediments underlying the Project area would remain the same. The potential for adverse effects along Reaches 1-4 would remain unchanged from the current conditions. There would be slightly less potential for adverse effects due to liquefaction-related damage compared to the proposed Project due to the absence of the Reach 4 floodwall in this Alternative.

Hazardous Waste. Compared to the proposed Project, the No Project Alternative would avoid potentially encountering hazardous waste, landfill gas, and contaminated groundwater at the landfill tie-ins and the retaining wall footing excavation. Therefore, this alternative could have less hazardous waste impacts than the proposed Project. However, it is possible that a one percent annual chance flood event could damage the former landfills adjacent to the Project, with the potential for release of solid waste currently contained within the landfills.

Public Health. The No Project Alternative would avoid possible conflicts with the existing landfill gas recovery pipelines and wells. However, neither the proposed Project nor Alternative 5 would result in significant public health impacts. Under the No Project Alternative, the existing flooding hazard in the area would not be addressed and properties would continue to be subject to flooding as a consequence of a large storm event.

Noise and Vibration

Because the proposed Project would not be constructed under the No Project Alternative, the noise and vibration impacts associated with construction would not occur. Periodic noise associated with current O&M activities for the existing levee would continue.

Transportation and Circulation

Because the proposed Project would not be constructed under the No Project Alternative, the traffic and circulation impacts associated with construction would not occur. Current periodic vehicle trips associated with existing O&M activities for the existing levee would continue. Additional trips associated with proposed Project maintenance, such as floodwall and floodgate maintenance, would not occur. In the event of a one percent annual chance flood event, streets in the flood hazard area would be covered with mud and debris and possibly damaged, which would disrupt circulation until cleanup activities are completed and any damage is repaired.

Utilities

The No Project Alternative would maintain the existing flood control facilities in their current location, and would not require relocation of the utility lines. Therefore, impacts associated with the relocation of existing utilities, although not significant, would not occur under this alternative. In the event of a one percent annual chance flood event, utilities in the flood hazard area would be subject to flood damage, including possible disruption of service.

Flood Control and Drainage

The No Project Alternative would not implement additional flood protection along the SCR-3 reach. Therefore, portions of north Oxnard, including approximately 3,800 structures, would continue to be subject to flooding in a one percent annual chance flood event.

Conclusion and Relationship to Project Objectives

Under the No Project Alternative, the proposed Project would not be constructed. As a result, a large area in Oxnard south of the river and west of Highway 101 would continue to be subject to flooding in a one percent annual chance flood event. Construction impacts associated with the proposed Project would be avoided completely under this alternative. Existing O&M activities associated with the existing levee would continue. If the proposed Project is not built, it is possible that another project may be proposed in the future to address the area's flooding problem. It is likely that such a project would have features and impacts that resemble the proposed Project or one of the alternatives discussed above.

The No Project Alternative would not meet the Project's primary objective of providing flood protection for a one percent annual chance flood event. A future bikeway along N. Ventura Road could be accommodated under this alternative.

4.6 Environmentally Superior Alternative

In accordance with CEQA requirements, an "environmentally superior alternative" must be identified among the alternatives analyzed in an EIR. The environmentally superior alternative is the alternative found to have an overall advantage compared to the other alternatives based on the impact analysis in the EIR. Based on the discussions of alternatives in Section 4.5, above, a comparison of the impacts of the alternatives to the proposed Project is summarized in Table 4-1.

Of the alternatives analyzed, the No Project Alternative (Alternative 5) would result in the fewest environmental impacts and is therefore considered the environmentally superior alternative; however, the No Project Alternative would not meet the Project objectives. Furthermore, in accordance with State CEQA Guidelines Section 15126.6(e)(2), if the No Project Alternative is identified as the environmentally superior alternative, an EIR is required to identify an environmentally superior alternative from among the other alternatives.

Only one alternative was considered within Reaches 1-3 (Alternative 1). The proposed Project, utilizing Option 1B, results in the least environmental impacts as it would minimize the amount of construction and land disturbance associated with raising the levees and constructing a floodwall. Protection of the VRSD flare and golf course maintenance yard, while beneficial aspects of Alternative 1, would not outweigh the additional impacts associated with the other aspects of design in Reaches 1-3.

Within Reach 4, three alternatives were considered (Alternatives 2, 3, and 4). Of these alternatives, Alternatives 3 and 4 would result in fewer environmental impacts than Alternative 2, as they would minimize the placement of the floodwall along the river side of N. Ventura Road and thereby reduce biological resource impacts to river channel habitat and sensitive species. Alternatives 3 and 4 would also result in fewer scenic resources impacts than Alternative 2, as the floodwall height would be minimized and more of the Santa Clara River would remain visible from N. Ventura Road and adjacent developed areas. Alternatives 3 and 4 would result in additional impacts that would not occur under Alternative 2; however, these impacts would occur in a less biologically sensitive area (urban landscaping) than placement of the floodwall on the river side of N. Ventura Road. As such, within Reach 4, Alternatives 3 and 4 would be superior to Alternative 2. Alternatives 3 and 4 have fairly similar impacts; however, the lining of the railroad embankment in Alternative 4 would be further removed from the El Rio Drain, which would reduce potential water quality impacts. In addition, the lining of the railroad embankment would be slightly farther away from more residences than Alternative 3, which would reduce exposure to construction noise. Therefore, Alternative 4 is considered environmentally

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superior to Alternative 3. The proposed Project would eliminate the need for constructing a floodwall up the El Rio Drain (Alternative 3) or lining the railroad embankment (Alternative 4), resulting in the fewest environmental impacts in Reach 4.

It is important to note that in addition to the five alternatives analyzed in Section 4.5 above, the proposed Project includes two options for Reaches 1-3. Option 1A (preferred) includes raising the existing levee across the entire length of Reaches 1 through 3, while Option 1B involves more limited levee improvements. (Please see Chapter 2 for full descriptions of Options 1A and 1B.) Because of the reduced amount of levee construction associated with Option 1B compared to Option 1A, Option 1B would result in fewer overall impacts. However, Option 1B involves ~~three~~ ~~two~~ landfill tie-ins compared to ~~two~~ ~~tie-ins~~ none for Option 1A, but overall Option 1B has a smaller footprint and involves less construction. Therefore, Option 1B is superior to Option 1A from an environmental standpoint.

Overall, the proposed Project (utilizing Option 1B) is environmentally superior to Alternatives 1 through 4 due to its reduced footprint and reduced amount of construction in Reaches 1-3, as well as Reach 4.

While Option 1B would result in fewer environmental impacts, as it would minimize the amount of construction and land disturbance associated with raising the levees and constructing a floodwall at the golf course maintenance yard, there are other considerations that must be weighed with respect to Option 1B. Through additional engineering design and coordination efforts with CalRecycle, Ventura County Resource Management Agency Environmental Health Division, VRSD, Los Angeles RWQCB, Ventura County APCD, and the River Ridge Golf Course, it has become apparent that Option 1B would result in additional risks and logistical complications that are not apparent with Option 1A. The FEMA accreditation of a levee with landfill tie-ins is less certain than a levee without tie-ins, such as Option 1A. The landfill tie-ins would require amendment of the Landfill Post-Closure Plans resulting in considerable delays in the Project schedule, which is under a strict grant deadline requiring completion of construction of Phase 1 by no later than February 14, 2018. Furthermore, such schedule delays could push the construction start into the bird-breeding season, which could limit construction activities. Additionally, potential settlement of unconsolidated trash beneath the golf course swale could cause future shifts in overlying landfill gas collection pipes, groundwater monitoring wells, golf course features, etc., possibly requiring unknown levels of District risk-reduction response for an unknown duration. Lastly, as coordination efforts have proceeded with the River Ridge Golf Course, it was requested to have the swale fill work completed at night to minimize recreation impacts; however, nighttime construction could adversely affect residences near the golf course and nearby Santa Clara River wildlife. The VCWPD has not agreed to this request, which could further complicate implementation of Option 1B.

Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Air Quality						
Net increase in non-attainment pollutants during construction.	Level of impact proportional to emissions so Option 1B has lower impact than Option 1A.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Slightly greater construction emission than Opt. 1B and slightly less than Opt. 1A.	<i>Slightly Greater.</i> Slightly more construction emissions than the proposed Project.	<i>Slightly Greater.</i> Slightly more construction emissions than the proposed Project.	<i>Slightly Greater.</i> Slightly more construction emissions than the proposed Project.	No Direct Impact. However, impacts could be more than proposed Project after one percent annual chance flood event.
Health impacts to sensitive receptors during construction.	Level of health impact proportional to diesel particulate emission so Option 1B has lower impact than Option 1A.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Slightly greater exposure than Opt. 1B and slightly less than Opt. 1A.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	No Direct Impact. However, impacts could be more than proposed Project after one percent annual chance flood event.
Potential increase in the incidence of Valley Fever infections during construction.	Impact is proportional to fugitive dust emissions, so Option 1B has lower impact than Option 1A.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Slightly greater potential than Opt. 1B and slightly less than Opt. 1A.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	<i>Slightly Greater.</i> Slightly more adverse than the proposed Project.	No Direct Impact. However, impacts could be more than proposed Project after one percent annual chance flood event.
Biological Resources						
Temporary and permanent losses of native vegetation.	Disturbance to native vegetation including arroyo willow thickets, coyote brush scrub, California sagebrush scrub, Fremont cottonwood forest, mulefat thickets, and quailbush scrub. Option 1B 0.51 acres permanent 0.467 acres temporary Option 1A 0.91 acres permanent 0.945 acres temporary	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Reduced impacts to habitats and land cover types than Opt. 1A, but would result in more impacts than Opt. 1B.	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	No Direct Impact. Construction and operation of the proposed Project would not occur. No impact to biological resources.

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Alternatives

Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Loss of foraging habitat for wildlife.	Disturbance to native vegetation and non-native land cover types, including arroyo willow thickets, coyote bush scrub, eucalyptus groves, developed areas, and maintained landscape. Option 1B 7.8994 acres permanent 6.0985 acres temporary Option 1A 12.413 acres permanent 6.63739 acres temporary	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Reduced impacts to habitats and land cover types than Opt. 1A, but would result in more impacts than Opt. 1B.	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Disturbance to wildlife in adjacent habitat.	Both Options 1B and 1A would result in indirect effects such as increased noise and fugitive dust that could disrupt foraging, breeding, and movement.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to those of the proposed Project.	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats as well as occur within and adjacent to least Bell's vireo territories. Additional flood-wall sections would prolong construction impacts.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to non-native landscaping with potentially suitable nesting habitat. Additional floodwall sections would prolong construction impacts.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to non-native landscaping with potential suitable nesting habitat. Embankment lining would prolong construction impacts.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Disturbance to nesting birds or raptors.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types with potential suitable nesting habitat compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats as well as occur within and adjacent to least Bell's vireo territories.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to non-native landscaping with potentially suitable nesting habitat.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to non-native landscaping with potentially suitable nesting habitat.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.

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Disturbance to nesting southwestern willow flycatchers, least Bell's vireos, or their habitat.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types with potential suitable nesting habitat compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats as well as occur within and adjacent to least Bell's vireo territories.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas with potentially suitable nesting habitat would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas with potentially suitable nesting habitat would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Loss of sensitive Lancetooth, Timema, and Shoulderband Snails or Monarch Butterfly.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types with potentially suitable habitat compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats compared to Opt. 1B (less than Opt. 1A). Would remove additional eucalyptus trees that can provide roosting habitat for monarch butterflies.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact non-native landscaping with potentially suitable habitat for monarch butterfly; less impacts to habitat for sensitive snails.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact non-native landscaping with potentially suitable habitat for monarch butterfly; less impacts to habitat for sensitive snails.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Mortality or injury to southwestern pond turtles or a disruption of nesting habitat.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and ground disturbance as well as indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with an increase in impacts to native and non-native vegetation and land cover types that could support pond turtles.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.

4.
Alternatives

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Injury or mortality for two-striped garter snakes and south coast garter snake.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and ground disturbance as well as indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with an increase in impacts to native and non-native vegetation and land cover types that could support snakes.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Injury or mortality of amphibian and reptile species designated as California Species of Special Concern and/or Ventura County Locally Important Species.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and ground disturbance as well as indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with an increase in impacts to native and non-native vegetation and land cover types that could support amphibians and reptiles.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.
Disturbance to nesting or migrant California Species of Special Concern, CDFW Special Animals or California Fully Protected bird species.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types with potential suitable nesting habitat compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A; however, the riverside floodwall would impact additional native and non-native habitats that could support sensitive species.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas with potentially suitable nesting habitat would occur.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas with potentially suitable nesting habitat would occur.	<i>No Direct Impact.</i> Construction and operation of the proposed Project would not occur. No impact to biological resources.

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Mortality of, and loss of habitat for, special-status bat species.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types that may provide foraging habitat for bat species compared to Opt. 1B (less than Opt. 1A).	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with an increase in impacts to native and non-native vegetation and land cover types that may provide foraging habitat for bat species. Removes additional eucalyptus trees that may provide roosting habitat.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas that may provide foraging habitat for bat species.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, additional impacts to maintained landscape and developed areas that may provide foraging habitat for bat species.	No Direct Impact. Construction and operation of the proposed Project would not occur. No impact to biological resources.
Mortality of, and loss of habitat for, special-status mammals.	Both Options 1B and 1A would result in direct impacts such as vegetation removal and indirect effects such as increased noise and fugitive dust.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage when compared to Opt. 1B (less than Opt. 1A), of impact to native and non-native vegetation and land cover types that may provide foraging habitat for these species.	<i>Slightly Greater.</i> Similar impacts to Options 1B and 1A, but with increase in impacts to native and non-native vegetation and land cover types that may provide foraging habitat for these species.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to native and non-native vegetation and land cover types that may provide foraging habitat for these species.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage of impact to native and non-native vegetation and land cover types that may provide foraging habitat for these species.	No Direct Impact. Construction and operation of the proposed Project would not occur. No impact to biological resources.
Mortality of listed or special-status fish.	Both Options 1B and 1A would not impact the Santa Clara River channel but may result in indirect effects related to water quality.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Similar impacts to the proposed Project. Increased acreage impact when compared to Opt. 1B (less than Opt. 1A), to native and non-native vegetation and land cover types that could result in a degradation to water quality.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage impact to native and non-native vegetation and land cover types that could result in additional degradation of water quality.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage impact to native and non-native vegetation and land cover types that could result in additional degradation of water quality.	<i>Slightly Greater.</i> Similar impacts to the proposed Project; however, increased acreage impact to native and non-native vegetation and land cover types that could result in additional degradation of water quality.	No Direct Impact. Construction and operation of the proposed Project would not occur. No impact to biological resources.

4.
Alternatives

Table 4-1. Comparison of Alternatives to the Proposed Project

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Disturbance to endangered, threatened, proposed, or other special-status plant species or their habitat.	Both Options 1B and 1A would not result in the direct take of listed or other special-status plant species. Indirect effects such as fugitive dust and weed control would impact these species in adjacent areas.	Slightly Less than Option 1A, Slightly Greater than Option 1B. Similar impacts to the proposed Project. Increased acreage impact to native and non-native vegetation and land cover types that may increase the chance for the disturbance of listed or special-status plant species compared to Opt. 1B (less than Opt. 1A).	Slightly Greater. Similar impacts to the proposed Project; however, increased acreage impact to native and non-native vegetation and land cover types that may increase the chance for the disturbance of listed or special-status plant species.	Similar. Similar impacts to the proposed Project. Additional impacts to maintained landscape and developed areas would not disturb habitat with the potential to support listed or special-status plant species.	Similar. Similar impacts to the proposed Project. Additional impacts to maintained landscape and developed areas would not disturb habitat with the potential to support listed or special-status plant species.	No Direct Impact. Construction and operation of the proposed Project would not occur. No impact to biological resources.
Interference with established wildlife migratory corridors.	Both Options 1B and 1A would introduce new barriers to movement.	Similar. Similar impacts to the proposed Project.	Slightly Greater. Similar impacts to the proposed Project; however, the riverside floodwall would increase the total length of constructed barriers within the area.	Slightly Greater. Similar impacts to the proposed Project; however, the floodwall along the El Rio Drain would increase the total length of constructed barriers within the area.	Similar. Similar impacts to the proposed Project.	No Direct Impact. Construction and operation of the proposed Project would not occur. No impact to biological resources.
Loss of jurisdictional waters and/or wetland habitats.	Option 1B: Approx. 0.004 acres of federal wetlands, 0.18 acres of federal non-wetland waters and 2.4756 acres of State waters. Option 1A: Approx. 0.004 acres of federal wetlands, 0.10 acres of federal non-wetland waters and 4.547 acres of State waters. Impacts under both options include removal of native riparian vegetation, alteration of hydrological conditions, and degradation of water quality.	Similar. Similar impacts to those of the proposed Project; however, the amount of jurisdictional area affected would be reduced in comparison to Opt. 1B because the golf course swale would not be filled.	Greater. Similar impacts to those of the proposed Project; however, impacts to more CDFW jurisdictional waters in Reach 4.	Similar. Similar impacts to those of the proposed Project. Direct impact to El Rio Drain is avoided. However, construction of the floodwall along the El Rio Drain may result in indirect effects to water quality.	Similar. Similar impacts to those of the proposed Project. As in the proposed Project, construction of the floodwall across the El Rio Drain may result in indirect effects to water quality.	No Direct Impact. Construction and operation of the proposed Project would not occur. No impact to biological resources.

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Scenic Resources						
Visibility of construction and O&M activities from public viewing locations.	Due to the temporary nature of construction and O&M activities, impacts to scenic resources from public viewing locations would not be significant.	<i>Similar.</i> Essentially the same as Option 1B.	<i>Greater.</i> The longer and taller floodwall would introduce a greater visual change in Reach 4. More existing eucalyptus trees along N. Ventura Road would be removed.	<i>Greater.</i> Visual effects from the raised levee and new floodwall would be similar to the proposed Project, but with the additional visual element of the floodwall along El Rio Drain, which would be visible from public viewing locations along E. PCH.	<i>Slightly Greater.</i> Visual effects from the raised levee and new floodwall would be similar to the proposed Project, but with the additional visual element of the railroad embankment lining.	<i>No Direct Impact.</i> There would be no impact to scenic resources.
Alteration of scenic resources by introducing new structures.	In Reach 4, mitigation would reduce impacts associated with graffiti, but the floodwall would result in significant impacts.	<i>Similar.</i> Essentially the same as the proposed Project.	<i>Greater.</i> Increased impact due to higher and longer floodwall along the river side of N. Ventura Road.	<i>Greater.</i> Increased impact due to longer floodwall extending up El Rio Drain and additional impacts to views from E. PCH.	<i>Greater.</i> Increased impact due to the railroad embankment lining.	<i>No Direct Impact.</i> There would be no impact to scenic resources.
Obstruction of the viewshed of the Santa Clara River.	In Reach 4, mitigation would reduce impacts associated with graffiti. Nonetheless, the floodwall would result in significant impacts.	<i>Similar.</i> Essentially the same as the proposed Project.	<i>Greater.</i> Increased impact due to higher and longer floodwall along the river side of N. Ventura Road.	<i>Greater.</i> Increased due to longer floodwall extending up El Rio Drain and additional impacts to views from E. PCH.	<i>Similar.</i> The railroad embankment lining would not obstruct views of the river, making the visual impact similar to the proposed Project.	<i>No Direct Impact.</i> There would be no impact to scenic resources.
Hazards						
Liquefaction-related damage.	Liquefaction-related lateral spreading and/or compaction could cause damage to Project components. Under Opt. 1A damage could occur to Reach 1-3 levees, Reach 2 retaining wall, and Reach 4 floodwall and floodgate. Slightly less potential for Opt. 1B due to shorter levee length and no retaining wall.	<i>Slightly Less than Option 1A, Slightly Greater than Option 1B.</i> Same potential impact due to liquefaction along Alt. 1. Slightly reduced impacts compared to Opt. 1A (less levee in Reach 2) and slightly increased compared to Opt. 1B due to more levee length and the retaining wall.	<i>Slightly Greater.</i> Potential for effects from liquefaction-related effects increased slightly for Alt. 2 compared to both Options 1A and 1B. Increase is due to increased floodwall length within Reach 4.	<i>Slightly Greater.</i> Potential for effects from liquefaction-related effects increased slightly for Alt. 3 compared to both Options 1A and 1B. Increase is due to increased floodwall length within Reach 4.	<i>Slightly Greater.</i> Potential for effects from liquefaction-related effects is the same for Alt. 4 compared to both Options 1A and 1B; and increased minimally for Reach 4 due to potential for damage of the concrete lining along the El Rio Drain.	<i>No Direct Impact.</i> Potential for effects from liquefaction would be less than the proposed Project as no new components would be exposed to liquefaction-related damage. The potential for liquefaction damage would remain unchanged from the current conditions; existing levees would remain vulnerable.

4.
Alternatives

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Hazardous waste at landfill tie-ins and retaining wall footing excavation.	Option 1A: One <u>No</u> landfill tie-ins; and retaining wall footing excavation may encounter hazardous waste. Option 1B: Three <u>Two</u> landfill tie-ins may encounter hazardous waste.	Slightly Greater. Five <u>Four</u> landfill tie-ins and retaining wall footing excavation.	Similar. One <u>None</u> or two <u>three</u> landfill tie-ins and retaining wall footing excavation.	Similar. One <u>None</u> or two <u>three</u> landfill tie-ins and retaining wall footing excavation.	Similar. One <u>None</u> or two <u>three</u> landfill tie-ins and retaining wall footing excavation.	No Direct Impact. No landfill tie-ins or retaining wall footing excavation.
Potential health effects to workers and possibly the public if a gas recovery pipeline is damaged during construction.	Option 1A and 1B: Landfill gas recovery pipelines and wells may conflict locally. Greater potential conflict in Option 1A than in Option 1B.	Slightly Greater. More landfill tie-ins in the vicinity of gas recovery pipelines, increasing potential for conflicts.	Similar. No additional gas recovery facility conflicts.	Similar. No additional gas recovery facility conflicts.	Similar. No additional gas recovery facility conflicts.	No Direct Impact. No gas recovery facility conflicts.
Noise and Vibration						
Disturbance of sensitive receptors by construction noise.	Project construction could result in noise levels that would disturb sensitive noise receptors, particularly near Reach 4.	Similar. Construction activities near sensitive receptors would be basically identical to the proposed Project.	Slightly Reduced. Construction noise impacts similar to the proposed Project. However, a portion of the floodwall would be built further from residences along N. Ventura Road.	Slightly Greater. Construction noise similar to the proposed Project, but the El Rio Drain floodwall would involve construction near additional residences.	Slightly Greater. Construction noise similar to the proposed Project, but lining the UPRR embankment would involve construction near additional residences.	No Direct Impact. No construction noise would be generated.
Disturbance of sensitive receptors by O&M-related noise.	O&M activities could result in increased noise levels affecting sensitive noise receptors.	Similar. O&M activities very similar to the proposed Project, producing similar noise impacts.	Similar. O&M activities similar to the proposed Project, producing similar noise impacts.	Similar. O&M activities similar to the proposed Project, producing similar noise impacts.	Similar. O&M activities similar to the proposed Project, producing similar noise impacts.	No Direct Impact. No additional O&M-related noise would occur.
Affect nearby buildings from construction-related vibration.	Project construction would not result in vibration levels that could cause structural damage.	Similar. Construction activities near sensitive receptors would be basically identical to the proposed Project.	Similar. Construction vibration effects similar to the proposed Project. No damage to buildings would occur.	Similar. Construction vibration effects similar to the proposed Project. No damage to buildings would occur.	Similar. Construction vibration effects similar to the proposed Project. No damage to buildings would occur.	No Direct Impact. No construction vibration would be generated.

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Annoyance of nearby residents caused by construction-related vibration.	Project construction could result in vibration levels that are annoying to nearby residents.	Similar. Construction activities near sensitive receptors would be basically identical to the proposed Project.	Slightly Reduced. Construction vibration effects similar to the proposed Project. However, a portion of the floodwall would be constructed further from residences along N. Ventura Road.	Slightly Greater. Construction vibration effects similar to the proposed Project, but the El Rio Drain floodwall would involve construction near additional residences.	Slightly Greater. Construction vibration similar to the proposed Project, but lining the UPRR embankment would involve construction near additional residences.	No Direct Impact. No construction vibration would be generated.
Vibration caused by O&M activities.	O&M activities would result in temporary minor increases in local vibration levels.	Similar. O&M activities very similar to the proposed Project, producing similar vibration impacts.	Similar. O&M activities similar to the proposed Project, producing similar vibration impacts.	Similar. O&M activities similar to the proposed Project, producing similar vibration impacts.	Similar. O&M activities similar to the proposed Project, producing similar vibration impacts.	No Direct Impact. No additional O&M-related vibration would occur.
Transportation and Circulation						
Effects on ICU values and LOS at area intersections during construction.	The Project would have an adverse impact on ICU values and LOS at study area intersections.	Similar. Adverse, but not significant impact on ICU values and LOS at area intersections.	Slightly Greater. Greater effect on ICU values and LOS at intersections due to additional construction of the longer and taller floodwall.	Slightly Greater. Greater effect on ICU values and LOS at intersections due to construction of the El Rio Drain floodwall.	Slightly Greater. Greater effect on ICU values and intersection LOS due to lining of the UPRR embankment.	No Direct Impact. No change in ICU values or LOS.
Construction traffic effects on volume/capacity ratios and LOS on area roadway segments.	Two segments of US Highway 101 would be significantly affected by construction traffic. Mitigation would reduce impacts to a less-than-significant level.	Similar. The same roadway segments would be affected by a similar amount of construction traffic.	Slightly Greater. The same roadway segments would be affected by an increased amount of construction trips for construction of the longer and taller floodwall.	Slightly Greater. The same roadway segments would be affected by an increased amount of construction trips for construction of the El Rio Drain floodwall.	Slightly Greater. The same roadway segments would be affected by an increased amount of construction trips for lining of the UPRR embankment.	No Direct Impact. No change V/C ratios and LOS on area roadway segments.
Physical disruptions to traffic flow on adjacent roadways during construction.	Physical disruptions to traffic flow would occur on roadways adjacent to the construction zones, including temporary roadway and lane closures.	Similar. Temporary disruptions to traffic during construction would be very similar to the proposed Project.	Slightly Greater. Disruptions would persist for a longer period due to the extended construction schedule for the longer and taller floodwall.	Slightly Greater. Disruptions would persist for a longer period due to the extended construction schedule for the El Rio Drain floodwall.	Slightly Greater. Disruptions would persist for a longer period due to the extended construction schedule for the UPRR embankment lining.	No Direct Impact. No construction-related disruptions to traffic flow would occur.

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Alternatives

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Temporary traffic impacts at the locations on Ventura Road and Victoria Avenue where the construction vehicles would be entering and exiting these roadways.	Construction traffic entering and exiting Ventura Road and Victoria Avenue via the staging area access roads and other access routes would temporarily affect traffic operations and safety.	Similar. Traffic would be temporarily affected in the same way in the same locations as the proposed Project.	Similar. Traffic would be temporarily affected in the same way in the same locations as the proposed Project.	Similar. Traffic would be temporarily affected in the same way in the same locations as the proposed Project.	Similar. Traffic would be temporarily affected in the same way in the same locations as the proposed Project.	No Direct Impact. No traffic effects related to construction vehicles entering and exiting the construction area.
Increase in site-generated traffic volumes for O&M.	Minor periodic trips generated for inspections and repairs.	Similar. O&M traffic would be very similar to the proposed Project.	Similar. O&M traffic would be very similar to the proposed Project.	Similar. O&M traffic would be very similar to the proposed Project.	Similar. O&M traffic would be very similar to the proposed Project.	No Direct Impact. No additional traffic related to O&M.
Periodic closure of Ventura Road due to flooding.	The Project would have a beneficial impact relative to roadway flooding, as the western portion of N. Ventura Road would be protected.	Similar. Beneficial impact relative to roadway flooding, as a greater portion of the levee access road would be raised.	Similar. Beneficial impact relative to roadway flooding, as a larger portion of N. Ventura Road would be protected.	Same. Identical beneficial impact relative to roadway flooding of N. Ventura Road.	Same. Identical beneficial impact relative to roadway flooding of N. Ventura Road.	No Direct Impact. The potential for road closure due to flooding would remain unchanged; the easternmost portion of N. Ventura Road would continue to flood.
Utilities						
Accidental damage to buried utilities resulting in service disruption.	Coordination with utility service providers during construction would ensure proper relocation and protection of utility lines.	Slightly Greater. More landfill tie-ins in the vicinity of gas recovery pipelines, increasing potential for disruptions.	Similar. Same relocation of utilities as the proposed Project but in a different location along N. Ventura Road.	Same. Same relocation of utilities as the proposed Project.	Same. Same relocation of utilities as the proposed Project.	No Direct Impact. Relocation of the utility lines beneath N. Ventura Road would not occur.
Flood Control and Drainage						
Potential to increase base flood elevation.	Increase in the base flood elevation (0.097 foot) for areas across from or downstream of the proposed levee improvements.	Similar. Essentially the same level of increase in the downstream base flood elevation as the proposed Project.	Similar. Essentially the same level of increase in the downstream base flood elevation as the proposed Project.	Similar. Essentially the same level of increase in the downstream base flood elevation as the proposed Project.	Similar. Essentially the same level of increase in the downstream base flood elevation as the proposed Project.	No Direct Impact. The existing flood hazard in the area would persist.

Table 4-1. Comparison of Alternatives to the Proposed Project						
Environmental Issue	Proposed Project	Alt. 1 – Reaches 1-3: Levee System with Landfill Tie-ins and Golf Course Protection	Alt. 2 – Reach 4: River side Floodwall	Alt. 3 – Reach 4: River Side/Land Side Floodwall Extending Up El Rio Drain	Alt. 4 – Reach 4: East Slope Lining of the UPRR Embankment	Alt. 5 – No Project Alternative
Flood protection	Protects residences along Reaches 1-3; however the northeast portion of Ventura Road would experience flooding during a flood event.	Greater. More of the levee access road would be raised allowing for access during flood events compared to Option 1B, but less than Option 1A.	Greater. Longer river side floodwall would provide greater flood protection to N. Ventura Road.	Greater. Floodwall up the El Rio Drain would provide full flood protection downstream of the UPRR bridge, and full flood protection downstream of the Highway 101 overpass once the Wagon Wheel improvements are constructed.	Greater. Lining the slope on the northeast side of the UPRR embankment and parallel to the El Rio Drain would provide full flood protection downstream of the UPRR bridge in the event Wagon Wheel improvements do not occur.	Less. No additional flood protection would be provided. Approximately 3,800 structures would be subject to flooding.

5. Other Required CEQA Topics

5.1 Effects Not Found to be Significant

State CEQA Guidelines Section 15128 requires a brief statement of the reasons why various possible significant effects of a project have been determined not to be significant and, therefore, do not need to be discussed in detail in the EIR. The following provides a discussion regarding the effects of the proposed Project that were found not to be significant.

The Initial Study determined that the proposed Project would result in either no impacts or less-than-significant impacts related to the following resources and issues:

- Air Quality (odor)
- Water Resources
- Mineral Resources
- Agricultural Resources
- Paleontological Resources
- Cultural Resources
- Coastal Beaches and Sand Dunes
- Fault Rupture
- Ground Shaking
- Seiche & Tsunami Hazards
- Landslide/Mudflow
- Expansive Soils
- Subsidence
- Hydraulic Hazards
- Fire Hazards
- Aviation Hazards
- Hazardous Materials/Waste
- Housing
- Transportation/Circulation
- Water Supply
- Waste Treatment/Disposal
- Flood Control/Drainage
- Law Enforcement/Emergency Services
- Fire Protection
- Education
- Recreation

The following subsections summarize the Ventura County *Initial Study Assessment Guidelines* thresholds and analysis of Project-specific impacts for each resource and issue area based on the Initial Study, which is provided in Appendix A of this EIR. The reasons why various possible significant effects of the Project were determined not to be significant are described below and in the Initial Study. Because these effects are not significant, they are not discussed in detail in this EIR.

5.1.1 Air Quality

Significance Criteria

Any project that creates objectionable odors affecting a substantial number of people would result in a significant impact (VCWPD, 2011).

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Other Required CEQA Topics

Explanation of Significance Determination

Construction activities and equipment may create mildly objectionable odors; however, these odors would be temporary, are not considered overly offensive, are of the types of odors regularly experienced by the public, and would not affect a substantial number of people due to the limited number of people located in close proximity to the work areas. Therefore, regional odor impacts from Project construction would not be significant.

5.1.2 Water Resources

5.1.2.1 Groundwater Quantity

Significance Criteria

Any project that meets one of the criteria listed below could result in a significant impact to groundwater quantity (Ventura County, 2011):

- Directly or indirectly decrease either individually or cumulatively, the net quantity of groundwater in a groundwater basin that is overdrafted or creates overdraft conditions.
- In groundwater basins that are not overdrafted, or are not in hydrologic continuity with an overdrafted basin, net groundwater extraction that will individually or cumulatively cause overdrafted conditions.
- Any net increase in groundwater extraction from a groundwater basin and/or hydrologic unit which is not well known or documented but where there is evidence of overdraft based upon declining water levels in a well or wells.

Explanation of Significance Determination

The main source of water for the proposed Project during construction would be a municipal source provided by the City of Oxnard. The City's water supply consists of imported surface water, imported groundwater, and local groundwater. The groundwater in the Project area is managed by the Fox Canyon Groundwater Management Agency (GMA), which addresses overdraft concerns and seawater intrusion. Water use associated with the proposed Project would be temporary, limited to the construction and habitat restoration period, and would occur under the management direction of the Fox Canyon GMA. Potential effects associated with groundwater quantity would not be significant.

5.1.2.2 Groundwater Quality

Significance Criteria

Any project that meets one of the criteria listed below could result in a significant impact to groundwater quality (Ventura County, 2011):

- Individually or cumulatively degrade the quality of groundwater and cause groundwater to exceed groundwater quality objectives set by the (Los Angeles Regional Water Quality Control Board [LARWQCB]) Basin Plan.
- Cause the quality of groundwater to fail to meet the groundwater quality objectives set by the LARWQCB.
- Propose the use of groundwater in any capacity within two miles of the boundary of a former or current test site for rocket engines.

Explanation of Significance Determination

Groundwater is not expected to be encountered during construction or operation. Compliance with existing standards and regulations for hazardous materials would ensure that if a spill or leak occurs it would not result in contamination. Construction and operation of the proposed Project would not result in groundwater quality degradation or result in violation of a LARWQCB groundwater quality objective.

5.1.2.3 Surface Water Quantity

Significance Criteria

Any project that meets one of the criteria listed below could result in a significant impact to surface water quantity (Ventura County, 2011):

- Increase surface water consumptive use, either individually or cumulatively, in a fully appropriated stream reach as designated by the State Water Resources Control Board (SWRCB), or where non-appropriated surface water is unavailable.
- Increase surface water consumptive use including but not limited to the diversion or dewatering downstream reaches, either individually or cumulatively, resulting in an adverse impact to one or more of the beneficial uses listed in the Basin plan.

Explanation of Significance Determination

The proposed Project may include use of surface water resources and groundwater resources by nature of the proposed water supply (City of Oxnard) being a blend of these resources; however, this use would be temporary and is not anticipated to result in adverse effects to surface water quantity. The proposed Project would not divert or dewater the Santa Clara River. Impacts to surface water quantity would not be significant.

5.1.2.4 Surface Water Quality

Significance Criteria

Any project that meets one of the criteria listed below could result in a significant impact to surface water quality (Ventura County, 2011):

- Individually or cumulatively degrade the quality of surface water and cause it to exceed water quality objectives contained in Chapter 3 of the three Basin Plans.
- Directly or indirectly cause stormwater quality to exceed water quality objectives or standards in the applicable Municipal Separate Storm Sewer System (MS4) Permit or any other National Pollutant Discharge Elimination System (NPDES) Permits.

Explanation of Significance Determination

Activities associated with Project construction and operation would need to comply with all existing water quality objectives and Total Maximum Daily Load requirements of the LARWQCB, as described in Initial Study Table C.2-2. By following the above requirements, neither construction nor O&M activities associated with the proposed Project would result in the violation of any water quality objectives designated by the LARWQCB. Impacts to surface water quality would not be significant.

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Other Required CEQA Topics

5.1.3 Mineral Resources

5.1.3.1 Aggregate

Significance Criteria

Any project that meets the criteria listed below could result in a significant impact to aggregate resources (Ventura County, 2011):

- Proposed to be located on or immediately adjacent to land zoned Mineral Resource Protection (MRP) overlay zone, or adjacent to a principal access road to an existing aggregate Conditional Use Permit (CUP), and has the potential to hamper or preclude extraction of or access to the aggregate resources.

Explanation of Significance Determination

Although the proposed Project would be located within Mineral Resource Zone 3(a) (areas, judged on the basis of limited available geologic data and fieldwork, to have higher potential as sources of aggregate material suitable for Portland cement concrete than other deposits classified MRZ-3), the proposed improvements would occur to the existing SCR-3 levee, an area that is not actively mined. As such, the proposed Project would not present a new land use that would hamper or preclude the extraction of aggregate resources. In addition, as there are no active permits for mining in the area, the proposed Project would not interrupt active mining activities. Therefore, impacts to aggregate resources would not be significant.

5.1.3.2 Petroleum

Significance Criteria

Any project that meets the criteria listed below could result in a significant impact to aggregate resources (Ventura County, 2011):

- Any land use that is proposed to be located on or immediately adjacent to any known petroleum resource area, or adjacent to a principal access road to an existing petroleum CUP, has the potential to hamper or preclude access to petroleum resources.

Explanation of Significance Determination

Reach 4 of the proposed Project traverses the El Rio Oil Field. The proposed improvements would be limited to the existing levee and would not change the current access to any permitted wells within the Project area, which include CUP-766 (active oil permit). As such, the proposed Project would not present a new land use that would permanently hamper or preclude access to petroleum resources. Therefore, impacts to the permitted oil field would not be significant.

5.1.4 Agricultural Resources

5.1.4.1 Soils

Significance Criteria

Any project that meets or exceeds one of the criteria listed in Initial Study Table C.5-1, which limits the acres of agricultural soils that may be lost by General Plan Land Use Designation and Important

Farmland Inventory Classification, could result in a significant impact to agricultural soils designated Prime/Statewide, Unique, or of Local Importance (Ventura County, 2011).

Explanation of Significance Determination

The proposed Project would not convert land that is designated or used for agricultural production or activities. Consequently, the proposed Project would not result in a direct and/or indirect loss of agricultural soils. No impact to agricultural soils would occur.

5.1.4.2 Land Use Incompatibility

Significance Criteria

Any project that meets the criteria listed below could result in a significant impact to land use incompatibility (Ventura County, 2011):

- Proposes a non-agricultural structure or use within 300 feet, without vegetative screening, of a common lot boundary line adjacent to classified farmland.
- Proposes a non-agricultural structure or use within 150 feet, with vegetative screening, of a common lot boundary line adjacent to classified farmland.

Explanation of Significance Determination

The proposed Project improvements would not include a new land use that would present a disruption to or incompatibility with adjacent agricultural lands. Operation of the proposed Project would only introduce temporary impacts of similar scope to current O&M activities, aside from additional vegetation clearing. Therefore, potential conflicts with existing agricultural land uses would be temporary, and impacts to agricultural land uses would not be significant.

5.1.5 Paleontological Resources

Significance Criteria

The geologic formation in which proposed Project would be located can be used to establish the likelihood of paleontological resources being present and their relative importance. Impacts to paleontological resources include (Ventura County, 2011):

- Grading and excavation of fossiliferous rock.
- Increased access opportunities and unauthorized collection of fossil materials.

Explanation of Significance Determination

The artificial fill and geologic units underlying the proposed Project have no to low paleontological sensitivity. Due to the low paleontological importance of the river wash and flood plain deposits, the lack of any known fossils within them, and the zero potential to encounter fossils within the artificial levee fill, no significant paleontological impacts would occur.

5.1.6 Cultural Resources

5.1.6.1 Archaeological

Significance Criteria

The significance of an archaeological resource is materially impaired when a project: (1) demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of *historical resources* pursuant to Section 5020.1(k) requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not archaeologically or culturally significant; or (2) demolishes or materially alters in an adverse manner those physical characteristics of an archaeological resource that convey its archaeological significance and that justify its eligibility for inclusion in the California Register of Historic Resources (CRHR) as determined by a lead agency for purposes of CEQA (Ventura County, 2011).

Explanation of Significance Determination

Both a records search and on-foot field inspection indicated that no previously recorded archaeological resources that meet eligibility or significance criteria under the CRHR or the National Register of Historic Places (NRHP) exist within the boundaries of the proposed Project. Therefore, any proposed improvements or modifications would have no known adverse physical or visual impacts on known archaeological resources. However, the nature of a record search or walkover can only confidently assess the potential for encountering surface cultural resource remains. With implementation of Mitigation Measures CUL-1 and CUL-2, potential impacts to unknown, buried archaeological resources encountered during construction would not be significant.

CUL-1 **Unanticipated Discovery of Archaeological or Historic Resources.** In the event that archaeological or historic resources are found during Project implementation, ~~the on-site supervisor shall contact an approved archaeological consultant~~ shall be contacted immediately. Additionally, ~~the on-site supervisor shall immediately halt all ground-disturbing activities~~ shall be halted at the discovery site and within 100 feet of it until the discovery has been evaluated by the approved archaeological consultant and all appropriate agencies have been notified. If the discovery is recommended as eligible for listing in the CRHR, mitigation of the impacts may include archaeological data recovery and/or monitoring.

CUL-2 **Unanticipated Discovery of Human Remains.** If human remains are encountered during excavations associated with this Project, all work must halt, and the County Coroner must be notified (Section 7050.5 of the California Health and Safety Code). The coroner will determine whether the remains are of forensic interest. If the coroner determines that the remains are subject to his or her authority and that the remains are Native American in origin, the coroner will contact the Native American Heritage Commission (NAHC). The NAHC will identify the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 5097.98 of the Public Resources Code. The MLD should make his/her recommendations within 48 hours of their notification by the NAHC. This recommendation may include (A) the nondestructive removal and analysis of human remains and items associated with Native American human remains; (B) preservation of Native American human remains and associated items in place; (C) relinquishment of Native American human remains and associated items to the descendants for treatment; or (D) other culturally appropriate treatment.

5.1.6.2 Historical

Significance Criteria

The significance of an historic resource is materially impaired when a project: (1) demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; (2) demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Act or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; (3) demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA; or (4) demolition, relocation, or alteration such that the significance of an historical resource would be impaired.

Explanation of Significance Determination

Implementation of the proposed Project would not involve the modification or demolition of any existing structures, other than the SCR-3 levee system. The eligibility of property for the NRHP, CRHR, or Ventura County Landmark designation would not be adversely affected by the proposed Project. Therefore, the proposed improvements would not result in significant physical or visual impacts to known historic archaeological resources. However, a record search and walkover can only confidently assess the potential for encountering surface cultural resource remains; therefore, if unknown, buried historical resources are encountered during construction, Mitigation Measure CUL-1 would be implemented to avoid impacts (provided above). As such, impacts to historical resources would be reduced to a less-than-significant level.

5.1.7 Coastal Beaches and Sand Dunes

Significance Criteria

A proposed project would have a significant environmental impact if it causes a direct or indirect adverse physical change to a coastal beach or sand dune (Ventura County, 2011).

Explanation of Significance Determination

Project construction and O&M activities would not occur within the main river channel and, therefore, would not affect sediment within the channel or its transport to the coast. As such, the proposed Project would not create barriers to sand dune replenishment or disturbance of sand dune vegetation. The proposed Project would not directly or indirectly affect coastal beaches and sand dunes.

5.1.8 Fault Rupture

Significance Criteria

A project is potentially at risk with respect to fault rupture if it is located within:

- A State of California designated Alquist-Priolo Special Fault Zone, or
- A County designated Fault Hazard Area. (Ventura County, 2011)

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Explanation of Significance Determination

The proposed Project and its associated components are not located within or cross a State-designated Alquist-Priolo Special Fault Study Zone or County-designated Fault Hazard Area. Additionally, no known active or potentially active faults cross or trend towards the proposed Project. Therefore, no impacts from surface fault rupture would occur along SCR-3.

5.1.9 Ground Shaking

Significance Criteria

A project is potentially susceptible to damage from seismically induced ground shaking if the proposed structure is not built in accordance with all applicable requirements of the Ventura County Building Code. (Ventura County, 2011)

Explanation of Significance Determination

Placement of the new levee fill would be consistent with USACE requirements and the Ventura County Flood Control District Design Manual, which are more relevant to the construction of flood control facilities than the County of Ventura Building Code. Compliance with the design manual and project-specific geotechnical study recommendations would reduce the potential for damage associated with seismically-induced ground shaking. Therefore, although the Project area would have the potential for strong ground shaking in the event of a large regional or local earthquake, impacts would not be significant.

5.1.10 Seiche and Tsunami

Significance Criteria

A project would be subject to potential seiche hazard if it is located within 10 to 20 feet vertical elevation from an enclosed body of water such as a bay, lake, or reservoir. The height of hazard above the water level is dependent on ground motion intensity, duration of shaking, and subsurface topography of the lake or reservoir and surface topography of the shoreline. A project located in a mapped area of tsunami hazard as shown on Ventura County General Plan maps would be considered significant. For most portions of the north and south coastal areas, the tsunami hazard does not extend to areas more than 30 feet above sea level, and along the coastal plain the tsunami hazard extends inland for approximately one mile. (Ventura County, 2011)

Explanation of Significance Determination

The only large enclosed body of water in the general Project vicinity ~~Project~~-is Lake Casitas, which is located approximately 11.5 miles northwest of the proposed Project. As the proposed Project would not be located in the vicinity of a potential seiche hazard area, no impacts would occur.

The SCR-3 Project components are located at elevations generally greater than 30 feet, are located more than one mile from the coastline, and are not mapped in a tsunami hazard or inundation zone by Ventura County or the California Emergency Management Agency. Therefore, the proposed Project would have no impacts associated with tsunamis.

5.1.11 Landslide/Mudslide

Significance Criteria

The threshold for landslide/mudslide hazard is determined by the Public Works Agency Certified Engineering Geologist based on the location of the site or project within, or outside of mapped landslides, potential earthquake induced landslide zones, and geomorphology of hillside terrain (Ventura County, 2011).

Explanation of Significance Determination

The Project area is relatively flat to gently sloping, is not included on any landslide or mudflow hazard maps, and no mapped landslides are near the proposed Project. Therefore, the Project would not be subject to landslide hazards such as rock fall, soil creep, soil failures, dry raveling, rotational and transitional slides, slumps, and mudflows. Consequently, there would be no impacts related to landslides or mudslides.

5.1.12 Expansive Soils

Significance Criteria

The determination of a significant soils expansion effect shall be based upon an inquiry of whether a proposed project will expose people or structures to potential adverse effects, including the risk of loss, injury or death involving soil expansion if it is located within a soils expansive hazard zone, or where soils with an expansion index greater than 20 are present (Ventura County, 2011).

Explanation of Significance Determination

Both the levee and the adjacent soils where Project improvements would occur have low to no shrink-swell potential. Therefore, no impacts would occur from expansive soils.

5.1.13 Subsidence

Significance Criteria

The determination of a significant subsidence effect shall be based upon an inquiry of whether a proposed project will expose people or structures to potential adverse effects, including the risk of loss, injury or death involving subsidence if it is located within a subsidence hazard zone (Ventura County, 2011).

Explanation of Significance Determination

Although the proposed Project is located in a subsidence zone, differential subsidence or offset due to crossing the edge of a subsidence zone or area of significantly differing subsidence is not expected. Additionally, the proposed Project would not involve the extraction of oil or gas to contribute to subsidence issues and would not be sensitive to slight changes in surface gradients. Some groundwater extraction may occur but is not anticipated when excavation is required during construction, but this would be temporary and of minimal volume. Impacts related to subsidence would not be significant.

5.1.14 Hydraulic Hazards

5.1.14.1 Non-FEMA

Significance Criteria

Threshold criteria are determined on a case-by-case basis pursuant to a variety of documents, including but not limited to the following: Ventura County ordinances and standards, Porter-Cologne Water Quality Control Act permit requirements, and NPDES permit requirements, which stipulate that project-specific best management practices (BMPs) are implemented to avoid or minimize erosion and sedimentation effects (Ventura County, 2011).

Explanation of Significance Determination

Compliance with applicable laws and regulations would ensure that Project-specific BMPs are implemented to avoid or minimize the potential for erosion and sedimentation. The proposed Project would provide flood protection and public safety in the Project area, thereby reducing existing potential for flooding hazards. Non-FEMA hydraulic hazards associated with erosion and sedimentation would be temporary and not significant.

5.1.14.2 FEMA

Significance Criteria

A proposed development that is located in part or in whole within the boundaries of a Special Flood Hazard Area, but outside of the boundaries of the Regulatory Floodway, would not result in significant impact under FEMA hydraulic hazards when it can be demonstrated that the proposed development can be designed and constructed in compliance with all applicable floodplain management standards and measures. A Special Flood Hazard Area is the area subject to a one percent chance of flooding in any given year, as defined on a Flood Insurance Rate Map (FIRM) as Zone A, and a Regulatory Floodway is the channel of a river or other watercourse and the adjacent land areas where floodwaters generally are the deepest, swiftest, and most hazardous, where floodwaters carry debris, potential projectiles and cause erosion, and where there is a high risk of loss of life and property damage. A second criteria is if a proposed development is located in part or in whole within the boundaries of a Regulatory Floodway, a significant impact would occur. (Ventura County, 2011)

Explanation of Significance Determination

The proposed Project is not a new development, but rather a series of improvements to existing infrastructure. In addition, the purpose of Project construction is to obtain levee certification from FEMA through a Letter of Map Revision (LOMR), a document that officially revises a portion of the effective Flood Insurance Rate Map (FIRM) without the need to physically revise and reprint the entire map panel. Due to the nature of the proposed Project to provide flood hazard protection designed and constructed in accordance with federal, State, and local standards, and the fact that the proposed Project is required for the LOMR and FEMA certification, it is not anticipated that significant adverse effects to FEMA hydraulic hazards would occur as a result of the Project.

5.1.15 Fire Hazards

Significance Criteria

A determination of no impact will be made when a project is not located in a High Fire Hazard Area/Fire Hazard Severity Zone or Hazardous Watershed Fire Area (Ventura County, 2011).

Explanation of Significance Determination

The proposed Project would not be located within a designated High Fire Hazard Area/Fire Hazard Severity Zone or Hazardous Watershed Fire Area. Therefore, the proposed Project would have no effect related to Fire Hazards.

5.1.16 Aviation Hazards

Significance Criteria

A review of aviation hazards focuses on compliance with the County's Airport Comprehensive Land Use Plan and pre-established federal criteria set forth in Federal Aviation Regulation Part 77 (Obstruction Standards), as well as those recommendations for good land-use planning made by State and county governments. Aviation hazards refer to the potential loss of life and/or property due to an aircraft accident, including any action that may cause an increase in the potential for an aircraft incident. (Ventura County, 2011)

Explanation of Significance Determination

The proposed Project does not involve any above-ground equipment or structures that could obstruct or interfere with aviation activities or navigable airspace, and would not directly or indirectly result in an increase of persons or structures within the Oxnard Airport land use plan, or within the designated flight path of any civil airport facility. Neither construction nor O&M activities associated with the proposed Project would affect the flight paths or introduce an aviation hazard. The proposed Project would have no impact on Aviation Hazards.

5.1.17 Hazardous Materials

Significance Criteria

A project designed to meet all applicable requirements set forth in relevant underground storage tank, business plan, risk management plan, Certified Unified Program Agency program, and fire code portions of the California Health and Safety Code and the Ventura County Fire Code would not be considered to have a significant impact related to hazardous materials. The methodology for determining hazardous material impacts of a project includes the following (Ventura County, 2011):

- Determine if the project will utilize hazardous materials in a quantity that is subject to regulation by the Environmental Health Division and/or Ventura County Fire Protection District (VCFPD).
- Determine if the project will utilize and require the installation of underground hazardous materials storage tanks.
- Determine if existing underground storage tanks are on-site, and if they are in compliance with the testing and monitoring requirements set forth in the California Health and Safety Code, Division 20, Chapter 6.7 and the California Code of Regulations Title 23, Division 3 Chapter 16. Consult with the Ventura County Environmental Health Division Hazardous Materials Program and determine if any

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enforcement or compliance actions are pending. A site assessment must be completed on active leaking underground fuel tank sites before the application is deemed complete.

- Determine if existing tanks are to be permanently closed.

Explanation of Significance Determination

Implementation of the proposed Project has the potential to cause small-scale hazardous materials spills related to fuels, oils, lubricants, and hydraulic fluids). Although hazardous materials such as diesel fuel or gasoline are necessary to complete the project, large-scale storage of such materials at the Project site would not occur. If a hazardous material spill were to occur, the material(s) would be contained, removed, and treated in accordance with standard VCWPD contract specifications and requirements, as well as federal, State, and local laws, regulations, and ordinances. VCWPD would also consult with the Ventura County Environmental Health Division to ensure concerns related to hazardous materials are fully addressed. Furthermore, the proposed Project would not utilize or require the installation of underground hazardous materials storage tanks. The nearest former leaking tank site (2501 Ventura Road) is not located within the Project area. Therefore, no significant impacts related to the use of hazardous materials or disruption of existing underground hazardous materials tanks are anticipated to occur.

5.1.18 Daytime Glare

Significance Criteria

A project is considered to have a significant project-specific glare impact if the project would create a new source of disability glare or discomfort glare for motorists travelling along any road of the County Regional Road Network (Ventura County, 2011).

Explanation of Significance Determination

Nighttime lighting would be required during construction if the contractor chooses to work after sunset until 7:00 p.m. during the fall and winter months. Nighttime lighting along major roadways, such as Ventura Road or Victoria Avenue, could result in potential glare affecting motorists or the residences across the street from Reach 4. Mitigation Measure DG-1 would implement standards to avoid this potential impact, reducing impacts to a less-than-significant level. During construction and O&M, vehicles and equipment would be staged in areas that are not immediately adjacent to major roads and, therefore, would not result in a significant source of daytime glare for motorists.

DG-1 **Illumination and Glare.** All nighttime lighting shall be shielded or positioned to avoid direct illumination onto any nearby roads or private homes.

5.1.19 Greenhouse Gases

Significance Criteria

Based upon the Ventura County *Initial Study Assessment Guidelines* (Ventura County, 2011) and CEQA Guidelines Sections 15064(h)(3), 15064.4, 15130(b)(1)(B) and (d), and 15183.5, a project would have significant impacts on greenhouse gas (GHG) emissions if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or,

- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

With respect to quantitative GHG emission thresholds, currently the Ventura County APCD has no formally adopted GHG pollutant thresholds of significance; therefore the California Air Resources Board threshold of 7,000 metric tons CO₂e/year from non-transportation-related GHG sources has been applied to this Project.

Explanation of Significance Determination

The proposed Project would generate GHG emissions during construction from the use of off-road equipment and from on-road construction vehicle trips. The total carbon dioxide equivalent (CO₂e) emissions amortized over the life of the project (50 years) were estimated to be 47.5 metric tons per year (see Appendix A – Initial Study Table C.24-1, Summary of Project Greenhouse Gas Emission Estimates), which is below the 7,000 metric tons per year threshold. It is not anticipated this emissions quantity would change appreciably with the project design changes implemented since the time the Initial Study was completed. Furthermore, the proposed Project would be in compliance with all potentially applicable GHG plans, policies, and regulations as shown in Initial Study (Appendix A) Table C.24-2 (Project Consistency with Applicable Plans, Policies, and Regulations for GHG Emissions). The proposed Project would also comply with current California emission reduction strategies that would reduce GHGs as shown in Initial Study (Appendix A) Table C.24-3 (California GHG Reduction Strategies). Therefore, the proposed Project would not have a significant impact on global warming or climate change, would conform to State and local GHG/climate change regulations and policies/strategies, and GHG impacts would not be significant.

5.1.20 Community Character

Significance Criteria

Significant impacts would occur when (Ventura County, 2011):

- A project is inconsistent with any of the policies or development standards relating to community character of the *Ventura County General Plan Goals, Policies and Programs* or applicable Area Plan; and/or
- A project either individually or cumulatively (when combined with recently approved, current, and reasonably foreseeable probably future projects) would introduce physical development that is incompatible with existing land uses, architectural form or style, site design/layout, or density/parcel sizes within the community in which the project site is located.

Explanation of Significance Determination

The Project site is not located within any County Area Plan. As a flood protection project, the proposed Project would not conflict with the existing development patterns or surrounding land uses. The Project area is designated as Open Space and, according to the County's *Non-Coastal Zoning Ordinance*, public works projects are allowed within an Open Space Zone and are exempt from zoning clearance. Therefore, the proposed Project would not conflict with the development standards relating to community character. Construction and O&M of Reaches 1-3 would occur entirely along the existing levee; therefore, the proposed Project would not introduce a physical development that is incompatible with existing land uses, architectural form or style, site design/layout, or density/parcel sizes within the community. Although the river side portion of Reach 4 would introduce a new, taller linear structure

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atop an existing levee, it would be constructed in an area that is currently characterized by residential and commercial development and existing flood control and railroad infrastructure. The flood gate and floodwall would be constructed within the City of Oxnard, adjacent to backyards of single-family homes, and would be compatible with the existing community character. Impacts would not be significant.

5.1.21 Housing

Significance Criteria

Any project that meets one of the following criteria would result in a significant impact related to housing (Ventura County, 2011):

- Eliminate existing dwelling units.
- Introduce a long-term demand for housing by full-time employees.

Explanation of Significance Determination

The proposed Project would neither remove existing housing nor prevent the future construction of homes in the Project area. No impacts to housing demand from the temporary construction work would occur due to the sufficient pool of construction workers available within Ventura County and the Los Angeles Metropolitan region. No increase to existing full-time VCWPD employment is expected from implementation from the proposed Project. No impacts to housing would occur.

5.1.22 Transportation/Circulation

5.1.22.1 Roads and Highways – Safety/Design of Public Roads

Significance Criteria

Projects that comply with the County's road standards are generally considered to have less-than-significant impacts on the safety and design of the public road system (Ventura County, 2011). Any deviation from design standards required by the City of Oxnard and Caltrans would be considered a significant impact.

Explanation of Significance Determination

The proposed Project would not require access encroachments or roadway improvements and is not located in a Substandard Impact Area. The proposed Project would comply with the County, City of Oxnard, and Caltrans road standards. Therefore, the proposed Project would not have a significant impact on the safety and design of the public road system.

5.1.22.2 Roads and Highways – Safety/Design of Private Access Roads

Significance Criteria

Private road guidelines are typically applicable to subdivisions of land for residential use and the impacts associated with the safety and design of a private road involve the physical configuration of the road and its conformance with applicable State and local fire guidelines and ordinances (Ventura County, 2011).

Explanation of Significance Determination

The proposed Project would not require the construction of, or modification to, any private roads. As no private roads are proposed, there would be no impacts relative to the safety and design of private access roads.

5.1.22.3 Roads and Highways – Tactical Access

Significance Criteria

A project would have a significant impact if there is a single access and the access road exceeds 800 feet in length (Ventura County, 2011).

Explanation of Significance Determination

Access to the proposed Project is provided from both ends of the County maintenance road in Reaches 1-3, and from either end of a new 15-foot-wide maintenance road on the river side flood wall in Reach 4. Access to the full length of the land side floodwall in Reach 4 would be available directly from N. Ventura Road. As such, the Project would have no impacts relative to tactical access.

5.1.22.4 Pedestrian/Bicycle Facilities

Significance Criteria

A project that will cause actual or potential barriers to existing or planned pedestrian/bicycle facilities may have a significant impact. In addition, projects that generate or attract pedestrian/bicycle traffic volumes meeting requirements for protected highway crossings or pedestrian and bicycle facilities may have a significant impacts. (Ventura County, 2011)

Explanation of Significance Determination

The proposed Project would not increase local population and therefore demand for pedestrian/bicycle facilities. The proposed Project would not increase bicycle or pedestrian volumes and, therefore, would not result in a traffic-related safety issue or increase the demand for a protected highway crossing. Furthermore, the proposed Project is compatible with the City of Oxnard's Bicycle and Pedestrian Master Plan, which includes a multi-use bicycle/pedestrian path along the alignment of the SCR-3 Project. These planned features could potentially generate or attract additional pedestrians and bicyclists to the trail system; however, they are not a component of the proposed Project.

5.1.22.5 Bus Transit

Significance Criteria

A project will normally have a significant impact on bus transit if it would substantially interfere with existing bus transit facilities or routes, or if it would create a substantial demand for bus transit facilities/services (Ventura County, 2011).

Explanation of Significance Determination

Project-related construction activity would not impact a transit route because there are no bus routes operating on this segment of N. Ventura Road. The increased ridership demand, if any, would not be substantial and would not result in an adverse impact. Therefore, the proposed Project would not

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Other Required CEQA Topics

interfere with any bus transit facilities or routes, and would not create a substantial demand for bus transit facilities/services. There would be no impacts associated with bus transit.

5.1.22.6 Railroads

Significance Criteria

A project will normally have a significant impact on a railroad if it would substantially interfere with an existing railroad's facilities or operations (Ventura County, 2011).

Explanation of Significance Determination

The construction and operation of the proposed Project would not affect train movements or activity. In Reach 4, the floodwall would terminate west of the railroad tracks and fill material would be installed abutting the embankment on the northeast and southwest sides of the railroad tracks, to complete the gap between the floodwall and the railroad embankment (southwest side) and the railroad embankment and any future flood protection measures implemented as part of The Village development (northeast side). This fill material would avoid impacts to the railroad infrastructure by providing sufficient distance between the floodwall/Village improvements and the railroad tracks. Encroachment permits from UPRR would be acquired. As implementation of the proposed Project would not substantially interfere with any existing railroad facilities or operations, no significant impacts would occur.

5.1.22.7 Airports

Significance Criteria

A project could potentially be incompatible with the operation of an airport if it is within the sphere of influence of an airport, and if it includes features such as high buildings, residential units, refineries, churches, or schools (Ventura County, 2011).

Explanation of Significance Determination

Although the proposed Project is located within an airport sphere of influence, it does not have any incompatible features or structures that would interfere with aviation activities or navigable airspace. No airport-related impacts would occur.

5.1.22.8 Harbor Facilities

Significance Criteria

A project would have an impact on a harbor if the construction or operation of the project will increase the demand for commercial boat traffic and/or adjacent commercial boat facilities (Ventura County, 2011).

Explanation of Significance Determination

The proposed Project is not located near harbors and implementation would not affect the demand for boat traffic or facilities. No impact would occur.

5.1.23 Water Supply

5.1.23.1 Quality

Significance Criteria

A Project designed to meet all the applicable requirements set forth in the California Health and Safety Code (Division 104, Part 13, Chapter 4), California Code of Regulations (Title 22, Division 4), Ventura County Building Code (Article 1, Article 6), and Ventura County Ordinance Code (Division 4, Chapter 8) shall not be considered to have a significant impact in the area of water supply quality (Ventura County, 2011).

Explanation of Significance Determination

The proposed Project would not result in the development of any habitable structures or bathroom facilities and would not require a source of domestic water. Any water associated with portable toilets, including cleaning and maintenance, would be obtained and delivered by the service provider and would have no appreciable effect on water supply quality. No impacts to water supply quality would occur.

5.1.23.2 Quantity

Significance Criteria

The purpose of assessing this issue area is to ensure consistent and complete assessment of any direct and indirect impacts resulting from the *Ventura County General Plan* requirement that each legal parcel requiring a domestic water source have a permanent supply of water for a project (Ventura County, 2011).

Explanation of Significance Determination

The proposed Project would not introduce a permanent water supply requirement and would not require an ongoing source of domestic water supply. Therefore, no impacts to water supply quantity would occur.

5.1.23.3 Fire Flow

Significance Criteria

A project is considered to have a significant impact associated with fire flow if one of the criteria listed below is met during project construction or operation (Ventura County, 2011).

- It cannot meet the required fire flow as determined by:
 - The Insurance Services Office, Inc. Guide for Determination of Required Fire Flow;
 - The Ventura County Waterworks Manual;
 - VCFPD Fire Code; and
 - Fire Prevention Standard 14.5.1, 14.5.2, 14.5.3.
- If it cannot provide an acceptable mitigation factor, i.e., fire sprinklers to allow for a reduction in the required fire flow.

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Other Required CEQA Topics

- A private water system cannot meet flow, duration, or reliability requirements as defined in the Ventura County Waterworks Manual and VCFPD Fire Code.

Explanation of Significance Determination

The City of Oxnard is considered an acceptable water purveyor for the proposed Project, and the VCFPD would not require plans for a private water system. The Project’s water requirements would be temporary and minimal, limited primarily to dust abatement during the approximately 27-month-long construction period. The proposed Project would result in no impacts associated with fire flow.

5.1.24 Waste Treatment/Disposal

5.1.24.1 Individual Sewage Disposal Systems

Significance Criteria

Compliance with applicable sections of the following documents must be demonstrated to ensure no significant impact (Ventura County, 2011).

- Ventura County Building Code, Articles 1 and 6
- Ventura County Sewer Policy
- Ventura County Ordinance Code, Division 4
- Uniform Plumbing code
- Environmental Health Division Onsite Wastewater Treatment System Technical Information Manual
- California Regional Water Quality Control Board Basin Plans

Explanation of Significance Determination

During construction, the Project contractor would supply portable toilets for workers and would be responsible for the disposal of generated sewage. Once operational, the proposed Project would not include any toilet facilities or require the construction, modification, or use of any on-site or existing sewage disposal structures or systems. Therefore, no individual sewage disposal system impacts would occur.

5.1.24.2 Sewage Collection/Treatment Facilities

Significance Criteria

Any project which would individually or cumulatively generate sewage effluent which would be discharged to and exceed the capacity of an existing facility or ancillary facilities would have a potentially significant impact; however, if the project incorporates conditions and mitigation measures for improvements required by the sewer entity or LARWQCB, there would not be a significant impact (Ventura County, 2011).

Explanation of Significance Determination

The proposed Project would not affect sewage treatment facility capacity during construction and does not include any on-site sewage disposal facilities for operation, and thus would not generate sewage effluent requiring the generation or use of any new or existing sewer mains or sewage treatment plants. The proposed Project would not be connected to a sewage collection facility. No impacts to sewage collection/treatment facilities would occur.

5.1.24.3 Solid Waste Management

Significance Criteria

Any project that generates solid waste, such that it impairs a landfill's disposal capacity in terms of reducing its useful life to less than 15 years, would have a potentially significant impact on the demand for solid waste disposal capacity in Ventura County (Ventura County, 2011).

Explanation of Significance Determination

The amount of non-recyclable waste generated by the construction and operation of the proposed Project would be a relatively small quantity. Therefore, the proposed Project would not have a significant impact on solid waste management and collection.

5.1.24.4 Solid Waste Facilities

Significance Criteria

Solid waste facilities shall be in compliance with the following statutes and regulations and are subject to enforcement by the County of Ventura Resource Management Agency, Environmental Health Division (Ventura County, 2011).

- California Health and Safety Code, Division 104, Part 13, Chapter 4, Article 7
- California Health and Safety Code, Division 104, Part 14
- California Code of Regulations, Title 14, Division 7
- California Code of Regulations, Title 27, Division 2
- California Public Resources Code, Division 30
- Ventura County Ordinance Code, Division 4, Chapter 7

If a project does not involve a solid waste operation or facility, it would have no impact. (Ventura County, 2011)

Explanation of Significance Determination

The proposed Project does not involve the construction or operation of solid waste facilities. The proposed Project is anticipated to generate a minimal amount of solid waste material and is not expected to affect the available capacity of waste disposal facilities serving the Project area. No impacts to solid waste facilities would occur.

5.1.25 Flood Control/Drainage

5.1.25.1 Other Facilities/Watercourses

Significance Criteria

The Ventura County Flood Insurance Study and associated maps define Areas of Special Flood Hazard that are subject to the authority of the Ventura County Flood Plain Management Ordinance. The natural channels and facilities not designated within these source documents and the impacts thereon are the focus of review under this guideline. In reviewing a project for impacts, the following are to be given consideration (Ventura County, 2011):

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Other Required CEQA Topics

- The possibility of deposition of sediment and debris materials within existing channels and allied obstruction of flow,
- The capacity of the channel and the potential for overflow during design storm conditions, and
- The potential for increased runoff and the effects on Areas of Special Flood Hazard and regulatory channels both on and off site.

Any increase in flow to and from natural and man-made drainage channels and facilities is required to be considered within the existing framework of grading and building code ordinances, and any project that does not comply with the requirements of such regulations, manuals, and standards is considered as having a potentially significant project and cumulative impact. Impacts to flood control and drainage facilities that are owned and maintained by an entity other than the VCWPD would occur if a project affects the extent of the floodplain, the capacity of a drainage facility or channel, or the velocity of flow within a drainage facility or channel. (Ventura County, 2011)

Explanation of Significance Determination

The proposed Project would alter existing facilities, including the golf course swale and drainage features that penetrate the existing levee system. These alterations would be necessary to achieve the Project's desired level of flood protection. All proposed Project features/modifications would be designed and implemented to minimize or avoid adverse effects to flood control and drainage facilities. Therefore, potential impacts associated with construction and operation of the proposed Project on flood control and drainage facilities not maintained by VCWPD would not be significant.

5.1.26 Law Enforcement/Emergency Services

Significance Criteria

Projects that increase demand for law enforcement or emergency services may have a significant adverse impact on public safety unless mitigated (Ventura County, 2011). Additionally, a project that directly or indirectly contributes to a population increase or does not include adequate measures to address increased demand would have the potential to impact law enforcement and emergency service personnel and equipment.

Explanation of Significance Determination

During construction, security would be provided by the contractor; therefore, no impacts to law enforcement are anticipated. The proposed Project would not increase the population of the Project area and would not involve development of habitable structures. Therefore, the proposed Project would not cause a change in established officer-to-population ratios.

The floodwall in Reach 4 could create opportunities for homeless camps, which are a known problems along this stretch of the Santa Clara River, because the area behind the river side wall would not be visible from the existing road system and would not likely receive regular law enforcement patrol. The levee security gates can be opened by authorized maintenance personnel and law enforcement, such that any homeless camps would be noticed during regular maintenance or occasional law enforcement patrol. The existence of homeless camps would be reported to the local law enforcement agency immediately. Additionally, "no trespassing" and "private property" signs would be included to deter the homeless or any other unauthorized personnel. Construction and operation of the proposed Project would, therefore, not result in a significant impact on law enforcement and emergency services.

5.1.27 Fire Protection

5.1.27.1 Distance/Response Time

Significance Criteria

The project distance from a full time paid fire department is considered a significant impact if the project is in excess of five (5) miles, measured from the apron of the fire station to the structure or pad of the proposed structure (Ventura County, 2011).

Explanation of Significance Determination

The nearest fire station to the proposed Project is City of Oxnard Fire Department Station 4, which is located approximately one mile south of the Project. As the Project is located within five miles of the nearest fire station, no impacts with regard to the distance and response time of fire protection services would occur.

5.1.27.2 Personnel/Equipment/Facilities

Significance Criteria

One firefighter is required for every 3,000 to 4,000 persons, depending on density (Ventura County, 2011).

Explanation of Significance Determination

The proposed Project would not increase the population of the Project area; consequently, it would not increase the demand for fire protection service personnel, equipment, or facilities. In addition, the proposed Project would not involve any type of development that would require an increase in long-term fire protection service. No impacts with regard to the personnel, equipment, or facilities of fire protection services would occur.

5.1.28 Education

5.1.28.1 Schools

Significance Criteria

Any project that substantially interferes with the operations of an existing school facility would result in a significant impact (Ventura County, 2011).

Explanation of Significance Determination

The proposed Project would not involve the construction of or removal/displacement of any residences, and would not be located adjacent to any schools; consequently, it would not affect the demand for new or interfere with the operations of existing schools within Ventura County or more specifically within the City of Oxnard. No impacts to schools would occur.

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Other Required CEQA Topics

5.1.28.2 Libraries

Significance Criteria

Any project that meets one of the following criteria would result in a significant impact (Ventura County, 2011):

- Substantially interfere with the operations of an existing public library facility.
- Put additional demands on a public library facility that is currently deemed overcrowded.
- Limit the ability of individuals to access public library facilities by private vehicle or alternative transportation modes.

Explanation of Significance Determination

The proposed Project would not involve the in-migration or removal of any residents, temporarily or permanently, and as such it would not affect the demand for public library facilities. The proposed Project would not interfere with library operations or limit the ability of individuals to access the public library by private vehicle or alternative transportation modes. No impacts to library facilities and services would occur.

5.1.29 Recreation

5.1.29.1 Local Parks/Facilities

Significance Criteria

A project would result in a significant impact if it would cause an increase in the demand for or a decrease in the availability of recreation when measured against the following standard (Ventura County, 2011).

- Local Parks/Facilities - 5 acres of developable land (less than 15% slope) per 1,000 population.

Explanation of Significance Determination

The purpose of the proposed Project is to provide flood protection to the City of Oxnard for the one percent annual chance flood event by implementing improvements to the SCR-3 levee system. As such, construction and operation of the Project would not include a growth-inducing component that would increase the demand for local recreation facilities, or decrease the availability of existing recreation. No impact to local parks/facilities would occur.

5.1.29.2 Regional Parks/Facilities

Significance Criteria

A project would result in a significant impact if it would cause an increase in the demand for recreation when measured against the following standard (Ventura County, 2011).

- Regional Parks/Facilities - 5 acres of developable land per 1,000 population.

In addition, a project will have a significant impact on recreation if it would impede future development of recreation parks/facilities (Ventura County, 2011).

Explanation of Significance Determination

The purpose of the proposed Project is to provide flood protection to the City of Oxnard for the one percent annual chance flood event by implementing improvements to the SCR-3 levee system. Construction and operation of this Project would not induce population growth that would increase the demand for regional recreation facilities. Construction of Option 1B would fill in the drainage swale within the River Ridge Golf Course, which would temporarily disrupt recreation activities at the golf course for approximately one month. In order to avoid interference with the activities at the River Ridge Golf Course, the following mitigation measure is recommended:

REC-1 **Construction Notification.** ~~The VCWPD shall coordinate with~~ The River Ridge Golf Course shall be contacted thirty (30) days prior to the start of construction to minimize disruptions to activities within the golf course.

With implementation of Mitigation Measure REC-1, impacts to the River Ridge Golf Course would not be significant.

5.1.29.3 Regional Trails/Corridors

Significance Criteria

A project would result in a significant impact if it would cause an increase in the demand for recreation when measured against the following standard (Ventura County, 2011).

- Regional Trails/Corridors – 2.5 miles per 1,000 population.

In addition, a project will have a significant impact on recreation if it would impede future development of regional trails/corridors (Ventura County, 2011).

Explanation of Significance Determination

Construction of the flood gate and the portion of the floodwall on the south side of N. Ventura Road may disrupt the existing bike lane located on the south side of N. Ventura Road for approximately six months. This disruption would be temporary, and would not cause a significant long-term impact. In addition, the proposed Project would not induce growth in the area; thus, it would not increase the long-term demand for recreational facilities, including trails and corridors.

The design of Reach 4 would be compatible with the City of Oxnard's Bicycle and Pedestrian Master Plan. Therefore, the proposed Project would not impede future development of a regional trail. During the operational period, the river side flood wall would limit the community's access to the river and to the informal trail from N. Ventura Road; however, access from the Reach 4 area is already limited since the turnout on the north side of N. Ventura Road is narrow and there is no formal parking available. As such, the river side flood wall would not preclude access from a commonly used access point, and impacts would not be significant. Additionally, once the City of Oxnard completes its Master Plan, O&M activities would temporarily affect trail users, but these impacts would not be significant.

5.1.30 Additional Effects Not Found to be Significant in this EIR

In addition to effects not found to be significant in the Initial Study (Appendix A) prepared for the proposed Project, certain impacts evaluated in this EIR were also determined not to be significant. The reasons why these impacts would not be significant are discussed in the impact analyses presented in Chapter 3. The impacts determined not to be significant in this EIR are listed below.

Air Quality

- Impact AQ-2: Project O&M could violate or substantially contribute to existing or projected violations of applicable air quality standards.
- Impact AQ-4: Project O&M could result in a cumulatively considerable net increase in non-attainment pollutants.
- Impact AQ-5: Project construction and O&M could expose the public to substantial pollutant concentrations.
- Impact AQ-6: Project construction and O&M could cause localized nuisance odors.
- Impact AQ-8: Project O&M could cause an increase in the incidence of Valley Fever infections.

Biological Resources

- Impact BIO-2: The Project would cause the loss of foraging habitat for wildlife.
- Impact BIO-15: The Project would interfere with established wildlife migratory corridors.

Scenic Resources

- Impact SR-1: Construction and O&M activities in the Project area would be visible from public viewing locations.

Hazards

- Impact HAZ-1: The Project may be subject to liquefaction-related damage.

Noise and Vibration

- Impact NV-2: O&M activities would result in increased noise levels affecting sensitive noise receptors.
- Impact NV-3: Project construction could result in vibration levels that affect nearby buildings.
- Impact NV-5: O&M activities would result in temporary increases in local vibration levels.

Transportation and Circulation

- Impact TC-1: Traffic generated during Project construction would affect the ICU values and LOS at the study area intersections.
- Impact TC-3: Project construction would result in physical disruptions to traffic flow on the roadways adjacent to the construction zones, such as temporary roadway and/or lane closures.
- Impact TC-4: Project construction would result in temporary traffic impacts at the locations on Ventura Road and Victoria Avenue where the construction vehicles would be entering and exiting these roadways.
- Impact TC-5: O&M of the Project would result in an increase in site-generated traffic volumes.
- Impact TC-6: Flooding would periodically result in a closure of Ventura Road.

Flood Control and Drainage

Impact FC-1: The Project may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements.

5.2 Unavoidable Significant Adverse Effects

The impact analyses in the Chapter 3 of this EIR identified the following impacts associated with the proposed Project that would be significant and avoidable (Class I) if the Project is implemented. These cannot be feasibly reduced to a less-than-significant level with mitigation.

Scenic Resources

Impact SR-2: Implementation of Reach 4 would alter scenic resources in the Project area by introducing new structures and resulting in the removal of native habitat.

Impact SR-4: Implementation of Reach 4 would obstruct the viewshed of the Santa Clara River in the Project area by introducing new structures and resulting in the removal of native habitat.

Noise and Vibration

Impact NV-1: Project construction could result in noise levels that would disturb sensitive noise receptors, particularly near Reach 4.

Impact NV-4: Project construction could result in vibration levels that are annoying to nearby residents.

5.3 Growth-Inducing Impacts

5.3.1 Introduction

The State CEQA Guidelines Section 15126.2(d) requires that an EIR include a discussion of ways in which a proposed project could induce economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The discussion should also identify any way in which a proposed project would remove obstacles to population growth, and discuss the characteristics of a project that may encourage and/or facilitate other activities that, either individually or cumulatively, could significantly affect the environment. CEQA emphasizes that growth in an area should not be considered beneficial, detrimental, or of little significance. The purpose of this discussion is to evaluate the growth-inducing potential of the proposed Project. Further, during the public scoping period, a comment was received requesting that the EIR consider the Project's growth-inducing potential.

5.3.2 Growth-Inducing Potential

In general terms, a project may potentially induce growth in a geographic area if it meets any of the criteria identified below:

- The project removes an impediment to growth, such as through the establishment of an essential public service, or the provision of new access to an area that will facilitate additional growth.

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Other Required CEQA Topics

- The project results in the urbanization of land in a remote location that will induce the growth of undeveloped areas between the project and existing developed areas, commonly referred to as “Leap-Frog Development.”
- Economic expansion or growth occurs in an area in response to the project, such as by means of a substantial change in revenue base or an expansion of employment.
- The project establishes a precedent-setting action, such as approval of a general plan amendment or change in zoning that will serve as a precedent for other similar projects.

Should a proposed project meet any one of these criteria, it may be considered growth inducing. An evaluation of the proposed Project in relation to these criteria is provided below.

Removal of an Impediment to Growth

Growth in an area may result from the removal of physical impediments or restrictions to growth. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack or insufficiency of essential public services, such as sewer and water service.

The City of Oxnard is currently served by utilities, including water, sewer, electric, and gas service. The proposed Project would not require the extension of any public service to the Project site or any area currently unserved by such utilities.

Existing flood control facilities are inadequate to safely accommodate severe storm events, and portions of the City of Oxnard are consequently at risk of being re-mapped as located within a FEMA 100-year flood plain. The proposed Project is intended to improve the existing capacity shortage in the flood control system by providing facilities sized to convey the full one percent annual chance (100-year) flood. Thus, with implementation of the proposed Project, it is expected that future FEMA Flood Insurance Rate Maps would not be revised to include those portions of the City of Oxnard located within the 100-year floodplain protected by the SCR-3 levee system. This would remove a future impediment to growth in those areas currently within the floodplain; however, this area is already fully developed, approved for development, or in the process of seeking development approval. Therefore, while the proposed Project could potentially remove an impediment to growth, it would not be growth inducing under this criterion.

Urbanization of Land in Remote Locations (Leap-Frog Development)

Development can be considered growth inducing when it is not located contiguous to existing urban development and “leaps” over open space areas. The City of Oxnard is a developed area in Ventura County located approximately three miles south of the City of Ventura and seven miles west of the City of Camarillo. The proposed Project consists of upgrades to existing flood control facilities, and would not “leap-frog” over undeveloped areas nor introduce development that is not continuous with existing development. As such, it would not result in additional growth under this criterion.

Economic Growth

The proposed Project consists of upgrades to existing flood control facilities. The Project includes no residential or commercial development. Operation and maintenance of the proposed facilities would not require additional employees. Therefore, the proposed Project would not result in increased population or employment in the Project area, and would not be considered growth inducing under this criterion.

Precedent-Setting Action

The proposed Project is a public infrastructure project intended to improve existing flood protection facilities. Project approval and implementation would not set a precedent that would be expected to result in increased growth in the Project area.

5.3.3 Conclusion

The proposed Project would not induce additional growth in the surrounding area.

5.4 Significant Irreversible Environmental Changes

5.4.1 Introduction

State CEQA Guidelines Section 15126.2(c) 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. This section evaluates whether the proposed Project would result in the irretrievable commitment of resources, or would cause irreversible changes in the environment. This section also identifies any irreversible damage that could result from environmental accidents associated with the proposed Project.

5.4.2 Irreversible Commitment of Resources

Implementation of the proposed Project would include construction of structural improvements to the existing SCR-3 levee system to enable it to withstand a one percent annual chance flood event and thereby achieve compliance with FEMA levee certification requirements. The facility would be designed to provide flood protection to properties in the City of Oxnard that would otherwise require flood insurance to protect against a one percent annual chance (100-year) flood event. The proposed Project includes a 6-foot tall, ~~950~~968-foot long floodwall on the river side of N. Ventura Road. A four- to six-foot high floodwall would be constructed on the land side of N. Ventura Road for approximately ~~860~~888 feet, then transition to a 40-foot-long earthen embankment abutting and perpendicular to the existing UPRR embankment. A similar 40-foot-long earthen embankment would be constructed on UPRR land northeast of the railroad embankment to tie into the flood protection structure to be constructed by The Village development (Wagon Wheel).

The entire length of the facility depends on which of the two options in Reaches 1-3 are selected for the Project. Option 1A (Full Levee System), which is the preferred option, adds fill material and riprap along approximately 8,875 feet to raise the existing levee in Reaches 1-3, ~~with one tie-in to the Bailard Landfill~~. Option 1B (Minimum Levee System), ~~which is the preferred option~~, adds fill material along approximately 3,575 feet of the existing levee in Reaches 1 and 3 only, with filling of a golf course swale located landward of Reach 2.

Construction and operation of the proposed Project would contribute to the incremental depletion of resources, including renewable and non-renewable resources. Non-renewable resources, such as natural gas, petroleum products, asphalt, petrochemical construction materials, steel, copper, and other metals, rock, sand, and gravel are considered to be commodities that are available in a finite supply. The processes that created these resources occur over a long period. Therefore, replacement of these resources would not 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. The Southern California Association of Governments (SCAG) forecasts that the population of Southern California will increase 23 percent between 2008 and 2035 (SCAG, 2012). These increases in population would directly result in the need for more public, commercial, and residential facilities in order to provide the needed services associated with this growth. If not consumed by this Project, these resources would likely be committed to other projects in the region intended to meet this anticipated growth. Furthermore, the investment of resources in the Project would provide a community benefit by improving existing deficiencies in a flood control facility. Mitigation measures have been included in this EIR to reduce and minimize Project-specific and cumulative impacts.

5.4.3 Irreversible Environmental Changes

Irreversible long-term environmental changes associated with the proposed Project would include a change in the visual character of the site, specifically along Reach 4 where a new floodwall would be installed. Design features have been incorporated into the Project that would minimize the effects of the environmental changes associated with the development of the Project to the degree feasible. In addition, the proposed Project would improve existing deficiencies in a flood control facility. As described in Section 5.2 above, implementation of the Project would result in significant unavoidable long-term impacts to scenic resources. No other significant long-term adverse impacts have been identified.

5.4.4 Potential Environmental Damage from Accidents

The proposed Project proposes no uniquely hazardous uses, and its operation would not be expected to cause environmental accidents that would affect other areas. The Project site is located within a seismically active region and would be exposed to ground shaking during a seismic event. However, the proposed flood conveyance facilities would not expose people or other structures to potential significant adverse effects of ground shaking. With regard to accidental spills, the Stormwater Pollution Prevention Plan (SWPPP) prepared for the Project would provide BMPs to ensure potential contaminants used during construction (e.g., fuel, lubricants, sealants) would be stored away from areas where they could potentially affect water quality, and would provide measures for managing flows during accidental spills or storm events that would ensure that contaminants are conveyed away from the Santa Clara River. Implementation of the SWPPP requirements would ensure that impacts during construction would not be significant.

5.5 Energy Conservation

In 1975, Assembly Bill 1575 was adopted by the State Legislature, creating the California Energy Commission (CEC) and amending Public Resources Code Section 21100(b)(3) to require EIRs to examine the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In response, the State Resources Agency created Appendix F of the State CEQA Guidelines to provide guidance on completing this determination. This section includes a discussion of energy conservation to meet the requirements of State CEQA Guidelines, Appendix F.

The purpose of the proposed Project is to provide flood protection to properties in the City of Oxnard that would otherwise require flood insurance under the National Flood Insurance Program. The

proposed Project would also achieve compliance with FEMA levee certification requirements for a system to withstand a one percent annual chance flood event. Additionally, the proposed Project would be designed to accommodate a planned future bikeway. Flood protection projects typically do not involve the use of fossil fuels, such as natural gas, for generation of electricity. The flood control provided by the Project will safeguard the affected homes and provide additional opportunities for reducing energy costs associated with flood-related repair activities. Additionally, a future bikeway (not part of the Project) would increase opportunities for non-motorized travel including bicycling and walking, thereby reducing travel emissions.

Implementation of the proposed Project would result in the consumption of energy through fuel needed for construction activities. Fuel would be needed for construction vehicles and equipment. Additionally, construction would require the manufacture of new materials, some of which would not be recyclable at the end of the Project's lifetime, and the energy required for the production of these materials would also result in an irretrievable commitment of natural resources. The anticipated equipment, vehicles, and materials required for construction of the proposed Project are detailed in Chapter 2 (Project Description).

Several local policies exist that require energy efficiency measures be employed for projects within each plan's jurisdiction. These include the City of Oxnard General Plan, and the Ventura County General Plan. The VCWPD would improve energy efficiency by demonstrating compliance with these procedures. Furthermore, to meet air quality requirements and save fuel for economic gain, it is to the advantage of VCWPD to implement energy efficiency and fuel use reduction measures for all on-site equipment.

Growth in the general Project area is expected to occur with or without implementation of the proposed Project. Therefore, the proposed Project would not increase energy consumption above what population growth itself would do.

In summary, no increases in inefficiencies or unnecessary energy consumption are expected to occur as a direct or indirect consequence of the proposed Project. Therefore, no mitigation measures are proposed beyond the applicable regulations and requirements that already exist.

6. Organizations/Persons Consulted and EIR Preparers

6.1 Organizations and Persons Consulted

The following federal, State, regional, and local organizations and persons were contacted as part of the scoping and development process for this EIR:

United States Army Corps of Engineers (USACE):

- Antal Szijj, USACE Regulatory Division, Project Manager

California Department of Fish and Wildlife (CDFW):

- Jeff Humble, Environmental Scientist (Lake and Streambed Agreement)
- Dan Blankenship, Senior Environmental Scientist (CEQA)

California Department of Resources Recycling and Recovery (Cal Recycle):

- Peter Jan, Waste Management Engineer, Closure & Technical Support

Los Angeles Regional Water Quality Control Board:

- Enrique Casas, Land Disposal Unit

Ventura Regional Sanitation District (VRSD):

- Frank Kiesler, Director of Operations
- Matthew Baumgardner, Project Engineer
- Mark Potter, Technical Operations Supervisor
- Robert N. Kwong, A to Z Law representing VRSD
- Andreas Booher, A to Z Law representing VRSD

Ventura County Environmental Health Division, Local Enforcement Agency:

- Sean Debley, Solid Waste Program Specialist
- Diane Wahl, Environmental Health Specialist
- Marc Benchimol, Environmental Health Specialist

Ventura County Air Pollution Control District:

- Alicia Stratton, Air Quality Specialist

6.
Organizations/Persons Consulted and EIR Preparers

City of Oxnard:

- Ashley Golden, Development Services Director
- Rob Roshanian, Public Works Director
- Robert Hearne, Floodplain Administrator
- Badaoui Mouderrès, Environmental Compliance and Program Management Division Manager

River Ridge Golf Course:

- Otto Kanny, General Manager
- Kyle Kanny, Course Superintendent

6.2 List of Preparers

In accordance with State CEQA Guidelines Section 15063(d)(6), the following table lists the individuals that assisted with the preparation and review of this EIR.

Name	Affiliation	Role
Angela Bonfiglio Allen	Ventura County Watershed Protection District	Project Environmental Planner
Masood Jilani	Ventura County Watershed Protection District	Project Engineer
Peter Sheydayi	Ventura County Watershed Protection District	Design and Construction Deputy Director
Gerard Kapuscik	Ventura County Watershed Protection District	Manager, Strategic Resiliency Group
Brian Trushinski	Ventura County Watershed Protection District	Floodplain Manager
Sergio Vargas	Ventura County Watershed Protection District	Watershed Planning and Permits Deputy Director
Rick Viergutz	Ventura County Watershed Protection District	Groundwater Resources Manager
Ewelina Mutkowska	Ventura County Watershed Protection District	County Stormwater Quality Program Manager
Melinda Talent	Ventura County Resource Management Agency Environmental Health Division	Local Enforcement Agency Environmental Planner
<u>Diane Wahl</u>	<u>Ventura County Resource Management Agency Environmental Health Division</u>	<u>Local Enforcement Agency Environmental Health Specialist</u>
Derrick Wilson	Ventura County Public Works Agency Integrated Waste Management Division	Environmental Resource Analyst
Alicia Stratton	Ventura County Air Pollution Control District	Air Quality Analyst
<u>John McCarthy</u>	<u>Michael Baker International (MBI)</u>	<u>Engineering Consultant</u>

Table 6-2. EIR Preparers		
Name	Affiliation	Role
Jon Davidson	Aspen Environmental Group	Project Manager, Alternatives
Lisa Blewitt	Aspen Environmental Group	Deputy Project Manager, Introduction, Project Description, Noise, Alternatives
Matthew Long	Aspen Environmental Group	Flood Control/Drainage
Susanne Huerta	Aspen Environmental Group	Scenic Resources
Will Walters	Aspen Environmental Group	Air Quality
Chris Huntley	Aspen Environmental Group	Biological Resources (Supervisor)
Jared Varonin	Aspen Environmental Group	Biological Resources
Stan Yeh	Aspen Environmental Group	Utilities
SUBCONTRACTORS		
Aurie Patterson	Geotechnical Consultants, Inc.	Hazards – Liquefaction
Ray Nugent	Acentech Inc.	Noise and Vibration Technical Report
Richard Garland	Garland & Associates	Transportation & Circulation
Scott Werner	Werner Biological Consulting	Biological Resources

7. Comment Letters and Responses

Introduction

The project's Draft Environmental Impact Report (EIR) was circulated for public and agency review from December 7, 2015, to January 22, 2016. A public meeting was held on Wednesday December 16, 2015, at the Marriott Residence Inn (2101 W. Vineyard Avenue, Oxnard). The public meeting provided an opportunity for questions and comments to be heard, although these comments were not recorded or entered into the formal record. Attendees were advised to submit all comments in writing. During the review period, comments could be submitted by email, letter, online form, or using a comment card provided at the public meeting held on December 16, 2015.

A Notice of Availability (NOA) of the Draft EIR was posted with the California State Clearinghouse and Ventura County Clerk on December 7, 2015 (SCH Number 2015021079). Newspaper notices, including information on the proposed Project, where the Draft EIR was available for review (VCWPD Office, Ventura County Clerk, local libraries, and online at www.vclevees.com), and details regarding the public meeting were placed in the Ventura County Star on December 6 and 10, 2015. Online press releases notifying the public of the availability of the Draft EIR and public meeting were made in the *Agoura Hills Patch* (12/08/2015), *Amigos805* (12/07/2015), *Before It's News* (12/07/2015), *BriefingWire* (12/08/2015), *Citizens Journal* (12/07/2015), *freePRnow* (12/08/2015), *Moorpark Patch* (12/08/2015), *PRLog* (12/08/2015), and *prsync* (12/08/2015). The VCWPD also emailed those who had previously participated in project-related meetings and provided contact information on December 7, 2015. Additionally, over fifty posters advertising the public meeting were posted throughout the Project area on Friday December 11, 2015.

Per the California Environmental Quality Act (CEQA) Guidelines, Section 15132, the Final EIR shall consist comments and recommendations received on the Draft EIR (verbatim or in summary); a list of persons, organizations, and public agencies commenting on the Draft EIR, and responses of the Lead Agency to significant environmental points raised in the review and consultation process.

This section presents responses to the comments received during the public review period for the Draft EIR. The VCWPD received 22 comment letters/emails on the Draft EIR. Table 7-1 lists the agencies, organizations, and individuals that submitted comments. Each comment letter has been categorized as Agency (A), Organization (B), or Individual (C) and numbered. The individual comments are also numbered within each letter; responses immediately follow the comment letter.

Several of the comments received on the Draft EIR requested or resulted in revisions to the document. These revisions have been incorporated into this Final EIR. These revisions are indicated as ~~strikeout~~ text for deletions and underlined text for new text.

7.
Comment Letters and Responses

Table 7-1. Commenters on the Draft Environmental Impact Report			
Commenter	Submitted By	Date	Comment Set
Agencies (A)			
California Department of Transportation (Caltrans), District 7	Dianna Watson, Branch Chief	01/14/2016	A1
City of Ventura	Dave Ward, Planning Manager	01/15/2016	A2
Arnold LaRochelle Mathews VanConas & Zirbel LLP (AtoZ Law) on behalf of Ventura Regional Sanitation District (VRSD)	Robert N. Kwong	01/21/2016	A3
County of Ventura, Resource Management Agency, Environmental Health Division	Sean Debley, Land Use Section	01/22/2016	A4
City of Oxnard, Planning Division	Ashley Golden, Development Services Director	01/22/2016	A5
California Environmental Protection Agency, Department of Resources Recycling and Recovery (CalRecycle)	Michael B. Wochnick, Manager, Closure and Technical Support Section	01/26/2016	A6
Governor's Office of Planning and Research, State Clearinghouse and Planning Unit	Scott Morgan, Director	01/21/2016	A7
California Department of Fish and Wildlife	Betty Courtney, Environmental Program Manager I	02/12/2016	A8
Organizations (B)			
SYBCI Elders Council	Freddie Romero, Cultural Resources Coordinator	12/07/2015	B1
Citizens Journal	George Miller	12/17/2015	B2
Sierra Club	Nina Danza, At Large and James Hines, Conservation Chair	01/04/2016	B3
Ventura Audubon Society	Bruce E. Schoppe, President	01/13/2016	B4
Friends of the Santa Clara River	James (Jim) Danza	01/22/2016	B5
Individuals (C)			
Tom and Barbara Quigan		12/12/2015	C1
Aaron and Pam Greer		01/03/2016	C2
Linda Noble		01/04/2016	C3
Rand and Vicky Huffman		01/04/2016	C4
Irene Rauschenberger		01/15/2016	C5
John Kramer		01/19/2016	C6
Vicky and Jim Bowker		01/20/2016	C7
Jacqueline Tedeschi		01/25/2016	C8
Raul Navarro		01/25/2016	C9

Comment Set A1

Caltrans, District 7

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
www.dot.ca.gov



*Serious drought.
Help save water!*

January 14, 2016

Ms. Angela Bonfiglio Allen
Ventura County Watershed Protection District
800 South Victoria Avenue
Ventura, CA 93009-1610

RE: Santa Clara River Levee Improvements
Downstream of Union Pacific Railroad (SCR-3) Project
Vic. LA-110 and LA-101
SCH # 2015021079
IGR/CEQA No. 151230AL-DEIR

Dear Ms. Allen:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The project would implement structural improvements to the existing SCR-3 levee to allow for FEMA certification. The traffic impact to the State facility, US-101 is only during the construction period for 27 months beginning in 2016.

As shown on Tables 3.6-14 and 3.6-15, current US-101 in both direction northbound and southbound mainlines at southeast of Victoria Avenue are operating at LOS F, and at northwest of Victoria Avenue is operating at LOS D, for Oxnard is operating at LOS D.

A1-1

Tables 3.6-16 and 3.6-17 show in Year 2017, US-101 the Traffic Impact during construction worsens to the LOS F (1.06) SB and (1.12) NB at southeast of Victoria Avenue, and at northwest of Victoria Avenue it worsens from LOS D to E.

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects should be designed to discharge clean run-off water. Additionally, discharge of storm water run-off is not permitted onto State highway facilities without any storm water management plan.

A1-2

Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a transportation permit from Caltrans. It is recommended that large size truck trips be limited to off-peak commute periods on the State facilities.

A1-3

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Comment Letters and Responses

Ms. Angela Bonfiglio Allen
January 14, 2016
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If you have any questions, please feel free to contact Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 151230AL.

Sincerely,



DIANNA WATSON
Branch Chief
LD-IGR/CEQA Review

cc: Scott Morgan, State Clearinghouse

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Response to Comment Set A1

Caltrans, District 7

A1-1 Thank you for confirming agreement with the EIR analysis. Mitigation Measure TC-2 (*Restrict Project Traffic from Using Highway 101 at Victoria Avenue during Peak Hours*) would reduce impacts to US 101 to a less-than-significant level (Class II).

A1-2 As discussed in EIR Section 3.8 (Flood Control and Drainage), the SCR-3 Project would be required to obtain NPDES coverage under the California General Permit for Discharges of Storm Water Associated with Construction Activity. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) describing Best Management Practices (BMPs) the discharger would use to prevent Project-related impairment of stormwater runoff quality during construction.

Once constructed, the proposed levee and floodwall will protect areas south of the river channel from flooding. The Project will not alter the quantity or quality of surface water runoff discharges. The Project will not discharge runoff onto State highway facilities.

A1-3 As discussed in EIR Section 3.6.1.2 (Transportation and Traffic), the operation of any vehicle on the public roadways is subject to the regulatory requirements of the California Vehicle Code, the County of Ventura Code of Ordinances, the City of Oxnard Municipal Code, and the City of Ventura Municipal Code. As such, use of any oversized-transport vehicles on State highways will obtain a transportation permit. Per Mitigation Measure TC-2 (*Restrict Project Traffic from Using Highway 101 at Victoria Avenue during Peak Hours*), truck trips exiting US 101 at Victoria Avenue would be limited during peak hours to reduce impacts.

Comment Set A2
City of Ventura



January 15, 2016

Ventura County Watershed Protection District
Attention: Angela Bonfiglio Allen
800 South Victoria Avenue
Ventura, CA 93009-1610

Dear Ms. Bonfiglio Allen:

Thank you for the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Santa Clara River Levee Improvements (SCR-3) Project. The City of Ventura has reviewed the DEIR, particularly the hydraulic analysis as it pertains to impacts of the Oxnard Levee to Ventura, and has no comments at this time.

A2-1

Should you have further questions I can also be contacted at (805) 677-3964 or dward@cityofventura.net.

Yours Truly,

A handwritten signature in blue ink, which appears to read "Dave Ward".

Dave Ward, AICP
Planning Manager

Response to Comment Set A2
City of Ventura

A2-1 Thank you for your comment.

Comment Set A3

Ventura Regional Sanitation District (VRSD)



Writer's Email
rkwong@atozlaw.com

January 21, 2016

U.S. Postal Service & E-Mail

Ventura County Watershed Protection District
800 South Victoria Avenue
Ventura, CA 93009-1610
Attn: Angela Bonfiglio Allen
Angela.Bonfiglio@ventura.org

Subject: Ventura County Watershed Protection District, Draft Environmental Impact Report, Santa Clara River Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project, SCH No. 2015021079

Dear Ms. Bonfiglio:

Our law firm represents the Ventura Regional Sanitation District (“VRSD”), a public waste management agency organized in 1970 pursuant to the County Sanitation District Act set forth in California Health & Safety Code Section 4700 et seq. VRSD is overseen by a nine-member Board of Directors who represent the eight cities (Ojai, Oxnard, Santa Paula, Fillmore, Ventura, Camarillo, Thousand Oaks, and Port Hueneme) and eight special districts (Camarillo Sanitary, Camrosa Water, Channel Islands Beach Community Services, Montalvo Municipal Improvement, Ojai Valley Sanitary, Triunfo Sanitation, and Ventura County Waterworks Nos. 1 and 16) which receive essential solid waste and wastewater treatment services from VRSD.

BACKGROUND FACTS & REGULATORY CIRCUMSTANCES

VRSD owns and operates an active municipal solid waste (“MSW”)¹ landfill at Toland Road in the unincorporated area of the County of Ventura near the City of Santa Paula and three closed MSW landfills in an unincorporated area of the City of Oxnard along the southern bank of the Santa Clara River. Specifically, these closed MSW landfills are: (a) Bailard Landfill

¹ Municipal solid waste is nonhazardous and inert solid waste.

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Ventura County Watershed Protection District
Attn: Angela Bonfiglio Allen
January 21, 2016
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(approx. 158 acres; VRSD-owned) located at 4105 West Gonzales Road; (b) Coastal Landfill (approx. 83 acres; VRSD-owned and leased to the City of Oxnard) located at Victoria and Gonzales Roads; and (c) Santa Clara Landfill (approx. 165 acres; City of Oxnard-owned) located at 2501 North Ventura Road. These landfills have been closed since 1995, 1989 and 1980, respectively.

The ownership and operation of a MSW disposal site is a highly regulated field. A closed MSW landfill is a landfill that no longer accepts or processes MSW but it is still subject to various federal, state and local regulations. In particular, the California Department of Resources Recycling and Recovery (“CalRecycle”) is the state agency charged with the implementation and enforcement of waste management laws and regulations in California. The California Regional Water Quality Control Board, Los Angeles Region (“LARWQCB”) administers state and federal clean water laws and regulations that apply to closed MSW landfills. Title 27 of the California Code of Regulations promulgates the respective and complimentary roles and responsibilities of CalRecycle and Regional Water Quality Control Boards when regulating MSW disposal sites. And the Ventura County Air Pollution Control District administers state and local clean air regulations regarding landfill gas capture and destruction through a landfill gas flare complex located on the Coastal landfill that serves all three closed MSW landfills.² Finally, the Bailard closed MSW landfills are subject to the land use planning and zoning requirements set forth in the land use permits, or Conditional Use Permits (“CUPs”), from the County of Ventura.³ The Coastal and Santa Clara landfills are located within the City of Oxnard and may be subject to municipal land use regulations and special use permits. The operation and maintenance of Coastal and Santa Clara landfills is also governed by the terms and conditions of a series of leases and other agreements, by and between VRSD and the City of Oxnard, that are dated as far back as 1974 and which still apply today.

These laws and regulations on the continuing management and monitoring obligations for closed landfills, which by their nature have continuing, but diminishing, impacts on the air and water quality as the MSW decomposes, are set forth in permits from each one of these regulatory agencies.⁴ The City of Oxnard, in accordance with a lease with VRSD that enables the City to

² Ventura County Air Pollution Control District Rule 74.17.1 and title 27 Calif. Code of Regs., § 95460 et seq.

³ County of Ventura, CUP No. 3650, Modification #1 (March 1, 1994) and CUP No. LU06-0031 (May 19, 2008)

⁴ LARWQCB issued and oversees Order No. R4-2002-0191, Revised Waste Discharge Requirements for Evaluation Monitoring Program, Assessment Monitoring Program, and Postclosure Maintenance re: Coastal and Santa Clara Landfills (File Nos. 80-004 and 68-035) as well as National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001 (“Waste Discharge Requirements for Discharges of Storm Water Associated with industrial Activities Excluding Construction Activities”), WDID No. 456S002543. LARWQCB has issued and oversees Order No. R4-2002-0190, Revised Waste Discharge Requirements for Corrective Action Program, Assessment Monitoring Program, and Postclosure Maintenance for VRSD (Bailard Landfill), File No. 61-204, CI-4035, and WDID No. 4A560300001 for NPDES purposes pursuant to title 40 Code of Federal Regulations (CFR) § 258 et seq.

Ventura County Watershed Protection District
 Attn: Angela Bonfiglio Allen
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operate a golf course on and over the Coastal and Santa Clara landfills, is also responsible for complying with these closed MSW laws and regulations.

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT REPORT

The foregoing explanation about VRSD's closed MSW landfills located along the southern bank of the Santa Clara River informs its following comments, concerns and suggestions on the above-referenced Draft Environmental Impact Report ("DEIR") on the SCR-3 Project, especially with regard to the lead agency's preferred project option is Option 1B – Minimum Levee System. DEIR p. 2-13 to 2-14. By its own admission and recognition, SCR-3 Option 1B ("Project") will have the following direct impacts to VRSD's three closed MSW landfills which in turn have the potential to cause significant environmental impacts:

- “[Project] includes an earthen raised levee within Reach 1 between Stations 128+75 and 150+00 (approximately 2,125 feet) that *ties into the existing closed Bailard and Coastal Landfills as high ground*, as well as raising the levee within Reach 3 between Stations 203+00 and 217+50 (approximately 1,450 feet) *with a tie-in at the downstream end to the Santa Clara Landfill . . .*” DEIR p. 2-13; emphasis added.
- “[G]as monitoring or collection system lines associated with [VRSD’s closed MSW] landfills would be relocated in those areas where the *landside fills are being constructed in close proximity.*” DEIR p. 2-13; emphasis added.
- “[Project] design provides full protection along Reaches 1-3 for the residential and commercial properties at risk during the one percent annual chance flow event. *It does not, however, protect the existing VRSD flare and the City of Oxnard River Ridge Golf Course maintenance yard in Reach 2, or provide additional river bank protection for the existing closed landfills.*” DEIR p. 2-14, emphasis added.

In general, VRSD concurs with the lead agency's Project impact findings set forth in DEIR Table ES-1 (Summary of Project Impacts, Mitigation Measures, and Significance Conclusions) (DEIR pp. S-5 to S-10) but with the following four qualifications and concerns. First, regarding Impact HAZ-1 (“The Project may be subject to liquefaction-related damage.”), the conclusion that no mitigation measures are required is unacceptable and is contrary to the California Environmental Quality Act's (“CEQA”) direction to the project's lead agency to identify feasible mitigation measures or project alternatives to avoid, preclude or mollify potential significant environmental impacts like Impact HAZ-1 from this Project. See Pub. Res. Code §§ 21002 and 21004 and tit. 14, Calif. Code of Regs. (“CCR”), §§ 15126.4 and 15126.6. This particular hazard or environmental impact is not a Class III impact but is either a Class I or II impact given consequences of liquefaction due to a flood event so close to three closed MSW

A3-1

Ventura County Watershed Protection District
Attn: Angela Bonfiglio Allen
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landfills containing thousands of tons of decomposing MSW near the Santa Clara River and adjacent residential communities.

A3-1 cont.

Secondly, Impact HAZ-2 (“Hazardous waste may be encountered at landfill tie-ins and retaining wall footing excavations.”) requires more than simple pre-construction testing as a mitigation measure. There needs to be significant coordination with VRSD, the City of Oxnard, and all of state, regional and local regulatory agencies that oversee the closed MSW landfills. Pre-construction testing may require permit modifications or other permissions.

A3-2

Thirdly, Impact HAZ-3 (“Existing gas recovery pipelines in the work areas could result in public health effects to workers and possibly the public if a line is damaged during construction.”) fails to recognize the air quality and water impacts of such a potential breach to the landfill gas collection system or closed MSW landfill liners and does not provide adequate mitigation for this likelihood. The proposed mitigation of coordination without identification of what or who might be involved in such “coordination” constitutes inadequate mitigation and must be altered to specify the impacted air and water permits and to cross-reference this Hazard impact in the Air Quality and Hydrology and Water Quality impact areas as well. The uncontrolled release of landfill gas emissions may also have a Greenhouse Gas Emissions impact as it is well-documented that landfill gas is primarily methane, which has a significant global warming characteristic.

A3-3

Fourthly, the mitigation measures for Impacts AQ-4 through AQ-6 (“None required.”) is simply not adequate and fails to comply with CEQA. The lead agency must work with VRSD and the above-referenced state, regional and local regulatory agencies in crafting feasible mitigation measures or project alternatives in light and in recognition of the existing permits and legal requirements for the closed MSW landfills.

A3-4

In addition to these general comments based on Table ES-1, VRSD offers the following additional specific observations, concerns and suggestions regarding the Project’s potential environmental impacts, feasible mitigation measures for such impacts, and the significance of these environmental impacts.

1. Proposed Berm Construction

The proposed construction of compacted soil berms that would act as a levee/flood wall in the event of a one percent chance flow along Reaches 1-3 of the Santa Clara River adjacent to the closed MSW landfill involve the tie into or integration of these levee/flood walls to the existing landfill side slopes. Given this construction feature of the Project, VRSD has the following environmental impact questions and concerns:

- a. *Settlement of Landfill Refuse Fill* – The burden of the compacted soil fill where the proposed berms would overlie the landfilled refuse will cause substantial secondary settlement of the refuse in the landfills which will affect the structural integrity of the berm itself in the vicinity of the tie-in to the refuse slope. The Project lead agency needs to account for such settlement and to take the necessary

A3-5

7.
Comment Letters and Responses

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- steps to prevent such settlement or to mitigate its negative structural impact to the berm and to the existing landfill. | A3-5 cont.
- b. *Final Landfill Cover Impact* – Proposed placement of the soil berm into the landfill side slopes, if not done with the proper monitoring of the work, will disturb and undermine the performance of the final landfill cover system on all 3 closed MSW landfills in the Project footprint. Compromising the final landfill cover system may lead directly to breach of governing regulations and permits for these closed landfills. The Project lead agency must acknowledge, analyze, abate and account for such an outcome to the landfill side slopes in the DEIR. | A3-6
- c. *Landfill Gas Collection System Impact* – The landfills are equipped with a landfill gas (LFG) collection and management system consisting of vertical extraction wells, condensate collection sumps, and above and below ground piping. The placement of compacted soil berms over portions of the landfills may disturb or undermine the performance of all or significant portions of the LFG collection system components summarized above. As stated above, uncontrolled landfill gas emissions have both an Air Quality and Greenhouse Gas Emission impact. | A3-7
- d. *Reach 3 Berm* – The placement of this berm on Reach 3 of the Santa Clara River may create a water ponding issue on the property between the Santa Clara Landfill and Ventura Road. The existing grading of this property should be evaluated by the lead agency to determine if this parcel currently drains to the Santa Clara River or not. If it does drain to the river, VRSD is concerned that the berm might prevent such drainage to the river and cause unintended consequences to the closed MSW landfills. Ponding of water against any one of the closed MSW landfills is not permitted by applicable State regulations. Project lead agency needs to investigate such a potential and take appropriate actions pursuant to CEQA. | A3-8
- e. *River Ridge Golf Course Swale or Berm* – VRSD is concerned that, when the flap gates in this proposed swale close due to high river conditions, there will be ponding of water over the adjacent closed MSW landfill slopes behind the swale that will have an adverse impact on the landfills. As stated earlier, ponding of water against the landfill side slopes is not permitted by applicable State regulations. The proposed swale also has the potential to impact LFG piping and possible LFG extraction wells in the vicinity of this swale or berm. Project lead agency needs to investigate such a potential outcome when Santa Clara River conditions are high and to either modify the Project or take appropriate mitigation measures pursuant to CEQA. | A3-9

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- f. *Reach 1 of Santa Clara River* – Since a compacted soil berm is proposed for this part of the Project, the VRSD LFG collection header pipe, which runs along this alignment above ground in some locations and below in others, may be adversely impacted by this compacted soil berm. VRSD cannot overstate the importance of a fully functioning LFG collection header pipe for the purpose of gathering criteria air pollutant and greenhouse gas emissions from the closed MSW landfills and channeling them to single flare at the Coastal Landfill. In addition, LFG or fuel quality at the Santa Clara and Coastal Landfills has been declining and the LFG flare requires higher BTU value fuel which comes from the Bailard Landfill to ensure continuous compliant LFG flare operation.

A3-10

Has the berm footprint been designed to avoid impacts to this LFG collection header pipe? Has the berm been designed to ensure that the LFG collection header pipe remains fully functional? Is the berm's location or placement along this reach of the river entirely off the pipe alignment? If not, how has the berm design been evaluated to assess impact to the pipe and ensure its functionality?

2. Impacts of Extended Levee and Increased River Water Levels Along Closed MSW Landfills

The proposed construction of this Project will significantly confine the Santa Clara River within the stretches of the river that run along the closed MSW landfills. The Project will thus cause or result in higher water levels against the landfill slopes at higher flow velocity levels along the landfills. Given these facts about the Project, VRSD has the following environmental impact questions and concerns:

A3-11

- a. *Erosion of Landfill Side Slopes* – Without any erosion protection identified in the DEIR as applied to the landfill side slopes, the VRSD is concerned that high water levels in the Santa Clara River will erode the landfill side slopes and lead to damage or removal of the landfill's final cover.

A3-12

- b. *Infiltration of River Water into the Landfilled Refuse* – If water levels in the Santa Clara River rise because of the confining nature of the Project, river water may cover portions of the landfill side slopes to such a degree that river water will infiltrate into the landfilled refuse mass and cause significant environmental impacts to groundwater.

A3-13

- c. *Environmental monitoring assets* – Since groundwater monitoring wells and perimeter gas monitoring probes are placed along the perimeter of all 3 closed MSW landfills for regulatory compliance purposes, has the Project lead agency fully assessed the potential for disturbance of these important regulatory monitoring assets by the proposed construction? Will the higher river water levels in flood conditions adversely impact these assets? These potential impacts are clearly Class I or Class II impacts.

A3-14

7.
Comment Letters and Responses

Ventura County Watershed Protection District
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3. Feasible Mitigation Measures

All of the above environmental impact concerns speak and point to the need for the Project lead agency to identify and describe feasible measures which could minimize or avoid these potential significant adverse impacts of the Project. See 14 CCR § 15126.4, para. (a)(1). There also appears to be a lack of discussion in DEIR Sections 3.1-- Air Quality, 3.4 – Hazards and 5 – Other Required CEQA Topics (namely Air Quality, Water Resources, Hydraulic Hazards and Greenhouse Gases). Part of the problem with inadequate mitigation measure identification and discussion in the DEIR stems from the fact that the Project lead agency has not fully researched the various federal and state laws and regulations that govern VRSD’s three closed MSW landfills that are directly implicated and impacted by the Project. When, and if, the Project lead agency does so – it will become apparent that certain Project features and proposals will have a significant environmental impact on the environmental areas detailed above.

A3-15

4. Reasonable Range of Project Alternatives

In the same way, the Project lead agency may consider additional project alternatives that achieve project objectives but will not have adverse environmental impacts on VRSD’s closed landfills. 14 CCR § 15126.6(a). In particular, a project alternative that would minimize or eliminate altogether the need for flood walls, berms or swales that require landfill tie-ins should be considered given the impacts the preferred Project has on the closed MSW landfills.

A3-16

5. Insufficient and Inadequate Public Agency Input and Consultation

Finally, VRSD encourages the Project lead agency to convene a series of meetings with federal, state, regional and local regulatory agencies, the City of Oxnard, and VRSD operations management to discuss in greater detail how the proposed Project impacts the closed landfills and golf course and what, if anything, can be done to mitigate those impacts. “The Lead Agency shall consult with and request comments on the draft EIR from: (1) Responsible Agencies, (2) Trustee agencies with resources affected by the project, and (3) Any other state, federal, and local agencies which have jurisdiction by law with respect to the project or which exercise authority over resources which may be affected by the project, including water agencies consulted pursuant to section 15083.5.” See 14 CCR § 15086(a). Namely, the Project lead agency must engage CalRecycle and the LARWQCB, who are either responsible or trustee agencies according to CEQA, in a detailed environmental impact consultation. To date, such interagency coordination and communication appears to have been lacking and in turn has led to a DEIR that does not fully appreciate or analyze the gravity and complexity of the Project’s environmental impacts especially regarding the closed MSW landfills.

A3-17

6. Recirculation of Revised Draft Environmental Impact Report

Based upon the foregoing comments and the expected changes to the DEIR’s environmental impact discussion and corresponding feasible mitigation measure explanation, VRSD expects that the Project lead agency will recirculate a revised DEIR for public review and

A3-18

Ventura County Watershed Protection District
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 Page 8

comment in accordance with CEQA. Specifically, a lead agency is required to recirculate a draft EIR when there is significant new information that a feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project or when a new significant environmental impact would result from the project. See Pub. Res. Code § 21092.1 and 14 CCR § 15088.5(a).

A3-18 cont.

If you or your colleagues should have any questions on the above, please contact me at the email address above or Frank Kiesler, VRSD Director of Operations, at FrankKiesler@vrsd.com.

Sincerely,

ARNOLD LAROCHELLE MATHEWS
 VANCONAS & ZIRBEL LLP


 Robert N. Kwong

RNK:RK

cc: Mark Lawler, VRSD
 Frank Kiesler, VRSD
 Peter Jan
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 Sue O'Leary
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 Ernie Casas
ec Casas@waterboards.ca.gov
 (via e-mail only)

Response to Comment Set A3

Ventura Regional Sanitation District (VRSD)

- A3-1** Please note that since circulating the Draft EIR for public comment, the District has changed its preferred alternative from Option 1B (Minimum Levee System) to Option 1A (Full Levee System). As discussed in EIR Section 3.4 (Hazards and Hazardous Materials), the new and existing engineered levee fill would not be susceptible to liquefaction; however, the alluvial sediments underlying the engineered levee fill for Reaches 1 and 3 and the floodwall for Reach 4 may be currently susceptible to liquefaction due to their unconsolidated nature and the local shallow ground water levels. The current susceptibility of underlying alluvial sediments to liquefaction would persist after Project construction. Compliance with U.S. Army Corps of Engineers (USACE) requirements, Ventura County Flood Control District Design Manual requirements, geotechnical recommendations, and the commitment of the VCWPD to repair post-seismic event damage would reduce the existing and post-Project potential for exposing people or structures to adverse effects due to liquefaction along the Project alignment. Furthermore, the preferred Project alternative would improve the existing condition related to potential flood flows affecting the landfills by raising the entire existing levee along the three landfills and placing flap gates in existing drainage structures (refer to Final EIR Table 2-2 and Figure 2-6, Existing Levee Openings and Closure Devices, Reach 1-4) to prevent backflow from the Santa Clara River that could cause ponding around the landfills.
- A3-2** The VCWPD is coordinating with the Ventura Regional Sanitation District (VRSD), City of Oxnard, CalRecycle, Los Angeles Regional Water Quality Control Board (LARWQCB), Ventura County Resource Management Agency Environmental Health Division (EHD), Ventura County Air Pollution Control District (APCD), and River Ridge Golf Course to ensure the design of the Project will minimize impacts to the landfills, including not penetrating the existing clay cap, and avoiding existing above-ground and underground landfill gas extraction wells, pipelines, condensate lines, and sumps, as well as groundwater monitoring wells. Based on the existing design drawings of the landfills, including the landfill gas system, the engineering team will field-verify the location of the existing lines and wells and design the Project to generally avoid these components of the landfills and ensure functionality and structural integrity are not compromised. Furthermore, based on the current Project design, levee tie-in work would consist of removing the existing topsoil down to the existing landfill clay cap, scarifying the clay cap to allow for adherence of the new material, and then adding levee fill material. Penetration beyond scarifying the existing clay cap would not occur, such that no hazardous waste at the landfill tie-ins would be unearthed. Furthermore, Option 1A (now the preferred option) has been modified since the Draft EIR to eliminate the Bailard Landfill tie-in such that Option 1A no longer includes any landfill tie-ins, although retaining wall footing excavation would continue to be required. No retaining wall footing excavation would occur under Option 1B, but two landfill tie-ins (Coastal Landfill and Santa Clara Landfill) would be required. Mitigation Measure HAZ-2 (*Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater*) includes not only preparation of a landfill gas testing plan to conduct an investigation at each levee-landfill tie-in and along the retaining wall north of the golf course maintenance building (Option 1A), but also requires procedures to sample any waste debris encountered and conduct laboratory testing to identify any hazardous waste contamination, and would include a landfill gas testing

program to collect vapor samples from the planned depth of soil disturbance and conduct gas measurements for methane and vinyl chloride. As such, impacts related to encountering hazardous waste at the landfill tie-ins and retaining wall have been reduced to a less-than-significant level (Class II).

- A3-3** As discussed in the response to Comment A3-2 and per Mitigation Measure HAZ-3 (*Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*), the VCWPD is coordinating with the VRSD, City of Oxnard, CalRecycle, LARWQCB, EHD, Ventura County APCD, and the River Ridge Golf Course to ensure the design of the Project will minimize impacts to the landfills, including not penetrating the existing clay cap, and avoiding existing above-ground and underground landfill gas recovery wells, pipelines, condensate lines, and sumps, as well as groundwater monitoring wells. Based on the existing design drawings of the landfills, including the landfill gas system, the engineering team will field verify the location of the existing lines and wells and design the Project to avoid or protect these components of the landfills in close coordination with all relevant agencies and stakeholders. As such, a breach to the landfill gas collection system or existing clay cap would not occur. Impact discussions related to Air Quality, Hydrology and Water Quality are adequate and do not require updating.
- A3-4** As discussed in the response to Comment A3-3, a breach of the landfill gas collection system or existing clay cap would not occur, as the Project would be designed to avoid these components of the landfills. Impacts AQ-4 through AQ-6 adequately address the proposed Project's impacts during construction and operation and maintenance (O&M) activities, which were found not to be significant (Class III). No additional mitigation is required.
- A3-5** As discussed during meetings between the VCWPD and VRSD, City of Oxnard, LARWQCB, EHD, Ventura County APCD, and River Ridge Golf Course on January 26 and April 27, 2016, as part of the Project design a geotechnical analysis is in progress. One purpose of the geotechnical study is to investigate any potential settlement of the landfills as a result of the addition of fill material. Geotechnical recommendations will be incorporated into the Project design to mitigate potential settlement. For example, preliminary calculations suggest approximately five inches of settlement is anticipated at the center of the swale fill area (Option 1B). As such, it is recommended that excess fill material be added to create a slight "hill" to allow for leveling off from settlement. No settlement would occur in the now preferred Option 1A, as it does not include golf course swale fill. A copy of the Geotechnical Report will be provided to all coordinating agencies regarding the landfills, and all relevant measures incorporated into the Project design with these agencies' involvement.
- A3-6** A geotechnical analysis is in progress to ensure the design of the Project results in minimal impacts to the existing landfill cover system. As discussed in the response to Comment A3-2, based on the current design levee tie-in work (Option 1B only) would consist of removing the existing topsoil down to the existing landfill clay cap, scarifying the clay cap to allow for adherence of the new material, and then adding levee fill material. Penetration beyond scarifying the existing clay cap is not proposed, such that no undermining of the final landfill cover system would occur.
- A3-7** As discussed in the response to Comment A3-2, the engineering team will field-verify the location of the existing landfill gas extraction wells, pipelines, condensate lines, and sumps and design the Project to avoid these components of the landfills in close coordination with all relevant agencies and stakeholders. Furthermore, as discussed in the response to Comment

A3-5, a geotechnical analysis is in progress to evaluate any potential settlement of the landfills as a result of the addition of fill material (Option 1B only), and ensure that the Project will be designed to preserve the current performance of the landfill gas collection system components. No additional air quality or greenhouse gas emission impacts would occur.

A3-8 The Project design in Reach 3 includes raising the height of the levee along approximately 1,450 feet of the existing levee. This work would not change the existing drainage of the property located between the Santa Clara Landfill and Ventura Road. Furthermore, as shown in Final EIR Figure 2-6 and Table 2-2, there are three existing reinforced concrete pipes (RCP) (2 - 72", 1 - 66") with existing flap gates in the area that provide drainage for this property. The flap gates prevent backflow of water from the Santa Clara River onto the property, thus reducing the potential for ponding water. These drains would not be impacted by the Project.

A3-9 As shown in Final EIR Figure 2-6 and Table 2-2, a 66" RCP pipe is located in the area of the golf course swale. This pipe currently has no closure device. As such, this drainage device currently provides an avenue for flows to go upstream (backflow) onto the golf course from the Santa Clara River (existing condition). As discussed in EIR Section 2.5.4 (Interior Drainage System), as part of the proposed Project, flap gates or slide gates would be installed on all openings along Reaches 1-4 to meet FEMA certification requirements. These closure devices would prevent possible backflow into the interior drainage watershed during high flood conditions within the Santa Clara River, improving the current condition. Furthermore, localized 100-year drainage flows to the Santa Clara River (such as those conveyed by the golf course swale) would occur earlier during a storm than flood flows down the river (timing issue), such that water coming out of the swale would flow unimpeded by the high flows in the river.

As discussed in the response to Comment A3-2, the engineering team will field verify the location of the existing landfill gas extraction wells, pipelines, condensate lines, and sumps and design the Project to avoid or protect these components of the landfills and ensure functionality and structural integrity are preserved. The field verification and design will be conducted in close coordination with the relevant agencies and stakeholders.

A3-10 As discussed in the response to Comment A3-2, the VCWPD is working with VRSD (also required per Mitigation Measure HAZ-3, *Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*) to design the Project to generally avoid the existing landfill gas pipelines and wells, including the LFG collection header pipe, and ensure the functionality and structural integrity are preserved. Furthermore, the engineering team will field verify the location of the existing lines and wells in close coordination with relevant agencies and stakeholders.

A3-11 For Option 1A, increasing the height of the levee along the landfills would improve the existing conditions by reducing the potential for erosion of landfill side slopes from high water levels in the Santa Clara River. However, for Option 1B (no longer the preferred alternative), only a portion of the levee in Reaches 1 and 3 would be raised, with the golf course swale being filled within Reach 2. As such, floodwaters could come into contact with the side slopes of the landfills (Coastal Landfill and Santa Clara Landfill). This is an existing condition; however, by containing flood flows within the Santa Clara River, the upstream Project improvements would increase the downstream water levels and velocities, which could exacerbate this condition. Based on the current design, the hydraulic analysis calculations (see Appendix E of the Final EIR, SCR-3 Unsteady Flow Hydraulic Analysis - REVISED) show that the proposed Project would increase the water surface elevation in the Project area during a one percent annual chance

storm event between 0.03 and 0.09 feet (0.4 to 1.1 inches) (Appendix E, Table No. 1). The proposed Project in combination with the Olivas Park Drive and Wagon Wheel levees, which are not part of this Project but are considered in the cumulative scenario, would increase the water surface elevation downstream of the Olivas Park Drive levee (Station 18374) during a one percent annual chance storm event between 0.03 and 0.1 feet (0.4 to 1.2 inches) (Appendix E, Table No. 2). Furthermore, the velocity of the flood flows as a result of the proposed Project would increase by a maximum of 0.05 feet per second adjacent to the Santa Clara Landfill (Appendix E, Table No. 3). Flood waters are contained within the river channel banks such that there would be no overtopping of the banks adjacent to the Bailard Landfill. As such, the proposed Project would not result in a substantial change in the existing condition related to the potential for erosion of landfill side slopes or infiltration of river water into the landfilled refuse.

A3-12 Please see the response to Comment A3-11.

A3-13 Please see the response to Comment A3-11.

A3-14 As discussed in the response to Comment A3-2 and per Mitigation Measure HAZ-3 (*Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*), the VCWPD is coordinating with the VRSD, City of Oxnard, CalRecycle, LARWQCB, EHD, Ventura County APCD, and River Ridge Golf Course to ensure the design of the Project will minimize impacts to the landfills, including avoiding existing groundwater monitoring wells. Based on the existing design drawings of the landfills, including the landfill gas system, the engineering team will field verify the location of the existing lines and wells and design the Project in close coordination with all relevant agencies and stakeholders to avoid or protect these components of the landfills and ensure that functionality and structural integrity are preserved.

A3-15 As discussed in the response to Comment A3-2 and per Mitigation Measure HAZ-3 (*Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*), the VCWPD is coordinating with the VRSD, City of Oxnard, CalRecycle, LARWQCB, EHD, Ventura County APCD, and River Ridge Golf Course to ensure the design of the Project will minimize impacts to the landfills. Based on the existing design drawings of the landfills, including the landfill gas system, the engineering team will field verify the location of the existing lines and wells and design the Project to avoid or protect these components of the landfills and ensure that functionality and structural integrity are preserved. Additional mitigation measures are not required. See also the response to Comment A3-4.

A3-16 As discussed in EIR Section 4 (Alternatives), the environmental review process includes the identification and assessment of a “reasonable range of alternatives to the project, or to the location of the project, which would 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.” As discussed in the response to Comment A3-2, based on the current Project design, levee tie-in work (Option 1B only) would consist of removing the existing topsoil down to the existing landfill clay cap, scarifying the clay cap to allow for adherence of the new material, and then adding levee fill material. Penetration beyond scarifying the existing clay cap would not occur, such that impacts to the existing landfills would not be significant. Retaining wall footing excavation would not occur under Option 1B, but would occur under Option 1A (now the preferred option). As part of the proposed Project, the VCWPD has revised Options 1A and 1B to eliminate the tie-in to Bailard

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Landfill, which reduces the number of landfill tie-ins such that there would now be none under Option 1A and two (instead of three) under Option 1B. While the design of Option 1B may be modified to essentially raise the levee along a longer stretch of the existing levee, thereby eliminating the need to tie into the landfills, the greater amount of levee fill and materials needed would increase air quality, biological resources, noise, and traffic impacts during construction.

A3-17 As discussed in the response to Comment A3-2 and A3-5, and per Mitigation Measure HAZ-3 (*Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*), the VCWPD is coordinating with the VRSD, City of Oxnard, CalRecycle, LARWQCB, EHD, Ventura County APCD, and River Ridge Golf Course to ensure the design of the Project will minimize impacts to the landfills, including not penetrating the existing clay cap, and avoiding existing above-ground and underground landfill gas recovery wells, pipelines, condensate lines, and sumps, as well as groundwater monitoring wells.

A3-18 Per State CEQA Guidelines Section 15088.5(a), recirculation of an EIR is only required when significant new information is added to the EIR. New information added to an EIR is not “significant” unless the EIR is changed in a way that “deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project’s proponents have declined to implement.” The triggers for recirculation have not been met, as no new significant effects have been identified, the severity of the environmental impacts have not changed, and no new feasible alternatives or mitigation measures that are considerably different from those previously analyzed to reduce the environmental impacts of the Project have been considered. Recirculation of the Draft EIR is not required.

Comment Set A4

County of Ventura Resource Management Agency, Environmental Health Division

RESOURCE MANAGEMENT AGENCY



Environmental Health Division
William C. Stratton
Director

January 22, 2016

Angela Bonfiglio Allen
Ventura County Watershed Protection District
800 South Victoria Avenue
Ventura, CA 93009-1610

Notice of Availability and Public Meeting, and Draft Environmental Impact Report for the Santa Clara River Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project

The Ventura County Environmental Health Division (Division) reviewed the December 2015 *Draft Environmental Impact Report* for the subject project and provides the following comments.

1. The Division is the designated Local Enforcement Agency (LEA) responsible for enforcing state laws and regulations for solid waste disposal sites within Ventura County. The proposed project adjoins and may encroach into one to three closed landfills (Bailard, Santa Clara, and Coastal) and one archived solid waste disposal site (Wagon Wheel 1968, aka El Rio Dump). The proposed activities may jeopardize the integrity of these landfills, such as impacts to the landfill final cover and liner, slope stability, and functional operation of landfill gas, leachate, and erosion/drainage control systems.
2. All construction activities must be performed in a manner such that the landfills remain in compliance with all applicable closure and post-closure maintenance requirements for solid waste sites pursuant to California Code of Regulations Title 27 (27 CCR) Section 21100, et seq. Contingent on the proposed construction impacts to the landfill(s), the Operator may be required to submit a revision to the Post Closure Maintenance Plan(s) for LEA approval pursuant to 27 CCR, Section 21890. Any revised plans will also require approval by CalRecycle and the Regional Water Quality Control Board.
3. Solid waste and potentially hazardous waste may be encountered if a landfill surface is disturbed during construction activities. Procedures for safe removal and proper disposal of solid waste, and waste characterization protocols that include procedures for safe handling and disposal of hazardous waste will be required to be developed.

A4-1

A4-2

A4-3

7.

Comment Letters and Responses

Please contact me at 805/654-2433 if you have any questions.

Handwritten signature in blue ink, appearing to read "Sean Debley" with "FOI2" written below it.

Sean Debley, M.S., R.E.H.S.
Land Use Section
Environmental Health Division

c: Diane Wahl, EHD
Megan Emslander, CalRecycle
Peter Jan, CalRecycle
Enrique Casas, Los Angeles Regional Water Quality Control Board
Mark Lawler, Ventura Regional Sanitation District
Chi Hermann, VRSD

Response to Comment Set A4

County of Ventura Resource Management Agency, Environmental Health Division

- A4-1** The Project is being designed to avoid jeopardizing the integrity of landfills. The VCWPD is coordinating with the Ventura Regional Sanitation District (VRSD), City of Oxnard, CalRecycle, Los Angeles Regional Water Quality Control Board (LARWQCB), Ventura County Resource Management Agency Environmental Health Division (EHD), Ventura County Air Pollution Control District (APCD), and River Ridge Golf Course to ensure the design of the Project will minimize effects on the landfills, including not penetrating the existing clay cap, and avoiding existing above-ground and underground landfill gas extraction wells, pipelines, condensate lines, and sumps, as well as groundwater monitoring wells. Based on the existing design drawings of the landfills, including the landfill gas system, the engineering team will field-verify the location of the existing lines and wells and design the Project to generally avoid these components of the landfills and ensure functionality and structural integrity are preserved. This will be done in close coordination with all relevant agencies and stakeholders.
- A4-2** The VCWPD is committed to ensuring that Project construction does not affect the landfills' compliance with applicable closure and post-closure maintenance requirements. As discussed in the response to Comment A4-1 and per Mitigation Measure HAZ-3 (*Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines*), the VCWPD is coordinating with the VRSD, City of Oxnard, CalRecycle, LARWQCB, EHD, Ventura County APCD, and the River Ridge Golf Course to ensure the design of the Project will minimize impacts to the landfills, such that compliance with all applicable closure and post-closure maintenance requirements for solid waste sites is maintained.
- A4-3** Based on the current Project design, levee tie-in work would consist of removing the existing topsoil down to the existing landfill clay cap, scarifying the clay cap to allow for adherence of the new material, and then adding levee fill material. Penetration beyond scarifying the existing clay cap would not occur, such that no hazardous waste at the landfill tie-ins would be encountered. Furthermore, Option 1A (now the preferred option) has been modified since the Draft EIR to eliminate the Bailard Landfill tie-in such that Option 1A no longer includes any landfill tie-ins, although retaining wall footing excavation would continue to be required. No retaining wall footing excavation would occur under Option 1B, but two landfill tie-ins (Coastal Landfill and Santa Clara Landfill) would be required. Mitigation Measure HAZ-2 (*Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater*) includes not only preparation of a landfill gas testing plan to conduct an investigation at each levee-landfill tie-in and along the retaining wall north of the golf course maintenance building (Option 1A), but also requires procedures to sample any waste debris encountered and conduct laboratory testing to identify any hazardous waste contamination, and would include a landfill gas testing program to collect vapor samples from the planned depth of soil disturbance and conduct gas measurements for methane and vinyl chloride. As such, potential impacts related to encountering hazardous waste at the landfill tie-ins and retaining wall will be reduced to a less-than-significant level (Class II).

Comment Set A5

City of Oxnard

OXNARD PLANNING DIVISION
214 SOUTH C STREET
OXNARD, CALIFORNIA 93030



January 22, 2016

Ventura County Watershed Protection District
Attn: Angela Bonfiglio Allen
800 South Victoria Avenue
Ventura, CA 93009-1610

**RE: COMMENTS ON ENVIRONMENTAL IMPACT REPORT SCR-3 Levee
Improvements Downstream Of Union Pacific Railroad (SCR-3) Project Ventura
County Watershed Protection District**

The City of Oxnard Planning Division has the following comments on the DEIR:

- 1) Provide details of how the multi-use path from Honeysuckle Drive will be replaced and how it will connect with North Ventura Road. Sufficient width must be provided for the floodgate system, the riprap and the multi-use path at this location. If there is insufficient room, provide additional space for the multi-use path by moving the floodgate system north or south.
- 2) The proposed flood wall along the landward banks of Ventura Road, north of the FloodBreak Automatic Floodgate system, will create an enclosed area surrounded by the proposed 4-6 foot flood wall and existing tract walls as it follows an existing multi-use path leading to Honeysuckle Drive. Enclosing this area could potentially increase safety concerns as the area is unlit and largely unmonitored. Vandal resistant walkway lighting, CCTV cameras and/or an emergency call box would greatly reduce safety concerns for this area.

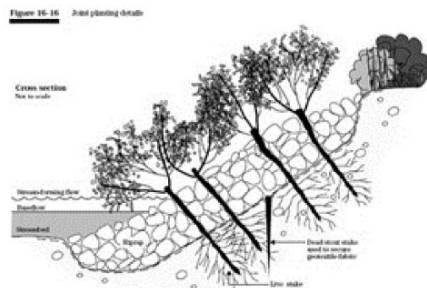
A5-1

A5-2

EXAMPLE:



- 3) The existing road/sidewalk width must be preserved with the FloodBreak Automatic Floodgate system. The FloodBreak Automatic Floodgate system must be installed so pedestrians and bicyclists will still have a separated path from cars along North Ventura Road. **A5-3**
- 4) Will a notification system / interconnected signals be installed for bicyclists on Ventura Road and the Multi-use Path connecting to Honeysuckle, that the system is raised, blocking access, similar to those used for automobiles? (Page 2-15) **A5-4**
- 5) The proposal calls for a 4 to 6 foot tall “masonry” flood wall to be constructed at Reach 4 without details (Page2-15). There are existing walls separating the housing tract to the east from this open area where the multi-use path is. The proposed wall should match this wall in color, texture, material. Alternatively, there should be some other aesthetically pleasing design of the wall. **A5-5**
- 6) Tract walls in this area are planted with climbing vegetation to deter graffiti. How will graffiti and other vandalism be addressed on the floodwall both along the river and where the floodwall follows the multi-use path connecting to Honeysuckle Drive (Figure 2-4)? Suggest providing landscaping, as allowed by FEMA, and a FCal anti-graffiti on both sides of the wall. **A5-6**
- 7) Aesthetic treatment of the rip rap proposed for the landward side of Ventura Road is not discussed. (Section G-G, Figure 2-4). Given City Code requirements to plant vegetation along walls, and climbing vines on walls, the rip rap should be planted. EXAMPLE: **A5-7**



Planning Division
214 S. C Street, Oxnard, CA 93030 ♦ (805) 385-7858 ♦ FAX (805) 385-7417

7.
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8) Traffic speeds (50 MPH posted) along Ventura Road are high for a roadway with a multi-use path. Along the west side of Ventura Road a physical or landscape buffer with openings at designated crossings, should be provided along Ventura Road and the multi-use path as it follows the floodwall on the riverside of Ventura Road.

A5-8

EXAMPLE:



If you have any questions, please contact James Combs, Assistant Planner at 805-385-7952.

Thank you,

Ashley Golden
Development Services Director

cc: Daniel Rydberg, Public Works Director
Robert Hearne, Civil Engineer
Paul Wendt, Supervising Civil Engineer

Planning Division
214 S. C Street, Oxnard, CA 93030 ♦ (805) 385-7858 ♦ FAX (805) 385-7417

Response to Comment Set A5

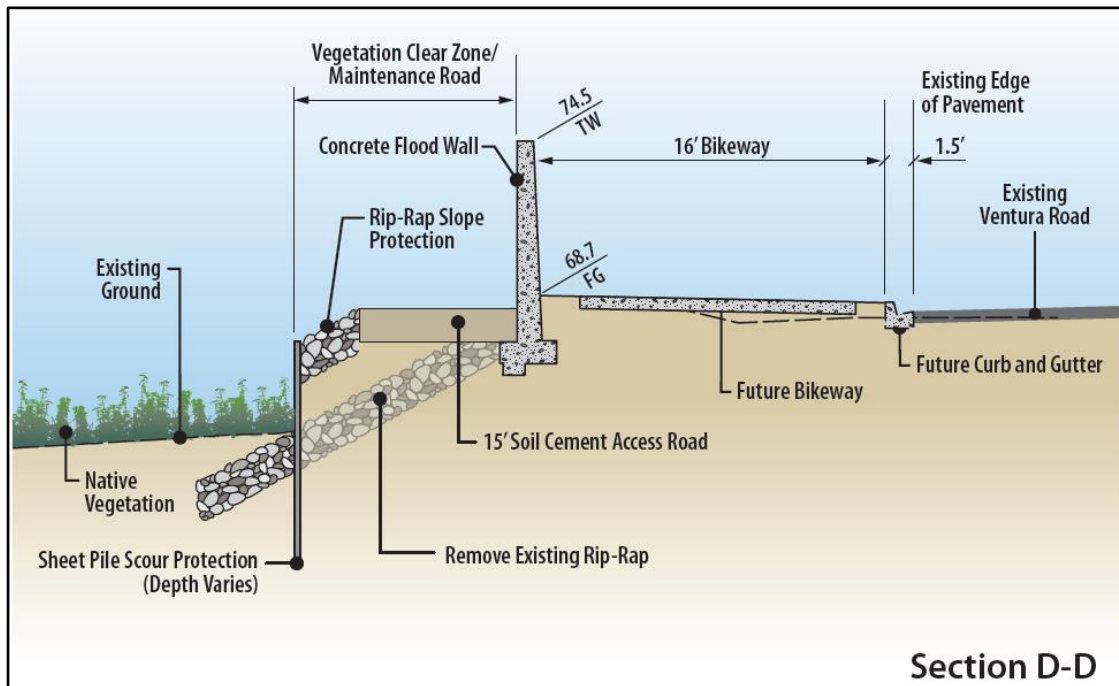
City of Oxnard

- A5-1** The multi-use path from Honeysuckle Drive, which continues along the south side of N. Ventura Road, would be slightly re-aligned to accommodate the land-side floodwall in Reach 4. Following construction, the path would be reconstructed maintaining essentially the same route and in a similar condition as currently constructed. However, trees and shrubs cannot be planted within 15 feet of the floodwall so that roots do not interfere with the integrity of the floodwall footing. Turf or shallow-rooted ground cover is permitted in this area.
- A5-2** The proposed land-side floodwall in Reach 4 would be six-feet tall at the low point in Ventura Road, where the flood gate crosses (west end) the road, but would transition fairly quickly to a height of four feet and essentially be four-feet tall along the majority of the 888 feet to the earthen embankment abutting the UPRR embankment. The Project Description has been revised to clarify. Existing vegetation in this area includes trees and fairly dense bushes that are several feet tall. The four-foot wall would act as a similar barrier to views as the existing vegetation in this area, and would not significantly reduce visibility into the area compared to existing conditions. As a result, safety conditions would not be substantially altered by the Project.
- A5-3** The location and use of existing car and bike lanes along N. Ventura Road would not be altered by the proposed Project. The FloodBreak Automatic Floodgate system would be installed within the road and in its normal position would be flat, acting as a roadway surface. The gate would rise as flood waters rise and approach the flood gate. The VCWPD intends to operate the Floodgate system manually, before floodwaters reach it, based on ALERT system rainfall and stream gage data tracking during storms. Signs would be posted closing the street under flooding conditions. Once the flood waters recede, the gate would be lowered and the street re-opened, following any sediment and debris removal activities (if needed). As shown in Final EIR Figure 2-5, the concrete abutments on each side of the gate, which would be above-ground, would be located north and south of the existing roadway and bike lanes. Existing road/sidewalk widths would be preserved, and pedestrians and bicyclists would continue to have a separate path from cars along N. Ventura Road.
- A5-4** Pedestrians and bicyclists on N. Ventura Road and the multi-use path connecting to Honeysuckle Drive would receive the same notification as drivers that the Floodgate system is raised. However, to clarify, the Floodgate system would not block the multi-use path, as this path is located landward of the proposed land-side floodwall along N. Ventura Road. As discussed in the response to Comment A5-3, the VCWPD intends to operate the Floodgate system manually. Signs would be posted closing the street under flooding conditions. Additional operational details are being worked out as part of the Agreement between the VCWPD and the City of Oxnard. Please note that under existing conditions, this segment of N. Ventura Road would be flooding during a 100-year storm event, preventing passage of cars, bicycles, and pedestrians.
- A5-5** As stated in EIR Section 2.5.2 (Levee Reach 4), the current plans for the floodwall would be a masonry wall. The VCWPD is working with the City of Oxnard to ensure the design for the wall is completed per the Agreement between the VCWPD and the City of Oxnard.

7.

Comment Letters and Responses

- A5-6** The VCWPD is working with the City of Oxnard to ensure the design for the floodwall is completed per the Agreement between the VCWPD and the City of Oxnard. The design must follow existing regulations of the U.S. Army Corps of Engineers, Department of Water Resources (DWR) Levee Vegetation Policy, and FEMA requirements, which require no deeply rooted vegetation within 15 feet of a new floodwall or levee. Unobstructed view of a floodwall or levee is also necessary to ensure the condition of the facility can be accurately evaluated quickly. As stated in EIR Section 2.7 (Operations and Maintenance), graffiti would be removed as part of regular maintenance activities in accordance with the agreement currently being negotiated between the City and VCWPD.
- A5-7** As shown in Final EIR Figure 2-5, Section G-G, existing riprap on the land side of the proposed floodwall, facing N. Ventura Road, would be removed and replaced, as necessary, in the event any gaps in existing protection are found. As noted in the response to Comment A5-6, integration of vegetation into the design for the levee must following existing regulations, including the Army Corps of Engineers, DWR, and FEMA, which require no vegetation within 15 feet of a new levee and vegetation thinning for existing levees.
- A5-8** As shown in Final EIR Figure 2-5, Section D-D (also reproduced below for reference), the proposed Project has been designed to provide 16 feet for a future bikeway on the river side of N. Ventura Road. This includes a 2-foot buffer between N. Ventura Road and the future bikeway, 12 feet for the bikeway, and a 2-foot buffer between the bikeway and the proposed floodwall. The 2-foot buffer zone would provide room to implement a physical barrier between the vehicle travel lanes and the bikeway, such as a curb, gutter, or fence, as depicted in Final EIR Figure 2-5, Section D-D.



Comment Set A6

Cal Recycle

California Environmental Protection Agency

Edmund G. Brown Jr., Governor



DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

1001 I STREET, SACRAMENTO, CALIFORNIA 95814 • WWW.CALRECYCLE.CA.GOV • (916) 322-4027
P.O. BOX 4025, SACRAMENTO, CALIFORNIA 95812

January 26, 2016

Angela Bonfiglio
Ventura County Watershed Protection District
800 South Victoria Avenue
Ventura, California 93009-1610

**SANTA CLARA RIVER LEVEE IMPROVEMENTS PROJECT (SCR-3), OXNARD, VENTURA COUNTY
DRAFT ENVIRONMENTAL IMPACT REPORT - SCH NO. 2015021079
REVIEW COMMENTS**

Dear Ms. Bonfiglio:

Department of Resources Recycling and Recovery (CalRecycle) Engineering Support Branch (ESB) Closure and Technical Support Section (Closure) staff has received a copy of the letter sent from AtoZ Law, on behalf of the Ventura Regional Sanitation District (VRSD), to your agency, dated January 21, 2015.

The VRSD is the owner/operator of the Bailard and Coastal/Santa Clara closed landfills and has issued the comments in response to the Draft Environmental Impact Report (DEIR) describing the levee improvement project proposed at the location identified as SCR-3 (downward of Union Pacific Railroad) that is likely to impact the two aforementioned landfills.

After reviewing the January 21st letter written on behalf of the VRSD, CalRecycle staff fully concurs with the comments made by VRSD regarding the potential impacts from the project on the integrity of the Bailard and Coastal/Santa Clara landfills and necessity of implementation of additional measures required to protect both environmental soundness of the closed landfills as well as public health and safety.

A6-1

Should you have any questions or comments concerning the above matter, please contact Peter Jan of my staff at (916) 341-6315 or me at (916) 341-6289, respectively. Alternatively, ESB staff may be reached by email at peter.jan@calrecycle.ca.gov or michael.wochnick@calrecycle.ca.gov.

Sincerely,

Michael B. Wochnick, Manager
Closure and Technical Support Section

cc: Diane Wahl, Ventura County Environmental Health Division
Wen Yang, Los Angeles Regional Water Quality Control Board
Chi Hermann, Ventura Regional Sanitation District

7.
Comment Letters and Responses

Response to Comment Set A6

Cal Recycle

A6-1 Please see the responses to Comment Set A3 from the Ventura Regional Sanitation District, specifically the responses to Comments A3-1 through A3-18.

Comment Set A7

CA Governor's Office of Planning and Research



EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX
DIRECTOR

January 21, 2016

Angela Bonfiglio Allen
Ventura County Watershed Protection District
800 S. Victoria Avenue
Ventura, CA 93009-1610

Subject: Santa Clara River Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project
SCH#: 2015021079

Dear Angela Bonfiglio Allen:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on January 20, 2016, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

A7-1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

7.
Comment Letters and Responses

**Document Details Report
 State Clearinghouse Data Base**

SCH# 2015021079
Project Title Santa Clara River Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project
Lead Agency Ventura County Watershed Protection District

Type EIR Draft EIR
Description The project would implement structural improvements to the existing SCR-3 levee to allow for FEMA certification. Between Bailard Landfill and N. Ventura Rd. (reaches 1-3) two options and considered. Option 1A (Full Levee System) adds fill material and riprap to raise the existing levee (8,875 feet) with one tie-in to Bailard Landfill. Option 1B (Minimum Levee System) adds fill material along a portion of the existing levee (3,575 feet), with tie-ins to Bailard, Coastal, and Santa Clara Landfills. The existing River Ridge Golf Course swale would be filled in. Between N. Ventura Rd. and the UPRR bridge (Reach 4), a 968-foot long floodwall would be constructed on the river side of the road with a visible height of 6 feet; a flood gate would be installed across N. Ventura Rd. and then a 4- to 6-foot floodwall would be constructed on the south side of N. Ventura Rd. for 888 feet.

Lead Agency Contact

Name Angela Bonfiglio Allen
Agency Ventura County Watershed Protection District
Phone 805 477 7175 **Fax**
email
Address 800 S. Victoria Avenue
City Ventura **State** CA **Zip** 93009-1610

Project Location

County Ventura
City Oxnard
Region
Lat / Long 34° 14' 12.37" N / 119° 11' 31.17" W
Cross Streets along Santa Clara River, between Union Pacific Railroad and Bailard Landfill
Parcel No. Multiple
Township

	<i>Range</i>	<i>Section</i>	<i>Base</i>

Proximity to:

Highways Hwy 101, State 1
Airports
Railways UPRR
Waterways Santa Clara River
Schools Rio Del Norte, Oxnard HS
Land Use Open Space; City of Oxnard road rights-of-way

Project Issues Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Aesthetic/Visual

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Conservation; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services, California; California Highway Patrol; Caltrans, District 7; Air Resources Board; Regional Water Quality Control Board, Region 4; Native American Heritage Commission; Public Utilities Commission; State Lands Commission

Date Received 12/07/2015 **Start of Review** 12/07/2015 **End of Review** 01/20/2016

Note: Blanks in data fields result from insufficient information provided by lead agency

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
 DISTRICT 7—OFFICE OF TRANSPORTATION PLANNING
 100 S. MAIN STREET, MS 16
 LOS ANGELES, CA 90012
 PHONE (213) 897-9140
 FAX (213) 897-1337
 www.dot.ca.gov



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January 14, 2016

Ms. Angela Bonfiglio Allen
 Ventura County Watershed Protection District
 800 South Victoria Avenue
 Ventura, CA 93009-1610

RE: Santa Clara River Levee Improvements
 Downstream of Union Pacific Railroad (SCR-3) Project
 Vic. LA-110 and LA-101
 SCH # 2015021079
 IGR/CEQA No. 151230AL-DEIR

Dear Ms. Allen:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The project would implement structural improvements to the existing SCR-3 levee to allow for FEMA certification. The traffic impact to the State facility, US-101 is only during the construction period for 27 months beginning in 2016.

As shown on Tables 3.6-14 and 3.6-15, current US-101 in both direction northbound and southbound mainlines at southeast of Victoria Avenue are operating at LOS F, and at northwest of Victoria Avenue is operating at LOS D, for Oxnard is operating at LOS D.

Tables 3.6-16 and 3.6-17 show in Year 2017, US-101 the Traffic Impact during construction worsens to the LOS F (1.06) SB and (1.12) NB at southeast of Victoria Avenue, and at northwest of Victoria Avenue it worsens from LOS D to E.

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects should be designed to discharge clean run-off water. Additionally, discharge of storm water run-off is not permitted onto State highway facilities without any storm water management plan.

Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a transportation permit from Caltrans. It is recommended that large size truck trips be limited to off-peak commute periods on the State facilities.

*"Provide a safe, sustainable, integrated and efficient transportation system
 to enhance California's economy and livability"*

7.

Comment Letters and Responses

Ms. Angela Bonfiglio Allen
January 14, 2016
Page 2

If you have any questions, please feel free to contact Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 151230AL.

Sincerely,



DIANNA WATSON
Branch Chief
LD-IGR/CEQA Review

cc: Scott Morgan, State Clearinghouse

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Response to Comment Set A7
CA Governor's Office of Planning and Research

A7-1 Please see the responses to Comments A1-1 through A1-3.

Comment Set A8

California Department of Fish and Wildlife



State of California – Natural Resources Agency
 DEPARTMENT OF FISH AND WILDLIFE
 South Coast Region
 3883 Ruffin Road
 San Diego, CA 92123
 (858) 467-4201
www.wildlife.ca.gov

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



February 12, 2016

Ms. Angela Bonfiglio Allen
 Ventura County Watershed Protection District
 800 South Victoria Avenue
 Ventura, CA 93009-1610
Angela.Bonfiglio@ventura.org

Subject: Comments on the Draft Environmental Impact Report for the Santa Clara River Levee Improvements Project, Downstream of Union Pacific Railroad Bridge, Ventura County, SCH 2015021079.

Dear Ms. Bonfiglio Allen:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Draft Environmental Impact Report (DEIR) for the Santa Clara River (SCR) Levee Improvements Project (project). The project is located in unincorporated Ventura County with components of the project located within the City of Oxnard. The Ventura County Watershed Protection District (VCWPD) is acting as the Lead Agency for the project. The proposed levee alignment generally proceeds along the southern bank of the SCR, between the Union Pacific Railroad Bridge (UPRB) and downstream of the Bailard Landfill (SCR-3 levee). The proposed project includes raising portions of the existing earthen levee between Victoria Avenue and North Ventura Road, as well as placement of fill in a low lying, manufactured drainage swale within the River Ridge Golf Course, City of Oxnard (Option 1B; Reaches 1-3). In Reach 4, a floodwall would be constructed along North Ventura Road in the area between the golf course and the UPRR Bridge. The floodwall would be located on the river side of North Ventura Road for approximately 968 feet with a visible height of six feet. The floodwall would then cross North Ventura Road at the high point in the road. A six-foot-high flood gate would be installed at the roadway crossing. In its normal position, the gate would be flat and act as the roadway surface, floating and rotating upwards when flood waters rise. The floodwall would then continue along the top of the existing slope on the south side (land side) of North Ventura Road for approximately 888 feet, then transition to a 40-foot-long earthen embankment abutting and perpendicular to the south UPRR embankment.

The following comments and recommendations have been prepared pursuant to the Department's authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq.*, and pursuant to our authority as Trustee Agency with jurisdiction over natural resources affected by the project (California Environmental Quality Act, [CEQA] Guidelines § 15386) to assist the Lead Agency in avoiding or minimizing potential project impacts on biological resources.

Conserving California's Wildlife Since 1870

Angela Bonfiglio Allen
Ventura County Watershed Protection District
February 12, 2016
Page 2 of 3

The Department met with Ventura County Watershed Protection District (VCWPD) staff and contractors on January 6, 2016 to go over the proposed project options and biological assessments. The Department appreciates the thorough biological assessments of the proposed project area and buffer that provided valuable data to inform construction options and seasonal implementation scheduling.

Specific Comments

- 1) Riparian Habitat Impacts: The Department supports proposed Option 1B that in design will minimize impacts to riparian habitat and biological resources along the Santa Clara River (SCR), which is directly adjacent to the project. The Department supports the VCWPD's use of the Department of Water Resources levee guidelines concept that allows valuable over-story riparian vegetation to persist along the inboard slope of levees. The over-story riparian vegetation provides high wildlife habitat value along the SCR. The Department also supports the floodwall concept along Reach 4 as this design helps to reduce levee intrusion into the SCR and does not require the use of rodenticide to control rodents. The Department concurs with VCWPD staff that continued coordination is required to develop the required Lake and Streambed Alteration (LSA) Agreement and recommends scheduling a project area site visit with Department LSA staff in the near future.
- 2) Biological Mitigation Measures: The Department concurs with biological mitigation measures BIO-1 thru BIO-16 that will help reduce impacts on biological resources. The Department appreciates the VCWPD's use of our previous Notice of Preparation project comment letter to thoroughly evaluate potential biological impacts and to develop specific mitigation measures for each potential impact. The Department recommends that VCWPD continue to coordinate with Department staff throughout the implementation of this project as biological issues arise. The Department recommends that copies of all sensitive species observed during project surveys be submitted to the California Natural Diversity Database using the online observation submittal form.
- 3) Rodent Control Impacts: The Department supports the floodwall concept along Reach 4 as this design helps to reduce levee intrusion into the SCR and does not require the use of rodenticide to control rodents. The Department recommends the installation of raptor perches within certain areas of the project length as part of the project design (should the VCWPD pilot studies using this method prove successful), and therefore to stop using rodenticides in the project area where appropriate. Increased raptor use of the area will provide a natural means to control ground squirrels. Monitoring of raptor use and rodent levels will allow VCWPD staff to evaluate additional non-poison options of control (e.g., habitat management and live trapping) if ground squirrels are observed using the area.

A8-1

A8-2

A8-3

7.

Comment Letters and Responses

Angela Bonfiglio Allen
Ventura County Watershed Protection District
February 12, 2016
Page 3 of 3

- 4) Sheet Pile Bank Stabilization Method: The Department is concerned about the use of sheet pile bank stabilization within the stream channel. Lateral movement of water within the floodplain may lock water behind the sheet pile, causing them to fail. Additionally, flow velocities of the stream against the sheet pile may be accelerated, since the roughness element is significantly less than native vegetation and native rock, causing the water to have more erosional force. The Department recommends that VCWPD coordinate with Department engineering staff to further evaluate this concept.

A8-4

We appreciate the opportunity to comment on this DEIR. Questions regarding this letter and further coordination on these issues should be directed to Dan Blankenship, Senior Environmental Scientist, at (661-259-3750) or Daniel.Blankenship@wildlife.ca.gov.

Sincerely,



Betty Courtney
Environmental Program Manager I

ec: Christine Found-Jackson, CDFW, Glendale
Mary Larson, CDFW, Los Alamitos
Jeff Humble, CDFW, Ventura
Scott Morgan (State Clearinghouse)

Response to Comment Set A8

California Department of Fish and Wildlife

- A8-1** Thank you for expressing your support for Option 1B within Reaches 1-3 and for the proposed design of the Reach 4 floodwall. However, after careful scrutiny, the District has selected Option 1A as its preferred alternative. The District will continue to coordinate with the California Department of Fish and Wildlife on the Lake and Streambed Alteration Agreement and will schedule a Project area site visit as requested.
- A8-2** The District will continue to coordinate with the California Department of Fish and Wildlife throughout the implementation of the SCR-3 Project to ensure biological resource impacts are minimized, mitigation measures are properly implemented, and all required permits are secured. Sensitive species observed during surveys will be submitted to the California Natural Diversity Database, as requested.
- A8-3** A pilot program to test the effectiveness of raptor perches in preventing levee damage by ground squirrels and gophers along a 12,000-foot length of Revolon Slough in the Calleguas Creek watershed is currently underway. At this point, it is unknown whether this methodology would protect the levee to the level required to ensure public safety. In addition, a substantial number of native and non-native trees both within the Santa Clara River and on adjacent non-riverine lands already serve as natural raptor perches along SCR-3. Given the abundance of natural perches along SCR-3, it is unlikely that artificial perches would be installed there, as they are not expected to substantially augment rodent control.

The District currently follows its *Integrated Pest Management Program for Ventura County Flood Control Facilities* approved by the Ventura County Board of Supervisors on October 6, 2015 and revised March 2016 (<http://bosagenda.countyofventura.org/sirepub/agdocs.aspx?doctype=agenda&itemid=71589>).

It is the District's goal to reduce bait use and protect wildlife. As CDFW recognizes, the floodwall's adjacent access road would be composed of soil cement, thereby preventing ground squirrels and gophers from burrowing into it. This was a conscious design choice to avoid the need for rodent control along the proposed floodwall.

It is important to note that Dr. Terrell P. Salmon, PhD, a wildlife specialist at University of California Cooperative Extension San Diego, reviewed the District's methods of rodent control from June through October 2006. Dr. Salmon found that burrowing rodents had caused structural damage to District facilities. Dr. Salmon also concluded that the diphacinone bait used by the District was not the primary anticoagulant ingredient in the reported deaths of coyotes, bobcats, and mountain lions in Ventura County. The common anticoagulants detected were brodifacoum and bromadiolone. These compounds are present in household and other second-generation anticoagulants, and their concentrations are higher and more toxic than the diphacinone used by the District. Their use by farms, schools, parks, golf courses, and housing developments is not regulated or controlled. (Salmon, 2006)

Mechanical traps have not been implemented due to the risk posed by traps to the public, their pets, and other non-target species. Trapping is also labor intensive and more costly than baiting and is therefore not practical for most facilities.

A8-4 Use of sheet pile for bank stabilization would occur within the terrace area of the Santa Clara River and not within the active stream channel. The sheet pile is proposed to be used along the alignment of the floodwall to provide scour protection for the wall. The use of the sheet piles for bank scour protection is consistent with the existing downstream groin improvements which incorporated sheet piles and were constructed to provide protection to the existing bank. The proposed Project would tie into the existing sheet piles. The sheet piles are proposed to be constructed parallel to the river flow along the existing bank. Therefore, they would not lock stream flow behind the sheet pile system. Due to the potential for erosion along the stream banks during high flow events, scour protection is needed to comply with Federal requirements for the certification of the levee system. At the location of the proposed sheet piles, the river bed has the potential to scour between 15-26 feet deep. The use of sheet piles allows for a vertical application to provide the necessary protection with an extremely limited construction impact. Alternatives to the use of sheet pile were considered, and included the use of rock riprap and soil cement. Construction of rock riprap or soil cement for scour protection would require a substantially larger disturbance area, and would have impacted areas of sensitive stream habitat. The use of rock riprap would require a disturbance area of up to 75 feet further into the stream habitat areas. The use of soil cement would require an additional area of around 50-60 feet. Assuming an average increased width of 50 feet, the use of other materials could result in an additional impact to approximately 1.3 acres of sensitive stream habitat. Due to the importance of the adjacent habitat, the installation of the sheet piles was identified as the least environmentally damaging practical alternative.

Comment Set B1

SYBCI Elders Council, Freddie Romero, Cultural Resources Coordinator

From: [Freddie Romero](#)
To: [Bonfiglio, Angela](#)
Subject: Re: December 16, 2015 SCR-3 Draft Environmental Impact Report Public Meeting
Date: Monday, December 07, 2015 3:30:17 PM

Ms. Bonfiglio,

SYBCI Elders Council will not be commenting and will defer comments to the local tribes.

B1-1

Freddie Romero
Cultural Resources Coordinator
SYBCI Elders Council
805-688-7997 X4109
805-403-2873

The information contained in this message may be privileged and confidential and protected from disclosure. If the reader of this message is not the intended recipient, or an employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by replying to the message and deleting it from your computer

7.

Comment Letters and Responses

Response to Comment Set B1

SYBCI Elders Council, Freddie Romero, Cultural Resources Coordinator

B1-1 Thank you for your comment.

Comment Set B2

Citizens Journal, George Miller

From: microcapmaven@aol.com
To: [Bonfiglio, Angela](#)
Subject: SCR Levee: Capturing rainwater runoff
Date: Thursday, December 17, 2015 2:04:06 PM

Last night at the SCR levee EIR discussion, Sierra Club people said that a flood control project should also address water supply. Also, I brought up the idea of water consultant/engineer Mohammed Hasan of using a low cost solution of inflatable berms to capture runoff.

B2-1

B2-2

You can reach Mr.. Hasan at mhasan@hasanconsultants.com, or tel: 805-218-5574

See these:

<http://citizensjournal.us/oxnard-city-council-drought-deliberations-artistic-endeavor-support-human-trafficking-and-more/>

<http://citizensjournal.us/building-the-better-mousetrap-for-rainwater/>

<http://citizensjournal.us/update-california-water-crisis-hits-ventura-county/>

Regards,
George Miller
CitizensJournal.us

Response to Comment Set B2

Citizens Journal, George Miller

B2-1 Capturing a portion of flood flows to increase local water supplies is a commendable idea, especially in light of southern California's recurring water shortages. However, increasing water supply is not an objective of the proposed Project. Rather, the purpose of the project is to provide flood protection to portions of north Oxnard.

As discussed in the SCR-3 Alternatives Analysis Supplementary Evaluation (EIR Appendix F), upstream flood detention was evaluated as an alternative to the proposed Project, but would not provide the level of flood protection necessary to meet the Project objectives. Other ideas for capturing flood flows to increase local water supplies would need to be investigated as part of a separate project.

B2-2 Please see the response to Comment B2-1 above. As discussed in the SCR-3 Alternatives Analysis Supplementary Evaluation (EIR Appendix F), upstream flood detention and floodplain attenuation techniques were evaluated as alternatives to the proposed Project, but would not provide the level of flood protection necessary to meet the objectives of the Project. The United Water Conservation District has already implemented various projects to capture water from the Santa Clara River. One example is the upstream Freeman Diversion structure and adjacent spreading grounds. These projects sometimes have environmental challenges of their own, such as addressing adverse effects on fish passage for species like the endangered southern steelhead. The runoff capture idea you suggest could be considered as part of a separate project.

Comment Set B3

Sierra Club, Nina Danza, At Large and James Hines, Conservation Chair



PO Box 31241
Santa Barbara CA
93130-1241

Jan. 4, 2016

Chair
David Gold

Vice-Chair
Jim Hines

Secretary
Gerry Ching

Treasurer
Richard Hunt

At Large
Michael Stubblefield

At Large
Fran Farina

At Large
Nina Danza

Arguello Group Rep
Gerald Connor

SB Group Rep
Katie Davis

Conejo Group Rep
Hugh Warren

Ventura Network Rep

Ventura County Watershed Protection District
ATTN: Angela Bonfiglio-Allen
800 S. Victoria Ave.
Ventura, CA 93009-1610

RE: Draft Environmental Impact Report (DEIR) Santa Clara River Reach Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project Ventura County Watershed Protection District

Dear Ms. Bonfiglio-Allen:

Sierra Club Los Padres Chapter has the following comments on the DEIR for the Santa Clara River Reach 3 (SCR-3) project:

Objectives

Why is water conservation missing from the project objectives? Water resiliency, especially by increased groundwater recharge, is an extremely high priority of state policy. Has the project been integrated with the sustainable groundwater management plan? If so, what features of this project are part of that plan; and if not, why has this project not been integrated with that plan?

B3-1

Groundwater recharge is vital to the area, helping solve a host of interrelated challenges from sustaining human population, to improving aquifer water quality. Water conservation is simply the most important issue to address on the Santa Clara River and the objectives of this project are flawed to omit that.

Why is water quality missing from the project objectives? Shouldn't this project incorporate measures to increase compliance with the regional water board permit conditions? This project rushes untreated urban runoff to the ocean which pollutes the beach and kills the marine environment. The latest beach closure occurred at Surfer's Knoll on Dec. 23, 2015 due to unhealthful bacteria levels and future beach closures will occur repeatedly because this project's objectives exclude treatment measures.

B3-2

Flood control is no longer a viable stand-alone solution. It is fiscally irresponsible to omit urgent related benefits especially water conservation, water quality, plant and animal habitat and public recreation. It is necessary to design flood control only as part of integrated watershed-based regional principles and practices.

B3-3

Biological Resources

Please describe the long term results to wildlife population and retreat from the study area (such as reduction and possible extirpation), for all protected and common species, due to proposed permanent vegetation removal including:

B3-4

- eucalyptus tree removal
- bare zone adjacent to new flood wall (on river side)

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Comment Letters and Responses

- constant vegetation removal along new berms
- reduction of foraging area which currently hosts animals used by birds of prey

B3-4 cont.

Please give expert predictions for the above based on similar projects which have occurred elsewhere in Southern California.

Herbicide application is harmful to the aquatic environment and is not acceptable in the maintenance of the levees. Herbicides degrade surface and groundwater quality, spread to and destroy native plant and animal communities, and end up damaging the larger ecosystem outside the project area. Non-toxic methods are the only safe alternative for vegetation removal, such as labor and hand tools.

B3-5

Anti-coagulant bait use for rodent control is unacceptable. Far reaching damage has already been documented due to this practice, including decimation of Southern California mountain lion species. The deadly impacts of rodenticide used in the Southern California region, including Ventura County, on mountain lions have been documented by the National Park Service. A number of other mammal and bird species are also impacted because carcass predators, such as Bobcats, coyotes, and birds of prey feed on rodents killed by anti-coagulants and thus are themselves killed by the rodent poisons. Alternative non-toxic rodent control is required, such as frequently-maintained traps with no bait. Natural rodent control which works with, not against the ecosystem, is another preferable alternative. For example, plant native vegetation for birds of prey to use as perches, place owl boxes and hawk poles to encourage birds of prey to maintain a presence in the river area and eat rodents.

B3-6

Incorporate Alternatives with Project Design

The upstream detention and natural floodplain attenuation are unwisely separated from the project. These alternatives can reduce flood water elevation resulting in lower wall and levee height and therefore decreased environmental impacts. Both alternatives are part of sound watershed-based practices and both should be incorporated into the preferred project, with the following improvements described below.

Water Conservation

The 'Upstream Detention' alternative analysis is based on inappropriate assumptions.

- Reduced peak flow rate should be computed with the goal of **reducing**, not eliminating, the SCR3 flood control project levee and earth berm heights and lengths.
- Existing land features are available for water storage, recharge and flood plain preservation. Agriculture lands are not necessary to purchase for water conservation. Instead, the analysis should be based on using the following:
 - Large, 100' deep abandoned gravel pit adjacent to Riverpark housing
 - Large abandoned basin upstream of the above gravel pit and adjacent to the River
 - Basin at Central Ave on the Santa Clara River south bank (owned by United Water)
 - Lands owned by The Nature Conservancy upstream and in the project vicinity
- Steelhead passage can be provided by diverting only flow stages that are greater than that required by the species. Water conservation and steelhead habitat can both be met with the right design criteria.

B3-7

Please provide a discussion estimating water conservation volume and the resulting cost savings in the proposed project due to **reduced** flood water elevation. Please include the value of water conserved in that cost-benefit computation.

Reduced Flood Elevation using Natural Floodplain Attenuation and Levee Setback

The 'Natural Floodplain Attenuation' alternative analysis is incomplete. A major purpose of flood plain preservation is to achieve reduced flood water elevation. Please compute the project design flood water elevation using the floodplain areas available as shown in Figures 4-7 and 4-8, as well as other lands upstream held by The Nature Conservancy for that purpose.

B3-8

Sincerely,


Nina Danza, PE


James Hines, Conservation Chair

Response to Comment Set B3

Sierra Club, Nina Danza, At Large and James Hines, Conservation Chair

B3-1 The objective of the proposed Project is to provide flood protection to portions of north Oxnard. While groundwater management is a commendable idea, it is not related to the purpose of the proposed Project. Similarly, water conservation is not an objective of the Project. Efforts to manage groundwater and conserve water would need to be pursued as projects separate from the proposed Project. Also, there are not features of the Project (raised levees and new floodwall) that lend themselves to modification in ways that could improve groundwater recharge, improve groundwater quality, or increase water conservation.

The VCWPD is involved in developing plans to achieve groundwater management, but not through the proposed Project. As discussed in the SCR-3 Alternatives Analysis Supplementary Evaluation (EIR Appendix F), upstream flood detention and attenuation techniques were evaluated as alternatives to the proposed Project; however, none provided the level of flood protection necessary to meet the objectives of the Project.

B3-2 The purpose of the proposed Project is to provide flood protection, not to improve the quality of water flowing in the Santa Clara River or its tributaries. The proposed Project will not have an adverse effect on the quality of water flowing in the river, and the features of the Project (raised levees and new floodwall) do not lend themselves to modification in ways that could improve existing water quality.

Ventura County and the cities within the watershed must control water quality under the Los Angeles Regional Water Quality Control Board (LARWQCB) National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Order (NPDES Permit CAS004002) for stormwater (wet weather) and non-stormwater (dry weather) discharges from unincorporated Ventura County and its incorporated cities. To fulfill the requirements of NPDES Permit CAS004002, the County of Ventura has implemented the Ventura Countywide Stormwater Quality Management Program and Ventura Countywide Post Construction Stormwater Management Plan for the VCWPD, the County of Ventura, and the Cities of Ventura County. As discussed in the Initial Study (EIR Appendix A), Section C.2 (Water Resources), the proposed Project would meet water quality objectives and standards in accordance with all conditions and requirements of the Ventura Countywide Stormwater Quality Management Program and NPDES Permit Number CAS004002.

B3-3 While commendable ideas, the proposed Project does not lend itself to allow for the incorporation of groundwater recharge/water conservation or water quality improvements. Regarding water conservation and water quality, please see the responses to Comments B3-1 and B3-2, above. The proposed Project has been designed to reduce impacts to plant and animal habitat to the extent feasible, and all impacts on biological resources can be reduced to a less-than-significant level through the implementation of recommended mitigation measures, including habitat improvements. Additionally, the proposed Project has taken recreation into consideration through the accommodation of plans for a future bike path, in accordance with the Santa Clara River Trail Master Plan and the District's *Policy for Joint Use of*

District Rights-of-Way for Recreational Purposes (<http://bosagenda.countyofventura.org/sirepub/agdocs.aspx?doctype=agenda&itemid=34365>).

- B3-4** The eucalyptus trees removed in Reaches 1 and 4 are non-native species that have become naturalized in California. While these trees do provide habitat for some larger raptors and/or bat species, there is ample suitable native habitat (i.e., cottonwood trees and mature willow trees) within the adjacent Santa Clara River in Reaches 1-3 and along the river terrace in Reach 4 to support raptor species that may occasionally use the trees slated for removal. Additionally, Mitigation Measures BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*) and BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*) require compensation in the form of restoration and enhancement for permanent and temporary impacts to sensitive vegetation communities. This compensation includes a non-native species removal component, which will increase the amount of native vegetation available to wildlife.

The bare zone adjacent to the new floodwall will be similar in size and shape as the existing dirt road present within the Reach 4 area, and would not substantially increase the amount of bare ground when compared to existing conditions. Maintenance of vegetation along the raised levee faces would be similar to that for the existing levee structures. As stated under Impact BIO-1, vegetation would be thinned from the top of the new levee down the river face 20 feet; vegetation below 20 feet will be allowed to grow naturally and unaltered. Construction of the proposed Project would occur primarily within existing developed areas, of which the majority would be along the existing road on top of the existing levee (Reaches 1-3) and adjacent to N. Ventura Road. These areas do not provide a substantial amount of foraging habitat for birds of prey. Please refer to EIR Section 3.2.3 (Biological Resources – Environmental Impacts and Mitigation Measures) for the full text of all referenced mitigation measures.

- B3-5** EIR Section 3.2.3 (Biological Resources – Environmental Impacts and Mitigation Measures) acknowledges that herbicide application, along with use of mechanized tools, can affect wildlife, water quality, and the overall aquatic environment. As part of routine maintenance of the existing levee structure, vegetation is currently managed using herbicide and/or mechanized tools. The new sections of raised levee described as part of the proposed Project would be subject to the same maintenance activities described above. In 2008, the VCWPD adopted a set of programmatic best management practices (BMPs) that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 Project as well. Since 2008, these BMPs have been further refined during negotiations with the California Department of Fish and Wildlife (CDFW), U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and the Los Angeles Regional Water Quality Control Board (LARWQCB). A copy of the most current *Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary* is provided in Appendix G of the Final EIR. The BMPs include protocol to be followed prior to work in aquatic habitats (BMP 5/6), prior to vegetation maintenance activities (BMPs 4 and 22), to avoid spills and leaks (BMP 21), for invasive plant removal (BMP 23), and when there is potential for disturbing nesting birds and prior to vegetation maintenance activities (BMPs 4 and 22).

- B3-6** The EIR discloses the potential impacts from rodenticides, and also states that their use would be restricted as described in the existing VCWPD Integrated Pest Management Program.

Restricted use is already applicable to the existing levee structure in Reaches 1 – 3; the level of use is not anticipated to increase with the proposed Project. The new infrastructure proposed in Reach 4 has been carefully designed to eliminate the need for rodenticides, including proposing a soil cement road in front of the floodwall with sheet piling on the river side of the road (see Final EIR Figure 2-5, Section D-D; see also zoomed in version of Section D-D provided in response to Comment A5-8). Due to potentially catastrophic results of failure, there is no tolerance for loss of integrity of soil on, below, or within 15 feet of levees and floodwalls. Use of soil cement within 15 feet of the proposed floodwall eliminates the potential loss of soil integrity caused by gopher and squirrel burrows, thus requiring no rodenticide use.

Dr. Terrell P. Salmon, PhD, a wildlife specialist at University of California Cooperative Extension San Diego, reviewed the District's methods of rodent control from June through October 2006. Dr. Salmon found that burrowing rodents had caused structural damage to District facilities. Dr. Salmon also concluded that the diphacinone bait used by the District was not the primary anticoagulant ingredient in the reported deaths of coyotes, bobcats, and mountain lions in Ventura County. The common anticoagulants detected were brodifacoum and bromadiolone. These compounds are present in household and other second-generation anticoagulants, and their concentrations are higher and more toxic than the diphacinone used by the District. Their use by farms, schools, parks, golf courses, and housing developments is not regulated or controlled. (Salmon, 2006) The District's use of diphacinone is strictly controlled and follows the adopted *Integrated Pest Management Program for Ventura County Flood Control Facilities* approved by the Ventura County Board of Supervisors on October 6, 2015 and updated in March 2016.

The Ventura County Board of Supervisors has recently approved the continued use of rodenticides, but without an increase in usage. This recent approval also called for a pilot program to look at alternatives to the existing methods. The Board of Supervisors agenda item is available at the following address:

<http://bosagenda.countyofventura.org/sirepub/agdocs.aspx?doctype=agenda&itemid=71589>.

The updated plan is available at: <http://vcpublicworks.org/pwa/watershed-protection-district-integrated-pest-management-program>

- B3-7** As described in the response to Comment B3-1 above, water conservation is not an objective of the proposed Project. The SCR-3 Alternatives Analysis Supplementary Evaluation (EIR Appendix F) evaluated upstream flood detention as a potential alternative to the proposed Project; however, it would not provide the level of flood protection necessary to meet the objectives of the Project.

The VCWPD has considered a reasonable range of alternatives in compliance with State CEQA Guidelines Section 15126.6 that would feasibly attain most of the basic objectives of the Project and avoid or substantially lessen significant adverse effects of the Project. All potential sites for upstream detention will be evaluated through the regional Groundwater Sustainability Plan process.

- B3-8** As discussed in the SCR-3 Alternatives Analysis Supplementary Evaluation (EIR Appendix F), floodplain attenuation techniques were evaluated as alternatives to the proposed Project; however, none provided the level of flood protection necessary to meet the objectives of the Project. The proposed Project has been designed to minimize the length and height of the

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floodwall, which was accomplished through engineering refinements such as moving the floodwall to the land side of N. Ventura Road to reduce the wall height.

Comment Set B4

Ventura Audubon Society, Bruce E. Schoppe, President



January 13, 2015

Ventura County Watershed Protection District
ATTN: Angela Bonfiglio-Allen
800 S Victoria Ave
Ventura, CA 93009-1600

RE: Draft EIR Comments on Santa Clara River Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project

Dear Ms. Bonfiglio-Allen:

On behalf of the more than 750 members of the Ventura Audubon Society, I wish to present our views on the proposed improvements to the levee system (SCR-3).

1. Now that it seems the project will include a 968-ft long wall along the Santa Clara River side of the road in the Phase II, Reach 4 (east of N. Ventura Rd.) segment, we would like to propose some maintenance recommendations. The usual methods for maintaining hardscape along rivers is to strip them of vegetation and use poison and other lethal methods to control rodents. Nature has a much better solution. If natural vegetation such as trees and shrubs are allowed in association with the walls, rodent control would be taken care of by the hawks, owls, foxes, coyotes, snakes, badgers, bobcats and perhaps mountain lions that use the river as a travel corridor. Wildlife needs cover and all of these species prefer rodents as prey so if they are present, the rodents would be managed.
2. In particular, we oppose the use of anti-coagulant poisons for small mammal control. Not only can all of these wildlife predators become poisoned by catching the target rodents, family pets may also be harmed. These chemicals have been banned for use by homeowners. It is ironic that a public agency charged with protecting the environment would condone their use in a riparian corridor frequented by wildlife, winged and otherwise.
3. We continue to favor Alternative 1B for Phase I, Reaches 1-3 as the lesser of evils, which leaves Reach 2 with no raised levee and lesser amounts of riprap along the river. If any wildlife species are to thrive in the area, they need ease of access to and from the river corridor.
4. The existing vegetation along the river bed and banks adjacent to the project area contain habitat for the federally and state-listed least Bell's vireo, which is making a fragile comeback in

B4-1

B4-2

B4-3

B4-4

P.O. Box 24198 Ventura, California 93002

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the Santa Clara River and has even expanded its range to the Ventura River. Habitat critical to the extremely rare southwestern willow flycatcher is also within or adjacent to the project area. We oppose any plans to permanently remove vegetation and/or otherwise degrade habitat for these riparian species. Vegetation clearance should be at the very minimum for construction but every attempt should be made to retain and then replace native shrubs and trees that provide food, cover, and nest areas for birds. We expect that required mitigation for adding walls as barriers and for vegetation removal will include enhancement of the riparian habitat.

B4-4 cont.

5. It appears that the proposed Santa Clara River Parkway plans have not been incorporated into the design for SCR-3. A bikeway with a view of the river is preferable. Not only does it create a connection with the river but, encourages an appreciation for the river, its wildlife, and ecosystems.

B4-5

6. It is regrettable that the planning for this project did not incorporate more comprehensive watershed management concepts as recommended by the Sierra Club (such as capture of excess stormwater runoff and allowing replenishment of groundwater resources). Channelization (including the use of walls and pavement close to the river) has destroyed many southern California river systems and with it, the riparian habitat they support. This has contributed to many riparian-dependent species being added to threatened and endangered lists. Loss of habitat, which is exacerbated by climate change, is the most serious threat to birds and other native wildlife. The Watershed District should be looking at the entire watershed as the valuable system it is to people and wildlife, and to manage and capture stream flows in a way that minimizes further habitat loss.

B4-6

Sincerely,



Bruce E. Schoppe
President

P.O. Box 24198 Ventura, California 93002

Response to Comment Set B4

Ventura Audubon Society, Bruce E. Schoppe, President

- B4-1** A soil cement road with sheet pile scour protection would be constructed along the portion of the floodwall north of Ventura Road (river side) in Reach 4. This soil cement road would not provide suitable habitat and/or structure for rodents, thus anticoagulant bait would not be used there. All areas from the new road towards the river would be naturally vegetated and provide the conditions the commenter has suggested. Areas behind the floodwall and adjacent to Ventura Road would be maintained vegetation free for the purpose of rapid and effective inspection; a future paved bike path is planned for this area as part of the City of Oxnard Santa Clara River Trail Master Plan.
- B4-2** The EIR discloses the potential impacts from rodenticides, and also states that their use would be restricted as described in the existing VCWPD Integrated Pest Management Program. Restricted use is already applicable to the existing levee structure in Reaches 1 – 3; the level of use is not anticipated to increase with the proposed Project. The new infrastructure proposed in Reach 4 has been carefully designed to eliminate the need for rodenticides, including proposing a soil cement road in front of the floodwall with sheet piling on the river side of the road (see Final EIR Figure 2-5, Section D-D; see also zoomed in version of Section D-D provided in response to Comment A5-8). Due to potentially catastrophic results of failure, there is no tolerance for loss of integrity of soil on, below, or within 15 feet of levees and floodwalls. Use of soil cement within 15 feet of the proposed floodwall eliminates the potential loss of soil integrity caused by gopher and squirrel burrows, thus requiring no rodenticide use.

Dr. Terrell P. Salmon, PhD, a wildlife specialist at University of California Cooperative Extension San Diego, reviewed the District's methods of rodent control from June through October 2006. Dr. Salmon found that burrowing rodents had caused structural damage to District facilities. Dr. Salmon also concluded that the diphacinone bait used by the District was not the primary anticoagulant ingredient in the reported deaths of coyotes, bobcats, and mountain lions in Ventura County. The common anticoagulants detected were brodifacoum and bromadiolone. These compounds are present in household and other second-generation anticoagulants, and their concentrations are higher and more toxic than the diphacinone used by the District. Their use by farms, schools, parks, golf courses, and housing developments is not regulated or controlled. (Salmon, 2006) The District's use of diphacinone is strictly controlled and follows the adopted *Integrated Pest Management Program for Ventura County Flood Control Facilities* approved by the Ventura County Board of Supervisors on October 6, 2015 and updated in March 2016.

The Ventura County Board of Supervisors has recently approved the continued use of rodenticides but without an increase in usage. This recent approval also called for a pilot program to look at alternatives to the existing methods. The Board of Supervisors agenda item is available at the following address:

<http://bosagenda.countyofventura.org/sirepub/agdocs.aspx?doctype= agenda&itemid=71589>

The updated plan is available at: <http://vcpublicworks.org/pwa/watershed-protection-district-integrated-pest-management-program>

- B4-3** Thank you for expressing your support for the proposed Project (Option 1B). However, due to several challenges resulting from greater landfill interface, the District has now identified Option 1A as the preferred alternative.
- B4-4** As described in EIR Section 3.2.3 (Biological Resources – Environmental Impacts and Mitigation Measures), Option 1A (now the preferred option) has been designed to minimize impacts to native vegetation to the extent possible. Over 88 percent of the habitats mapped within permanent impact areas of the Option 1A footprint are developed lands, ruderal areas, or maintained landscape. With the construction of Option 1A, the majority of Project-related impacts (permanent and temporary) would occur within developed areas on the land side of the existing levee away from the Santa Clara River. Impacts would include a total of 0.91 acres of permanent and 0.94 acres of temporary impacts to native vegetation. Impacts to native vegetation would largely be related to the construction of the floodwall in Reach 4, and to a lesser extent the levee modifications in Reaches 1 and 3. Mitigation Measures BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*) and BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*) require compensation in the form of restoration and/or enhancement for permanent and temporary impacts to sensitive vegetation communities. Please refer to EIR Section 3.2.3 (Biological Resources – Environmental Impacts and Mitigation Measures) for the full text of all referenced mitigation measures.
- B4-5** The proposed flood protection project has been designed to accommodate a future bike path on the landward side of the floodwall (968 feet), which was one of the objectives of the project as stated in EIR Section 2.4 (Statement of Project Objectives). A 16-foot-wide area between Ventura Road and the riverside floodwall along Reach 4 has been provided for in the design, which could accommodate a future bicycle/pedestrian path (see Final EIR Figure 2-5, Section D-D; see also zoomed in version of Section D-D provided in response to Comment A5-8). The City of Oxnard would install the bike path as part of its *Santa Clara River Trail Master Plan*, and in accordance with the District's *Policy for Joint Use of District Rights-of-Way for Recreational Purposes* (<http://bosagenda.countyofventura.org/sirepub/agdocs.aspx?doctype=agenda&itemid=34365>). Given the annual presence of least Bell's vireo breeding territories along Reach 4, the bike path would be located on the land side of the floodwall to minimize the potential for harassment of this endangered species. Because the wall would have a maximum height of 6 feet, some bicyclists may see the river over the wall. Along Reaches 1-3, the levee access road could also be integrated into the design for the future public trail system, which would provide views of the Santa Clara River.
- B4-6** Watershed management concepts, such as upstream stormwater detention, low-impact development, and natural floodplain attenuation were considered as potential alternatives and are discussed in the SCR-3 Alternatives Analysis Supplementary Evaluation memo provided in EIR Appendix F. Please also see the responses to Comment Set B3 from the Sierra Club.

Comment Set B5

Friends of the Santa Clara River, James Danza

Comments by Friends of the Santa Clara River
(Revised comments)

The Friends of the Santa Clara River would like to commend VCWPD for the effort to avoid substantial impacts to river invert and habitat by choosing an alternative that minimizes levees and increases setback from the river. The preferred alternative is the best alternative of the set proposed for potential implementation. Although VCWPD is avoiding and mitigating many impacts, we recommend that the district continue to evaluate alternatives to levees as ways of providing permanent flood protection solutions for the long-term.

Rivers do not necessarily behave as predicted by engineers. Levee protection is never absolute and is not long-lasting as demonstrated by levee failures across the US and the number of decertified levees. Levee failures are often attributed to unexpected forces by nature, inadequate design, and lack of improvements due to continuing improvements in design. VCWPD states several times in the document that it has spent \$7.5M on repairs over the years, which demonstrates the above point.

Levees can be part of watershed-wide strategy to protect urban areas, and could be supported by FoSCR if they avoid unnecessary channelization and adequately protect affected species or mitigate for impacts to these species. While levees can be an necessary part of an urban flood protection system, whenever practical they should be integrated with solutions that have fewer impacts to rivers and streams.

A comprehensive watershed management and flood protection system should utilize diverse elements such as:

- Enhanced floodplain
- Environmentally compatible stormwater detention
- Environmentally compatible stormwater retention for water conservation
- Groundwater recharge
- Range and land management practices
- Comprehensive urban runoff mitigation measures.
- Multi-jurisdictional coordinating and management (local governments, water supply agencies, environmental organizations, agriculture, National Forest Service.)

Specific elements in the DEIR are addressed below:

Project Purpose:

The main purpose of the project is not entirely clear. It would be helpful in this regard to provide a flood plain map showing project need and extent of flooding to be alleviated.

Complete flood information should be provided so citizens are knowledgeable on the limits of flood protection provided and residual flooding issues. An after-project map should be provided showing the remaining flood plain for a greater-than-design storm,

B5-1

B5-2

B5-3

such as 200-year or 500-year to ensure that residents appreciate that certain risks remain. Also, it would be helpful to include a map of local flooding not caused by the River, but due to local drainage issues.

B5-3 cont.

Water Conservation:

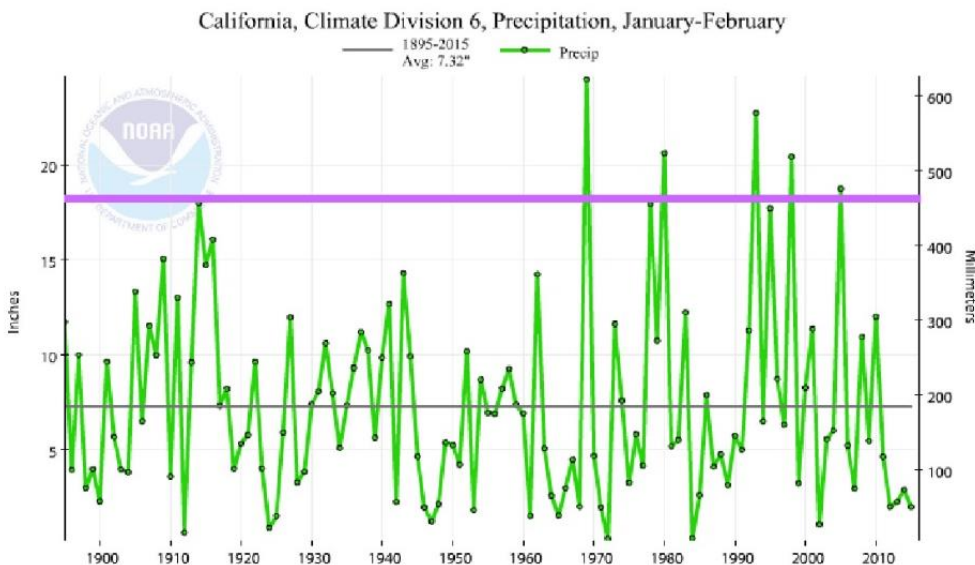
Water conservation measures, which may not provide a significant solution in this particular project, should be considered due to the dire nature of the current and future droughts.

The National Oceanic and Atmospheric Administration has several studies and products that predict worsening drought for the Southern California coastal area in the decades to come. Flood flows of the river are quickly becoming the only viable source for locally sourced water.

The following two diagrams are a sampling of the data available showing the increased erratic rainfall totals and tendency toward drought since the 1900s. The proposed project does not include any water conservation or water resource management element, and in fact has the expressed goal to increase the river water flow to the ocean. While flood protection is critical, alternatives that treat the water as a resource to humans and environment must be emphasized if Ventura County expects to continue to maintain a vibrant economy, healthy environmental and have water security.

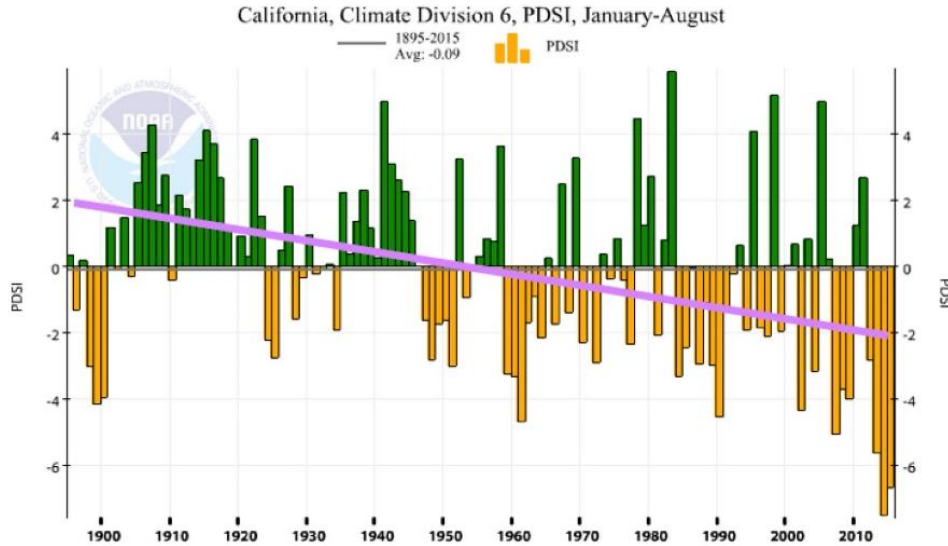
B5-4

February Precipitation



Drought Index

Palmer Drought Severity Index (PDSI) assess moisture status comprehensively using temperature and precipitation data to calculate water supply and demand, incorporates soil moisture, and is considered most effective for irrigated cropland



B5-4 cont.

To accomplish water conservation, the river peak flows should be reduced through use of flood plains and retention areas for water storage and groundwater recharge. Areas should include abandoned gravel pit and lands owned by The Nature Conservancy upstream and in the project vicinity. Water conservation must allow steelhead trout passage and protect and enhance riparian habitat.

Impacts:

Impact BIO-2: Impact BIO-3: “The Project would cause the loss of foraging habitat for wildlife. N/A” N/A is not a correct response to the impact. Habitat impacts are noted in other sections of the document.

B5-5

Impact BIO-3: “The Project would cause the loss of foraging habitat for wildlife. The Project would result in disturbance to nesting birds or raptors”. Bird roost locations will be impacted. Document is not clear on how this will be mitigated to replace locations. Assuming birds will roost at other locations is not based on sound biological information. Many species are territorial or crowding may adversely impact species.

B5-6

Numerous mitigations measure state, such as “NV-1a: Movable Construction Noise Barriers” and “NV-1b: Monitor Noise Levels”. Monitoring is not a mitigation unless an action is taken. Recommend monitoring and measurements be considered one action and is stated in one cohesive sentence that is actionable.

B5-7

Another example: “BIO-1e: Implement Biological Construction Monitoring. BIO-11: Survey for Maternity Colonies or Hibernaculum for Roosting Bats.” These are

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not mitigation actions themselves. This comment applies to such use in the Impact/Mitigation measures.

B5-7 cont.

Regarding Reach 4: “Implementation of Reach 4 would alter scenic resources in the Project area by introducing new structures and resulting in the removal of native habitat” has no mitigation offered. It is not clear what analysis and investigation was done to mitigate this impact.. Having a bike path could mitigate by providing visual access to the River.

B5-8

Regarding the statement: “Impact FC-1: The Project may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements.” What is the analysis, why no impact?

B5-9

Section 2.4 states that the project benefits residents. The project also protects a golf course and certain farmlands. The reasoning behind protecting these areas should be provided. Can only the landfill be protected at less environmental cost and less funding?

B5-10

2.6.6.3 Water Resources are not adequately addressed. Project implementation will remove flood plains that help protect flooding in downstream areas and provide beneficial uses to wildlife.

B5-11

Vegetation maintenance impacts habitat and wildlife. Levee design should be “soft-engineered” to allow the growth of vegetation as part of the levee system. There are many examples, some in Ventura County, of levee and groin systems that are compatible with habitat. Such design reduces maintenance costs over time as vegetation removal becomes unnecessary. Measures should be taken to re-vegetate areas disturbed from construction. California Division of Safety of Dams Urban Levee Design Criteria allows flexibility on design by integrating environmental stewardship.

B5-12

Better measures are needed to avoid the use of rodenticides, which can disperse through the food chain, affecting many other species.

B5-13

Specific reference is needed for the paragraph “California Division of Safety of Dams (CDSO) has a zero tolerance policy for ground squirrel and other rodent infestations at critical facilities where failure would affect public safety”. However, CDSO does promote consideration during levee design. According to Urban Levee Design Criteria Chapter May 2012 7-33 Chapter 7.0 Urban Levee Design Criteria

“USACE’s *Levee Owner’s Manual for Non-federal Flood Control Works* (2006) states that burrowing animal control techniques involving fumigation, bait stations, bait broadcasting, or trapping have proven effective in certain situations, but regulatory agencies over various jurisdictions may have different requirements for environmental compliance. The issues to consider during levee design and evaluation include...”

B5-14

Therefore, agencies can implement different requirements and designs.

Regarding vegetation types, several vegetation types and the related species are relatively rare compared to their range in the river area 150 years ago. Additional steps should be made to protect them. Habitats of concern include cottonwood stands and willow thickets.

B5-15

Several properties in Reach 1 are now or soon will be owned by TNC. The stated goal of TNC is flood plain restoration. This project should coordinate with this landowner and incorporate into this design a flood plain element.

B5-16

Overall, mitigation measures are not adequate. Allowance for future re-growth of the riparian forest is necessary. Levee system should be sized to allow for riparian vegetation re-establishment in the river.

B5-17

We look forward to your responses and further improvements on the project. Thank you.

Response to Comment Set B5

Friends of the Santa Clara River, James Danza

- B5-1** Thank you for expressing your support for the proposed Project (Option 1B). However, after careful scrutiny, the District has selected Option 1A as its preferred alternative. Potential alternatives to levees for flood protection were analyzed and are discussed in the SCR-3 Alternatives Analysis Supplementary Evaluation memo provided in EIR Appendix F; however, none provided the level of flood protection necessary to meet the objectives of the Project.
- B5-2** The objectives of the Project are provided in EIR Section 2.4 (Statement of Project Objectives). The objectives of the proposed Project are: (1) Construct new, upgrade existing, and maintain the SCR-3 structures to provide continuous flood protection to properties in the City of Oxnard that would otherwise require flood insurance under the National Flood Insurance Program (NFIP) and do so in a cost-effective manner prior to Federal Emergency Management Agency (FEMA) revision of adjacent Flood Insurance Rate Maps (FIRMs); (2) Achieve compliance with FEMA levee certification requirements as identified in 44 CFR §65.10 through implementation of structural improvements to the SCR-3 levee system capable of withstanding a one percent annual chance flood event; and (3) Design flood protection structures that accommodate a future bikeway along N. Ventura Road in support of the City of Oxnard Santa Clara River Trail Master Plan. A map of the current flood plain showing the anticipated extent of flooding for the one percent annual chance flood (blue shading) is provided as Final EIR Figure 2-2 (new).
- B5-3** As noted in the response to Comment B5-2, Final EIR Figure 2-2 (new) shows the best available information regarding the current flood plain and the extent of current anticipated flooding for the one percent annual chance flood. EIR Appendix E (SCR-3 Unsteady Flow Hydraulic Analysis), Figures 2A and 2B (provided at the end of the appendix), show the flooding conditions with implementation of the proposed Project (Option 1A-Full Levee System – Preferred). Option 1B (Minimum Levee System) would result in essentially the same flooding condition. As shown, residual flooding issues on the south banks of the Santa Clara River in the Project vicinity include areas north of Highway 101 (The SCR-1 levee is located in this area), The Village Development (i.e., Wagon Wheel property), N. Ventura Road immediately south of the UPRR bridge, and areas west of Bailard Landfill (this area is downstream of the SCR-3 levee). During a 100-year flood event, street flooding will occur.

The proposed Project will not change existing street flooding conditions resulting from insufficient drainage. Typically, land development storm drainage is designed per the Ventura Countywide Stormwater Quality Urban Impact Mitigation Plan (SQIMP or Ventura Program) for the VCWPD (formerly the Ventura County Flood Control District), the County of Ventura, and the Cities of Ventura County (NPDES Permit No. CAS004002); the SQIMP is available online:

http://portal.countyofventura.org/portal/page/portal/PUBLIC_WORKS/Watershed_Protection_District/One%20Stop%20Permitting/Stormwater%20One%20Stop%20Permitting/2000_post-construction%20controls.pdf

SCR-3 is not being designed to provide protection from a 200-year or 500-year storm event. The VCWPD does not have authority over local (City) land development and drainage issues. No map is available to show local flooding.

- B5-4** Watershed management concepts that include water conservation measures, such as upstream stormwater detention and natural floodplain attenuation, were considered and are discussed in the SCR-3 Alternatives Analysis Supplementary Evaluation memo provided in EIR Appendix F. Please also see the responses to Comment Set B3 from the Sierra Club.

As noted in the response to Comment B5-2, the objectives of the Project are provided in EIR Section 2.4 (Statement of Project Objectives) and include: (1) Construct new, upgrade existing, and maintain the SCR-3 structures to provide continuous flood protection to properties in the City of Oxnard that would otherwise require flood insurance under the National Flood Insurance Program (NFIP) and do so in a cost-effective manner prior to Federal Emergency Management Agency (FEMA) revision of adjacent Flood Insurance Rate Maps (FIRMs); (2) Achieve compliance with FEMA levee certification requirements as identified in 44 CFR §65.10 through implementation of structural improvements to the SCR-3 levee system capable of withstanding a one percent annual chance flood event; and (3) Design flood protection structures that accommodate a future bikeway along N. Ventura Road in support of the City of Oxnard Santa Clara River Trail Master Plan.

- B5-5** Table ES-1 has been revised in the Final EIR to be consistent with other impacts not requiring mitigation measures; N/A has been removed and replaced with “None Required”. More than 88 percent of the habitats mapped within permanent impact areas of the Option 1A (now the preferred option) footprint are developed lands, ruderal areas, or maintained landscape. For many common species, including rabbits, ground squirrels, and some birds, the proposed Project would not lead to a substantial loss of foraging habitat. The heightened levee and floodwalls may actually provide additional perches, refugia, and increased access to some prey for species such as Cooper’s hawks and kestrels. Therefore, the loss of foraging habitat for wildlife resulting from construction of Option 1A would not be considered significant (Class III) and no mitigation is required.

- B5-6** As stated in EIR Section 3.2.3 (Biological Resources – Environmental Impacts and Mitigation Measures), riparian and upland habitats within Option 1A, and adjacent areas of the Santa Clara River, provide foraging, cover, and/or breeding habitat for a variety of resident and migratory birds (e.g., Allen’s hummingbird). Birds, such as Cooper’s hawk and yellow breasted chat, have been routinely observed nesting in the riparian habitats along the margins of the existing levee, on the upland terrace in Reach 4, and within the adjacent riparian habitats in the Santa Clara River.

Approximately 88 percent of permanent impacts resulting from the construction of Option 1A would occur in habitats mapped as developed lands, ruderal areas, or maintained landscape; refer to Impact BIO-2 in the EIR (Section 3.2.3). Many of these areas are already subject to weed abatement and maintenance activities and do not provide substantial foraging habitat for wildlife. The Project has been designed to minimize impacts to native and/or more suitable foraging habitats for wildlife.

To minimize impacts to nesting birds or raptors, when possible, construction and O&M activities would occur outside of the recognized breeding season (generally February – September [as early as January for some raptors]) in areas that have the potential to impact nesting birds and raptors. If, however, construction or maintenance activities are to occur during the breeding season, it is possible that these activities would exclude some species of birds that are less tolerant of

anthropogenic disturbance. If birds elect to nest in areas within close proximity to on-going construction or maintenance activities during the breeding season, per Mitigation Measure BIO-3 (*Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures*) the qualified avian biologist would implement a standard avoidance buffer (300 feet [500 feet for raptors]) around the nest and no activities would be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The prescribed buffers may only be adjusted by the qualified avian biologist in consultation with California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors.

Mitigation Measure NV-1a (*Moveable Construction Noise Barriers*) would require that moveable noise barriers be placed on the river side of construction activities within Reach 4 of the Project. This would minimize and/or reduce noise related impacts to nesting birds and raptors present within the riparian scrub habitat on the large elevated terrace above the Santa Clara River; this area is known to support several least Bell's vireo territories. As stated above, over 88 percent of the habitats impacted by construction activities would occur in developed lands, ruderal areas, or maintained landscape; these habitat types do not provide significant roosting habitat for nesting birds and raptors.

Surveys conducted in support of the Project did not document significant roosting habitat or activities within the developed, ruderal, and maintained landscape habitats impacted by the Project. Therefore, the permanent and temporary impacts to these habitat types is not expected to result in the crowding of territories within adjacent areas.

In 2008, the VCWPD adopted a set of programmatic best management practices (BMPs) that are rigorously implemented during all routine O&M activities; these would apply during the O&M phase of the SCR-3 Project as well. Since 2008, these BMPs have been further refined during negotiations with the CDFW, U.S. Army Corps of Engineers (USACE), USFWS, National Marine Fisheries Service (NMFS), and the Los Angeles Regional Water Quality Control Board (LARWQCB). A copy of the most current Routine Operations and Maintenance Program Environmental Best Management Practices and Permit Conditions Summary is provided in Appendix G of the Final EIR. The BMPs include protocol to be followed when there is potential for disturbing nesting birds or raptors (BMPs 4 and 22).

B5-7 EIR Table ES-1 in the Executive Summary provides a high-level summary of the impacts and associated mitigation measures. Only the "title" of the mitigation measure is presented in the table, whereas the full text of the measures are presented in each respective issue area section. For example, Mitigation Measure NV-1b: *Monitor Noise Levels*, states "[p]eriodically monitor noise levels during floodwall construction near noise-sensitive receptors in Reach 4 to determine whether construction noise levels exceed predicted levels. If construction noise is substantially greater than predicted, investigate whether it is feasible to install additional noise barriers or reposition construction equipment to reduce noise levels at sensitive receptors." The measure includes both monitoring and an action(s) to be taken based on the results of the monitoring. This applies to the other measures as well.

B5-8 The referenced impact is discussed in detail under Impact SR-2 in EIR Section 3.3 (Scenic Resources). This impact is focused on the alteration of scenic resources and how the floodwall

would block views of the Santa Clara River, as well as the views changing due to the removal of native habitat. No mitigation is available that would allow for implementation of the Project without continuing to have such a scenic impact. Mitigation measures are presented in the Biological Resources section related to the removal of native habitat (Impact BIO-1), including Mitigation Measure BIO-1a (*Implement a Worker Environmental Education Program*), BIO-1b (*Implement Best Management Practices*), BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*), and BIO-1e (*Implement Biological Construction Monitoring*).

The proposed flood protection project has been designed to accommodate a future bike path, which was one of the objectives of the Project as stated in EIR Section 2.4 (Statement of Project Objectives). A 16-foot-wide area between Ventura Road and the riverside floodwall along Reach 4 has been provided for in the design (968 feet), which could accommodate a future bicycle/pedestrian path (see Final EIR Figure 2-5, Section D-D; see also zoomed in version of Section D-D provided in response to Comment A5-8); however, views of the Santa Clara River would be blocked in this area resulting in a significant and unavoidable impact (Class I). To avoid disturbing several known endangered least Bell's vireo breeding territories along the river side floodwall in perpetuity, the Project was consciously designed to separate the bike path from the vireos' habitat. A 15-foot-wide soil cement maintenance access road would be installed at the base of the floodwall on the river side. The City of Oxnard was the lead agency for the Santa Clara River Trail Master Plan, which indicates that a multi-use bicycle/pedestrian path is proposed along the alignment of the SCR-3 Project. The City would be responsible for installing its bike path, but the schedule is unknown at this time. The proposed Project is compatible with this plan, as it accommodates the construction of a future bike path. For the floodwall along the land side of N. Ventura Road, the wall height would start at the south end at six feet, but quickly reduce to four feet, which would result in limited view blockage. Along Reaches 1-3, the levee access road could also be integrated into the design for the future public trail system, which would provide views of the Santa Clara River.

- B5-9** Impact FC-1 (The Project may result in an increase in the base flood elevation for areas across from or downstream of the proposed levee improvements) is discussed in detail in EIR Section 3.8 (Flood Control and Drainage). As stated in the revised analysis, “[b]ased on the results of the hydraulic analysis completed by Michael Baker International (MBI), which is provided as Appendix E, the increased flood hazard risk for properties outside of the Project area (with implementation of the proposed Project) would be minor. The downstream and across the river base flood elevation for the one percent annual chance storm would increase by 0.09 foot (1.1 inches) or less with implementation of the proposed Project. The proposed Project in combination with the Olivas Park Drive and Wagon Wheel levees, which are not part of this Project but are considered in the cumulative scenario, would increase the water surface elevation downstream of the Olivas Park Drive levee (Station 18374) during a one percent annual chance storm event between 0.03 and 0.1 foot (0.4 to 1.2 inches) (Appendix E, Table No. 2). Furthermore, the velocity of the flood flows as a result of the proposed Project would increase by a maximum of 0.05 feet per second adjacent to the Santa Clara Landfill (Appendix E, Table No. 3). Flood waters are contained within the river channel banks such that there would be no overtopping of the banks adjacent to the Bailard Landfill. As such, no additional people or structures would be exposed to injury or loss of property or life based on the proposed levee

improvements". Therefore, the impact was determined to not be significant (Class III). It was not determined to be "no impact".

B5-10 As stated in EIR Section 2.4 (Statement of Project Objectives) the objectives of the proposed Project are: (1) Construct new, upgrade existing, and maintain the SCR-3 structures to provide continuous flood protection to properties in the City of Oxnard that would otherwise require flood insurance under the National Flood Insurance Program (NFIP) and do so in a cost-effective manner prior to Federal Emergency Management Agency (FEMA) revision of adjacent Flood Insurance Rate Maps (FIRMs); (2) Achieve compliance with FEMA levee certification requirements as identified in 44 CFR §65.10 through implementation of structural improvements to the SCR-3 levee system capable of withstanding a one percent annual chance flood event; and (3) Design flood protection structures that accommodate a future bikeway along N. Ventura Road in support of the City of Oxnard Santa Clara River Trail Master Plan.

Option 1A (Full Levee System – Preferred) and Option 1B (Minimum Levee System) meet the objectives of the Project. Option 1A would protect the entire length of the landfills up to the one percent annual chance flood elevation, whereas Option 1B would protect only a portion of this length (existing protection for less than the one percent annual chance event would remain as is). Land above this elevation, such as the golf course, would not receive new protection during events greater than the one percent annual chance flood. The golf course/landfills are generally located on high-ground, thus impeding flood flows from reaching residential areas to the south. In the area of the farmlands (west end of the project alignment, near Bailard Landfill), levee improvements are proposed to impede flood flows from reaching homes located to the south between N. Victoria Avenue and N. Patterson Avenue and north of W. Gonzales Road (see new Final EIR Figure 2-2, Existing Flood Plain). Protecting only the landfill would not meet the objectives of the Project.

B5-11 The referenced Section 2.6.6.3 (Water Resources) is a list of environmental commitments associated with water resources. The impact assessment for water resources is addressed in Initial Study section C.2 (Water Resources), which is included in the EIR as Appendix A. As discussed in EIR Section 3.8 (Flood Control and Drainage), "[b]ased on the results of a hydraulic analysis completed by Michael Baker International (MBI), which is provided as EIR Appendix E, the increased flood hazard risk for properties outside of the Project area would be minor. The downstream and across river base flood elevation for the one percent annual chance storm would increase by 0.09 foot (1.1 inches) or less with implementation of the proposed Project. The proposed Project in combination with the Olivas Park Drive and Wagon Wheel levees, which are not part of this Project but are considered in the cumulative scenario, would increase the water surface elevation downstream of the Olivas Park Drive levee (Station 18374) during a one percent annual chance storm event between 0.03 and 0.1 feet (0.4 to 1.2 inches) (Appendix E, Table No. 2)." As such, flooding of downstream areas would not increase noticeably with implementation of the proposed Project. Furthermore, the land that would be removed from the one percent annual chance floodplain is developed and does not provide significant beneficial uses to wildlife.

B5-12 As described in EIR Section 2.5.3, the Project includes vegetation removal activities that meet the requirements of the Department of Water Resources (DWR) Levee Vegetation Policy, which provides for integration of woody vegetation for existing levees. The DWR Levee Vegetation Policy is the same as the DWR Urban Levee Design Criteria (Note: Incorrect reference to

California Division of Safety of Dams Urban Levee Design Criteria). Trees within 20 feet of the top of the levee in Reaches 1-3, on the waterside slope, would be trimmed up five feet above ground and thinned enough for visibility and access; brush, weeds, or other vegetation (ground cover) up to a height of five feet blocking visibility and access would be removed. There would be no operational changes pertaining to brush clearance along the portions of Reach 3 containing the existing weir field and emergency groins (approximately Stations 189+58 to 215+00). In Reach 4, the floodwall and access road have specifically been designed to maintain the required vegetation free zone for newly constructed levees at the foot of the floodwall on the river side without introducing additional vegetation maintenance after construction.

Per Mitigation Measure BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*), the VCWPD would restore all temporary impact areas south of the existing levee in Reaches 1-3 and north of the floodwall in Reach 4. The intent of this measure is for VCWPD to restore temporarily disturbed areas to pre-construction conditions, or better, for arroyo willow and mulefat thickets, Fremont and black cottonwood forests, and coyote brush, sagebrush, and quailbrush scrub habitats (native vegetation communities). Areas currently containing non-native eucalyptus and giant reed would be improved by replanting with suitable native vegetation.

- B5-13** The EIR discloses the potential impacts from rodenticides, and also states that their use would be restricted as described in the existing VCWPD Integrated Pest Management Program. Restricted use is already applicable to the existing levee structure in Reaches 1 – 3; the level of use is not anticipated to increase with the proposed Project. The new infrastructure proposed in Reach 4 has been designed to eliminate the need for rodenticides, including proposing a soil cement road in front of the floodwall with sheet piling on the river side of the road (see Final EIR Figure 2-5, Section D-D; see also zoomed in version of Section D-D provided in response to Comment A5-8). Due to potentially catastrophic results of failure, there is no tolerance for loss of soil integrity on, below, or within 15 feet of levees and floodwalls. Use of soil cement within 15 feet of the proposed floodwall eliminates the potential loss of soil integrity caused by gopher and squirrel burrows, thus requiring no rodenticide use.

Dr. Terrell P. Salmon, PhD, a wildlife specialist at University of California Cooperative Extension San Diego, reviewed the District's methods of rodent control from June through October 2006. Dr. Salmon found that burrowing rodents had caused structural damage to District facilities. Dr. Salmon also concluded that the diphacinone bait used by the District was not the primary anticoagulant ingredient in the reported deaths of coyotes, bobcats, and mountain lions in Ventura County. The common anticoagulants detected were brodifacoum and bromadiolone. These compounds are present in household and other second-generation anticoagulants, and their concentrations are higher and more toxic than the diphacinone used by the District. Their use by farms, schools, parks, golf courses, and housing developments is not regulated or controlled. (Salmon, 2006) The District's use of diphacinone is strictly controlled and follows the adopted *Integrated Pest Management Program for Ventura County Flood Control Facilities* approved by the Ventura County Board of Supervisors on October 6, 2015 and updated in March 2016.

The Ventura County Board of Supervisors has recently approved the continued use of rodenticides but without an increase in usage. This recent approval also called for a pilot

program to look at alternatives to the existing methods. The Board of Supervisors agenda item is available at the following address:

<http://bosagenda.countyofventura.org/sirepub/agdocs.aspx?doctype=agenda&itemid=71589>

The updated plan is available at: <http://vcpublicworks.org/pwa/watershed-protection-district-integrated-pest-management-program>

- B5-14** As stated in the VCWPD’s *Approved Integrated Pest Management Program, Rodent Control for Flood Control Facility Protection* (October 2015, updated March 2016), “Federal and state agencies provide oversight of the structural condition and hydraulic capacity of District facilities, requiring strict zero-tolerance programs for the eradication of rodents and vegetation. Levees, dams, and earthen embankments provide an ideal habitat for burrowing rodents such as ground squirrels and gophers who can seriously weaken earthen flood-control facilities resulting in flooding or catastrophic failure.” The District is exploring alternative methods of rodent control, but careful testing is needed to verify their effectiveness before they can be substituted. See website address in the response to Comment B5-13.
- B5-15** As described in EIR Section 3.2.3 (Biological Resources – Environmental Impacts and Mitigation Measures), Option 1A (now the preferred option) has been designed to minimize impacts to native vegetation to the extent possible. Over 88 percent of the habitats mapped within permanent impact areas of the Option 1A footprint are developed lands, ruderal areas, or maintained landscape. With the construction of Option 1A the majority of Project-related impacts (permanent and temporary) would occur within developed areas on the land side of the existing levee away from the Santa Clara River. Impacts would include a total of 0.91 acres of permanent and 0.94 acres of temporary impacts to native vegetation (for comparison, total Project impacts are 12.41 acres permanent and 6.63 acres temporary, of which permanent impacts to native vegetation represent 7.3 percent). Permanent impacts to Fremont cottonwood forest and arroyo willow thickets would be limited to 0.04 and 0.40 acre respectively. The permanent impacts to arroyo willow thickets are largely attributed to vegetation thinning within the upper 20 feet of the levee structure within Reach 1-3. Overall impacts to native vegetation would largely be related to the construction of the floodwall in Reach 4, and to a lesser extent the levee modifications in Reaches 1 and 3. Mitigation Measures BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*) and BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*) require compensation in the form of restoration and/or enhancement for permanent and temporary impacts to sensitive vegetation communities. Please refer to EIR Section 3.2.3 (Biological Resources – Environmental Impacts and Mitigation Measures) for the full text of all referenced mitigation measures.
- B5-16** As discussed in EIR Appendix F (Alternatives Supplementary Memo), The Nature Conservancy (TNC) floodplain parcels were considered in the analysis for the Project and its alternatives. As stated, “In 2009, the District, Ventura County Resource Conservation District, Farm Bureau of Ventura County, and TNC signed a Memorandum of Understanding (MOU) ‘to work together as the Steering Committee of the Ventura County Floodplain Conservation Working Group’. In March 2013, the District and TNC signed a Memorandum of Agreement for Coordination of Land Protection and Habitat Restoration Activities in Ventura County. The floodplain along the Santa Clara River from the County line to the Pacific Ocean is shown in Figures 6a, 6b, and 6c along with the parcels currently preserved by TNC (Figures 6a-c appear at the back of this

document). This includes two parcels purchased by the District and turned over to TNC (Figure 6a): one 42-acre parcel upstream of Victoria Avenue (\$9,200 for purchase and \$111,777 for long-term management) and one nearly 100-acre parcel immediately upstream of and abutting Interstate 101 (\$84,950 for purchase and \$159,235 for long-term management).” EIR Appendix F also takes into consideration all open space and agricultural parcels currently providing floodplain benefits but not yet preserved (i.e., potential TNC acquisitions). Flood protection to be provided by the proposed SCR-3 Project is needed despite the floodplain storage already available on these upstream properties.

The VCWPD reviewed the Stillwater Sciences *Santa Clara River Parkway Floodplain Restoration Feasibility Study: Assessment of Geomorphic Processes for the Santa Clara River Watershed, Ventura and Los Angeles Counties, California* (2007) and *Santa Clara River Parkway, Levee Setback Assessment of the Lower Santa Clara River, Ventura County, California – Implications for Flood Risk Management and Ecological Benefit* (2011) reports and designed the Project to meet the stated goals. The 2011 study calls for the setback of levees westerly of the Bailard Landfill, which is downstream of the Project area. There are no recommendations to modify the levee setback within the proposed Project area.

- B5-17** The proposed Project has been designed to minimize impacts to native vegetation (including riparian vegetation) to the extent possible and limit Project impacts to the landward side of the existing levee. Within the Study Area for the Project, which extended out approximately 500 feet from the existing levee (refer to Final EIR Figure 3.2-2), approximately 75 acres of arroyo willow thickets, black cottonwood forest, cattail marsh, Fremont cottonwood forest, shining willow groves, and mulefat thickets were mapped. In total, permanent impacts to riparian vegetation from construction of Option 1A (now the preferred option) would amount to 0.64 acres or 0.85 percent of the riparian vegetation mapped within the Study Area. The existing, and often dense, riparian vegetation within the Santa Clara River channel would not be impacted by construction of the proposed Project. In addition, Mitigation Measures BIO-1c (*Compensation for Temporary Impacts to Sensitive Vegetation Communities*) and BIO-1d (*Compensation for Permanent Impacts to Sensitive Vegetation Communities*) require compensation in the form of restoration and/or enhancement for permanent and temporary impacts to sensitive vegetation communities. Please refer to EIR Section 3.2.3 (Biological Resources – Environmental Impacts and Mitigation Measures) for the full text of all referenced mitigation measures.

7.

Comment Letters and Responses

Comment Set C1

Tom and Barbara Quigan

From: [Thomas Quigan](#)
To: [Bonfiglio, Angela](#)
Subject: Ventura County Watershed Protection Project
Date: Saturday, December 12, 2015 2:52:06 PM

Dear Angela,

We live in Oxnard Shores and believe this structural improvements project to be made to the levee system located in the North Oxnard, Santa Clara River area is a brilliant idea. Please include our names as strong supporters of this project.

Tom and Barbara Quigan
5350 Beachcomber St.
Oxnard, CA 93035

C1-1

Response to Comment Set C1

Tom and Barbara Quigan

C1-1 Thank you for expressing your support for the proposed Project.

7.

Comment Letters and Responses

Comment Set C2

Aaron and Pam Greer

From: [Aaron Greer](#)
To: [Bonfiglio, Angela](#)
Cc: [hoosierdancer@roadrunner.com](#); [leezeller@aol.com](#); [jdmilstead@netzero.net](#); [ffamgreer@aol.com](#); [elreytoby@hotmail.com](#); [adelriobarba@hotmail.com](#); [rosalesm2@gmail.com](#); [billnkrause@gmail.com](#); [JJCINC1@aol.com](#); [imilstead@netscape.net](#); [randhuffman@gmail.com](#); [terri8415@aol.com](#); [ireneraus@hotmail.com](#); [dotbob49@roadrunner.com](#); [anneva25@yahoo.com](#); [mrswn@hotmail.com](#); [jgalcasun@aol.com](#); [efn@efnweb.com](#); [starrags2144@aol.com](#); [lottietotter@yahoo.com](#); [cbdejarme@gmail.com](#); [rcschwiesow@gmail.com](#); [rakrey@roadrunner.com](#); [takebackbh@verizon.net](#); [tdmasek@xaisision.com](#); [xdea@aol.com](#); [bobcatmiller@hotmail.com](#); [bowtieted@aol.com](#); [tlk93036@hotmail.com](#); [fifeiq@roadrunner.com](#); [cwoolleyworld@yahoo.com](#); [g44k33@hotmail.com](#)
Subject: DRAFT EIR SCR-3 comments
Date: Sunday, January 03, 2016 7:29:31 PM

Hello,

We are residents in the area that will be protected by the levee upgrades, residing at 1711 Muirfield Drive, Oxnard. This is a much-needed improvement to the existing levee system to ensure a higher level of public safety, infrastructure and property protection. We favor the proposal that will incorporate a walk-able/bike-able path along the river to provide a passive open space recreation opportunity. This area will much better serve the residents of Oxnard and surrounding communities if it has provisions for an accessible pathway to connect North Ventura Road to Victoria Avenue.

One big concern for us as well as with many residents in our neighborhood which I am the chairperson (Windsor North Neighborhood Council) is the proposal to develop and build homes on the vacant parcel at the NW corner of North Ventura Road and West Vineyard Avenue. There is a developer pushing a project that was approved under an EIR done in 2006 (FEIR No. 2006-04). This was done prior to the FEMA floodzone re-mapping and levee deficiencies being addressed. While we know the progress by the watershed protection district and cooperating agencies is moving forward, no agency approvals or permits have been issued by any of the regulatory agencies, hence no construction has started. Also to note, the City of Oxnard has not yet secured any funding to pay for it's total share of the cost of these upgrades. The proposed development in question will be directly behind and adjacent to the SCR-3 levee system and basically sits at ground zero for flood damage should the river flow rise above the existing levee system. It seems irresponsible to have a city as a cooperating agency in this project to allow 152 homes to be built so close to the SCR prior to the completion and certification of the levee upgrades. We feel that in the best interest of the city and the safety/financial well-being of potential future residents of any new homes at that location that a moratorium on any development in this area prior to the completion and certification of the levee system should be a mandatory condition for any agency approvals for the SCR-3 upgrade project.

Thank you all for your hard work on moving this process forward, it is much appreciated!

Aaron and Pam Greer
805-878-0279
ffamgreer@aol.com

C2-1

C2-2

Response to Comment Set C2

Aaron and Pam Greer

- C2-1** Thank you for expressing your support for the Project. The proposed flood protection project has been designed to accommodate a future bike path, which was one of the objectives of the Project as stated in EIR Section 2.4 (Statement of Project Objectives). As discussed in the Initial Study (EIR Appendix A), the Santa Clara River Trail Master Plan indicates that a multi-use bicycle/pedestrian path is proposed along the alignment of the SCR-3 Project. The proposed Project is compatible with this plan, as it would provide the opportunity for such a facility to be implemented. A 16-foot-wide area between Ventura Road and the floodwall along Reach 4 has been provided for in the design, which could accommodate a future bicycle/pedestrian path (see Final EIR Figure 2-5, Section D-D; see also zoomed in version of Section D-D provided in response to Comment A5-8). Along Reaches 1-3, the levee access road could also be integrated into the design for the future public trail system.
- C2-2** The VCWPD has no authority over land development in City of Oxnard. Please direct your concerns/comments to the City of Oxnard.

Comment Set C3

Linda Noble

From: [Levee Certification Website](#)
To: [Bonfiglio, Angela](#); [Ramirez, Gabriel](#)
Subject: Draft EIR Comments
Date: Monday, January 04, 2016 2:01:05 PM

Name: Linda Noble Affiliation: Address: 2667 Georgette Place City, State, Zip Code: Simi Valley CA 93063 Telephone: (805) 5270316 Email: readlinda@earthlink.net Comment: We need water. A sustainable groundwater management plan. Why isn't SCR3 integrated with that plan. No new land needs to be bought to do this water conservation ! An abandoned basin , already zoned for water storage is waiting not more than 10,000 feet upstream of Hwy 101 ! That area and more ! In the "El Nino" this year the water needs to be saved NOW. Seems as though "business as usual" in flood control . Get it in gear Ventura County Planning. We need to conserve the water we may get and we need to do it now. Where are you Watershed Protection District people ?

C3-1

Response to Comment Set C3

Linda Noble

- C3-1** While groundwater management is important, it is not an objective of the proposed Project. As discussed in the SCR-3 Alternatives Analysis Supplementary Evaluation (EIR Appendix F), upstream flood detention and attenuation techniques were evaluated as alternatives to the proposed Project; however, none provided the level of flood protection necessary to meet the objectives of the Project. All potential groundwater recharge sites will be evaluated through the regional Groundwater Sustainability Plan process.

7.

Comment Letters and Responses

Comment Set C4

Rand and Vicky Huffman

From: [Rand Huffman](#)
To: [Bonfiglio, Angela](#)
Cc: [Vicky Huffman](#); [Rand Huffman](#)
Subject: DRAFT EIR SCR-3 comments
Date: Monday, January 04, 2016 5:12:01 PM

Hello Angela,

We are residents in the area that will be protected by the levee upgrades, residing at 1701 Kapalua Drive, Oxnard. This is a much-needed improvement to the existing levee system to ensure a higher level of public safety, infrastructure and property protection. We favor the proposal that will incorporate a walk-able/bike-able path along the river to provide a passive open space recreation opportunity. This area will much better serve the residents of Oxnard and surrounding communities if it has provisions for an accessible pathway to connect North Ventura Road to Victoria Avenue.

One big concern for us as well as with many residents in our neighborhood which I am the chairperson (Windsor North Neighborhood Council) is the proposal to develop and build homes on the vacant parcel at the NW corner of North Ventura Road and West Vineyard Avenue. There is a developer pushing a project that was approved under an EIR done in 2006 (FEIR No. 2006-04). This was done prior to the FEMA floodzone re-mapping and levee deficiencies being addressed. While we know the progress by the watershed protection district and cooperating agencies is moving forward, no agency approvals or permits have been issued by any of the regulatory agencies, hence no construction has started. Also to note, the City of Oxnard has not yet secured any funding to pay for it's total share of the cost of these upgrades. The proposed development in question will be directly behind and adjacent to the SCR-3 levee system and basically sits at ground zero for flood damage should the river flow rise above the existing levee system. It seems irresponsible to have a city as a cooperating agency in this project to allow 152 homes to be built so close to the SCR prior to the completion and certification of the levee upgrades. We feel that in the best interest of the city and the safety/financial well-being of potential future residents of any new homes at that location that a moratorium on any development in this area prior to the completion and certification of the levee system should be a mandatory condition for any agency approvals for the SCR-3 upgrade project.

Thank you all for your hard work on moving this process forward, it is much appreciated!

Rand & Vicky Huffman
 805-988-1605
randhuffman@gmail.com

C4-1

C4-2

Response to Comment Set C4

Rand and Vicky Huffman

- C4-1** This letter is identical to Comment Set C2 (Aaron and Pam Greer). Please see the response to Comment C2-1.
- C4-2** See the response to Comment C2-2.

Comment Set C5

Irene Rauschenberger

From: [Irene](#)
To: [Bonfiglio, Angela](#)
Cc: [Clifford, Tully](#)
Subject: SCR-3 Project comment due Jan. 22, 2016
Date: Saturday, January 16, 2016 2:33:41 AM

Attention: Angela Bonfiglio Allen
 VC Watershed protection District
 RE: SCR-3 Levee Project, Comment Submitted

I ask for a multi-purpose levee design for flood protection and for access by the people. I am concerned that levee impacts would preclude on-going project plans, such as the 2011 Oxnard Santa Clara River Trail Master Plan and the Coastal Conservancy 2009 VC Santa Clara River Parkway Project, et al., that are goals for educational and recreational venues.

C5-1

Regarding Reach 4, my understanding is Alternative II.B is proposed. I ask for a modification of the 6ft. cement flood wall along Ventura Road that would be a target for graffiti and not be consistent with the existing landscape.

I ask that the cement flood wall be set back on the riverside for the placement of an earthen embankment on the roadway side to accommodate landscape and a protected bike path. A model is at the Camarillo Pleasant Valley Soccer fields that has an earthen embankment running between Hwy 101, and the length of the fields. On the field side, the berm has a protected bike path that connects with the Calleguas Creek bike trail at the east end. Note the Calleguas Creek bike trail signage highlights the trail system that runs north & south under the Hwy 101 overpass. Also, note how the landscaped bike trail transitions into a protected cement bike path at this location. It's a wonderful design that I hope would work with the Reach 4, for a protected bike path to transition under Hwy 101 at Ventura Road.

C5-2

I oppose the recent decision Oxnard made to approve the Devco Final Subdivision Map located behind the SCR-3 levee project: (1) Public notice for a zone change was given up to only 300ft., deliberate exclusion in favor of the developer, this offense suggests lack of project integrity. (2) Flood zones are generally developed with open space projects; unique to SCR-3 is the confluence of the SC river flow turns west to the ocean, (3) A buffer zone behind SCR-3 would provide protection from over urbanization that threatens ecosystems, wildlife corridors, and migrating bird habitat. (4) SCR-3 adjacent property needs remediation as it was once the Santa Clara Dump, disturbance of this land threatens polluting the Santa Clara River.

C5-3

Also, neighborhood concerns came up regarding the uncertified SCR-3 levee may be a liability for the city of Oxnard and taxpayers if the river floods at this location and destroys homes that City issued building permits for knowing all of these conditions. At the very least they would have been well within the law to issue a moratorium on any building construction at that location until the levee upgrades are complete and certified. What lender or bank will

C5-4

finance a loan for one of those homes without expensive flood insurance. At this point, should FEMA be advise of what's going on here. The city is placing itself and the taxpayers in a very bad position -- I agree with this view from our Neighborhood Committee.

C5-4 cont.

Irene Rauschenberger
2111 Laurel Valley Place
Oxnard, CA 93036

Response to Comment Set C5

Irene Rauschenberger

- C5-1** The proposed flood protection project is consistent with the Coastal Conservancy's Santa Clara River Parkway Project and the Santa Clara River Trail Master Plan, as it would minimize impacts to aquatic and riparian habitat, provide enhanced flood protection for adjacent private land and public facilities, and has been designed to accommodate a future bike path/trail. A 16-foot-wide area between Ventura Road and the floodwall along Reach 4 has been provided for in the design, which could accommodate a future bicycle/pedestrian path (see Final EIR Figure 2-5, Section D-D; see also zoomed in version of Section D-D provided in response to Comment A5-8). Along Reaches 1-3, the levee access road could also be integrated into the design for the future public trail system. The District and the City would coordinate closely to ensure the new trail complies with the District's *Policy for Joint Use of District Rights-of-Way for Recreational Purposes* approved by the Board of Supervisors on August 10, 2010 (<http://bosagenda.countyofventura.org/sirepub/agdocs.aspx?doctype=agenda&itemid=34365>).
- C5-2** As part of Project development, the VCWPD contemplated placement of an earthen embankment in Reach 4; however, due to extensive biological resources impacts along the Santa Clara River, the VCWPD elected to proceed with a floodwall design. The floodwall on the landward side of N. Ventura Road would be six-feet-tall at the west-end but would quickly reduce down to four-feet along the majority of the alignment to the Union Pacific Railroad bridge. Placement of the floodwall along the landward side of N. Ventura Road will temporarily impact the existing Honeysuckle Drive path during construction; however, the path would be restored following construction maintaining this protected path. As discussed in the EIR Project Description, graffiti on the floodwall would be removed as a part of regular maintenance according to the agreement being negotiated between the City and VCWPD. Additionally, per Mitigation Measure SR-1 (*Graffiti Avoidance*), the floodwall would be designed to deter graffiti. The VCWPD is working with the City of Oxnard on the design of the floodwall to ensure impacts related to graffiti are reduced to the extent feasible.
- C5-3** The VCWPD has no authority over land development in City of Oxnard. Please direct these concerns/comments to the City of Oxnard.
- C5-4** The VCWPD has no authority over land development in City of Oxnard. Please direct these concerns/comments to the City of Oxnard.

Comment Set C6

John Kramer

From: [John Kramer](#)
To: [Bonfiglio, Angela](#)
Subject: Draft EIR SCR-3 Levee Improvements
Date: Tuesday, January 19, 2016 12:44:16 PM

John Kramer
Impacted resident & member Floodzone Justice Asso.
2361 Diamond Head Way
Oxnard, CA 93036-7765

Angela et al:

I have attended scoping meetings and the recent December meeting on the Draft EIR for the SCR-3 Project. I wish to go on record as being strongly in favor of the EIR document the VCWPD has produced. I think they have done a thorough job in addressing the environmental impacts involved with this project. They have proposed reducing adverse impacts to the least significant level possible. I compliment them, applaud their efforts and would like to see the project move forward as rapidly as possible.

Personally I have no problem whatever with the temporary impacts that might be caused by this project. The adverse effects to animal and plant life have been addressed and minimized. Their well-being is important, and has been adequately addressed, but the protection of some 3800 residences from a 100-year flood is far more important to the community. I approve and am satisfied with the Draft EIR Report for the SCR-3 Project as written by the VCWPD. Thanks for your effort. Let's submit it and move forward!

John Kramer
(805) 988 9991
kramer@pacops.com

C6-1

7.
Comment Letters and Responses

Response to Comment Set C6

John Kramer

C6-1 Thank you for expressing your support for the proposed Project.

Comment Set C7

Vicky and Jim Bowker

From: [Vickie Bowker](#)
To: [Bonfaglio, Angela](#)
Cc: [starrags2144@aol.com](#); [ffamgreer@aol.com](#)
Subject: EIR SCR-3 comments OXNARD by Jan 22, 2016
Date: Wednesday, January 20, 2016 7:24:47 PM

My husband and I live at 2011 Spyglass Trail, Riverridge tract in Oxnard. We have lived on the North end for over forty years in the Serra Linda tract and Riverridge tract. The Levee system and the River overflow has always been our concern. Specially when its raining cats and dogs. I lived in Oxnard during the 1968/1969 rains and floods. I remember how the Wagon Wheel area, Ventura Road and grower fields were flooded.

Now the City of Oxnard has approve for 152 homes to be built near the SCR-3 improvements. The vacant parcel is located on the corner of Vineyard and Ventura Road. Which seems irresponsible by the builder and the City of Oxnard until all SCR-3 improvements have been completed.

We feel a moratorium should be in place for any development on this parcel of land until the completion and certification of the SCR-3 levee system. Allowing these homes to be built is a safety hazard and a mammoth financial risk for the future homeowners.

At this time the City of Oxnard hasn't secured all the funding needed. The Developer is giving the city 1.346 million for the SCR-3 improvements. Which is a drop in the bucket for such a leading development Company who bought the property at a bankruptcy rate.

The best fit for the area is a open space park to blend with the Santa Clara River Trail master plan. Our neighbors favor an open space for the area. I helped gather 162 signatures to stop the developer and was given to the Oxnard City Council. We only canvas the homes backing up to the development due to time constraints due to the City of Oxnard City Council meeting. Which the City approved all permits due to an ministerial action.

Keeping the area free of new development is the sensible thing to do. Even with all the new improvements in the future, the river could crest due to the tree overgrowth in the river bottom. I can remember crossing the 101 bridge 40 years ago and was able to see down the river for miles in each direction. I worry potential dams could form at each overpass bridge due to the fallen trees and other debris from upstream blocking overflow to the ocean.

C7-1

C7-2

7.

Comment Letters and Responses

Thank you for your time.

Always,

Vickie and Jim Bowker
2011 Spyglass Trail West
Oxnard, Ca 93036
805-844-4500

Response to Comment Set C7

Vicky and Jim Bowker

- C7-1** The VCWPD has no authority over land development in City of Oxnard. Please direct these concerns/comments to the City of Oxnard.
- C7-2** Debris is anticipated due to the nature of wild and scenic rivers. The potential for fallen trees and other debris to form dams upstream blocking overflow to the ocean is an existing condition. The proposed Project would not exacerbate this condition. As part of the design for the Project, hydraulic calculations were performed, which include accounting for debris in the watershed (i.e., debris loading on bridges) following the U.S. Army Corps of Engineers' standards. The Project would not change how much debris hangs up on bridges.

Comment Set C8

Jacqueline Tedeschi



**VENTURA COUNTY
WATERSHED PROTECTION DISTRICT
Draft EIR Comments**

**Santa Clara River Levee Improvements Downstream of
Union Pacific Railroad (SCR-3) Project**

Name*: JACQUELINE TEDESCHI

Affiliation (if any)*: _____

Address*: 2726 YEARLING PLACE

City, State, Zip Code*: OXFORD, CA. 93036

Telephone Number*: (805) 278-1248

Email*: _____

Comment*: *Thank you for all the hard, thorough work performed on this huge complicated project for my protection. I attended the last meeting to hear the updates. The consultants were helpful and enforced my decision to be 100% satisfied with the EIR. There is no perfect solution for all parties. Please go FORWARD with the EIR to get this LEVEE built, soon for my security.*

Jacqueline Tedeschi

*Please print or write legibly. Your name, address, and comments become public information and may be released to interested parties if requested. Thank you for your comments.

Please either deposit this sheet at the sign-in table before you leave today, or fold, stamp, and mail. Insert additional sheets if needed. Comments must be postmarked by January 22, 2016. Comments may also be e-mailed to: Angela.Bonfiglio@ventura.org, or submitted electronically at www.vclevees.com.

C8-1

Response to Comment Set C8
Jacqueline Tedeschi

C8-1 Thank you for expressing your support for the proposed Project.

Comment Set C9

Raul Navarro



**VENTURA COUNTY
WATERSHED PROTECTION DISTRICT**

Draft EIR Comments

Santa Clara River Levee Improvements Downstream of
Union Pacific Railroad (SCR-3) Project

Name*: Raul Navarro

Affiliation (if any)*: _____

Address*: 2725 Yearling Place

City, State, Zip Code*: Oxnard, CA 93036

Telephone Number*: 805 - 844-1868

Email*: _____

Comment*: We have studied the presented fact sheets and previous data for the project. The EIR as defined is acceptable to us. Our back property wall is Ventura Road. The EIR should go forward.

C9-1

**Please print or write legibly. Your name, address, and comments become public information and may be released to interested parties if requested. Thank you for your comments.*

Please either deposit this sheet at the sign-in table before you leave today, or fold, stamp, and mail. Insert additional sheets if needed. Comments must be postmarked by January 22, 2016. Comments may also be e-mailed to: Angela.Bonfiglio@ventura.org, or submitted electronically at www.vclevees.com.

Response to Comment Set C9

Raul Navarro

C9-1 Thank you for expressing your support for the proposed Project.

8. Mitigation Monitoring and Reporting Program

Introduction

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared in accordance with the requirements of Public Resources Code Section 21081.6 and California Environmental Quality Act (CEQA) Guidelines Section 15097, which require adoption of a reporting or monitoring program to ensure that the mitigation measures imposed by the Lead Agency are implemented. The MMRP identifies specific reporting or monitoring requirements to be enforced prior to, during, or following Project implementation. The MMRP must be adopted at the time of Project approval.

As defined in the State CEQA Guidelines, Section 15097(c), “[r]eporting is suited to projects that have readily measurable or quantitative mitigation measures or which already involve regular review.” “Monitoring” is suited to projects with complex mitigation measures, which may exceed the expertise of the local agency to oversee, are expected to be implemented over a period of time, or require careful implementation to assure compliance. Both reporting and monitoring would be applicable to the proposed Project.

This MMRP will be in effect throughout both phases of the Santa Clara River Levee Improvements Downstream of Union Pacific Railroad (SCR-3) Project (State Clearinghouse No. 2015021079). The VCWPD is the agency responsible for implementation of the MMRP.

The mitigation measures specified in Table 8-1 have been proposed in the Final EIR. Additionally, environmental commitments (ECs) incorporated into the Project are included as part of the MMRP. Implementation of these measures would avoid or substantially reduce the significant impacts identified in the EIR.

Mitigation Matrix

To sufficiently track and document the status of mitigation measures and ECs, a mitigation matrix has been prepared and includes:

- Mitigation measure and EC language
- Actions required to verify implementation of the measures
- Responsible parties for implementation of measures
- Timing of implementation
- Status of implementation

A completed and signed checklist for each measure indicates that this measure has been complied with and implemented, and fulfills the VCWPD’s monitoring requirements with respect to Public Resources Code Section 21081.6. The measures are numbered consistently with the Project’s EIR.

8.
Mitigation Monitoring and Reporting Program

Table 8-1. Mitigation Monitoring and Reporting Program					
Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
Air Quality					
Air pollutants and fugitive dust emissions during construction	<p>AQ-3a: Fugitive Dust Control. All construction and site preparation operations shall be conducted in compliance with all applicable Ventura County Air Pollution Control District (VCAPCD) Rules and Regulations with emphasis on Rule 50 (Opacity), Rule 51 (Nuisance), and Rules 55 (Fugitive Dust) and 55.1 (Paved Roads and Public Unpaved Roads), as well as Rule 10 (Permits Required). The following specific dust control measures, unless more strict measures are implemented for VCAPCD rule compliance, shall be implemented:</p> <ol style="list-style-type: none"> 1. Apply environmentally safe chemical stabilization, which can be water or other non-toxic soil binder(s), at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with public paved surface to the working areas of the Project site, with an acceptable width to accommodate traffic ingress and egress from the site. 2. Minimize areas of grading, excavation, earth moving, and surface disturbance to the extent feasible. 3. Pre-water areas to be graded or excavated, and water during grading/excavation activities so that soils being handled are moist (12 percent moisture or greater). 4. Maintain stabilized surfaces on inactive graded/excavated areas by using water, rolling, or other non-toxic soil binders; and re-vegetate or perform other long-term surface stabilization within a week after active construction activities are completed. 5. Install a properly functioning and well-maintained track-out control device(s) that prevents track-out of soil onto paved public roads. 6. Remove track-out from pavement as soon as possible but no later than one hour after it has been deposited on the paved road. 7. Use properly secured tarps or covering that covers the entire surface area of the earthen fill, or other fine bulk material, loads. 8. Water or use environmentally safe chemical stabilization to treat earthen fill storage piles to minimize wind erosion emissions. 9. Limit vehicle speeds, including off-road scrapers, on unpaved roads and work areas to 15 mph. Speed limit signs shall be posted onsite at locations of the point of initial egress to the unpaved areas and within unpaved work areas. 	<p>Monitor during construction.</p> <p>Verify implementation of mitigation actions.</p>	VCWPD	During ground disturbance and construction	

Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	10. Discontinue work activities, including all grading activities, with the exception of fugitive dust control activities, as necessary to prevent nuisance dust conditions during high wind events (25 mph for more than 5 minutes in any hour).				
	AQ-3b: Off-road Equipment Emissions Control. Off-road equipment with engines larger than 50 horsepower shall have engines that meet or exceed USEPA/CARB Tier 3 Emissions Standards. Exceptions will be allowed only on a case by case basis for three specific situations: (1) an off-road equipment item that is a specialty, or unique, piece of equipment that cannot be found with a Tier 3 or better engine after a due diligence search; and/or (2) an off-road equipment item that will be used for a total of no more than 5 days; and/or (3) the off-road equipment is registered under CARB's Statewide Portable Equipment Registration Program. Additionally, all off-road equipment engines shall be maintained in good operating condition and in tune per manufacturers' specification, and equipment idling shall be limited to no more than five minutes unless needed for proper operation.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction	
	AQ-3c: On-road Equipment Emissions Control. All non-employee on-road vehicle engines shall be turned off when not in use. Engine idling shall not exceed five (5) minutes unless required for proper operation. All non-employee on-road vehicle engines shall be maintained in good operating condition and in tune per manufacturers' specification.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction	
	EC AQ-1: Best Management Practices (BMPs) would be applied to disturbed soil to protect against erosion and fugitive dust. Standard practices include water application during earthwork, application of a surface tackifier such as quar or polyacrylamide, temporary vegetation, rolled erosion control products (e.g., straw matting or coconut fiber), and weather-triggered work stoppages (during high winds or extreme storm events). Any of these or a combination thereof may be used to ensure compliance with regulations to reduce or eliminate erosion and fugitive dust emissions.	Monitor during construction. Verify implementation of BMPs.	VCWPD	During construction	

8.
Mitigation Monitoring and Reporting Program

Table 8-1. Mitigation Monitoring and Reporting Program					
Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
Biological Resources					
Temporary or permanent loss of native vegetation, and loss of sensitive wildlife species	<p>BIO-1a: Implement a Worker Environmental Education Program. Prior to any Project activities on the site (i.e., surveying, mobilization, fencing, grading, or construction), a Worker Environmental Education Program (WEEP) shall be prepared and implemented by a qualified biologist(s). The WEEP shall be finalized and administered prior to construction mobilization, and implemented throughout the duration of the construction activities, such as when new contractor employees or subcontractors begin working on site.</p> <ul style="list-style-type: none"> • The WEEP shall include, at a minimum, the following items: <ul style="list-style-type: none"> - Training materials and briefings shall include but not be limited to: a discussion of the Federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act; the consequences of non-compliance with these acts; identification and values of plant and wildlife species and significant natural plant community habitats; hazardous substance spill prevention and containment measures; a contact person and phone number in the event wildlife needs to be relocated or dead or injured wildlife is discovered; and a review of mitigation requirements. - A discussion of measures to be implemented for avoidance of the sensitive resources discussed above and the identification of an onsite contact in the event of the discovery of sensitive species on the site; this shall include a discussion on microtrash. - Protocols to be followed when road kill is encountered in the work area or along access roads and the identification of an onsite representative to whom the road kill will be reported. Road kill shall be reported to the appropriate local animal control agency within 24 hours. - Maps showing the known locations of special-status wildlife, populations of rare plants and sensitive vegetation communities, seasonal depressions and known waterbodies, wetland habitat, exclusion areas, and other construction limitations (e.g. limited operating periods, etc.). These features shall be included on the Project plans and specifications drawings. 	Verify completion of WEEP training.	VCWPD	Prior to and during construction	

Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	<ul style="list-style-type: none"> - Literature and photographs or illustrations of potentially occurring special-status plant and/or wildlife species shall be provided to all Project contractors and heavy equipment operators. • Evidence that all onsite construction and security personnel have completed the WEEP prior to the start of site mobilization. A special hardhat sticker or wallet size card shall be issued to all personnel completing the training, which shall be carried with the trained personnel at all times while on the Project site. All new personnel shall receive this training and may work in the field for no more than 5 days without participating in the WEEP, accompanied by staff that has undergone the training. A log of all personnel who have completed the WEEP training shall be kept on site. • The contract specification books shall include all Project conditions as they relate to biological resources and shall be kept on site at all times (e.g., in the break room, construction foreman’s vehicle, construction trailer, etc.) for the duration of the construction. This information shall be easily accessible for personnel in all active work areas. • Develop a standalone version of the WEEP, that covers all previously discussed items above, and that can be used as a reference for maintenance personnel during Project operations. • An environmental monitor shall be retained during construction of the Project and shall be directly involved with the implementation and enforcement of the WEEP. A log of all personnel who have completed the WEEP training shall be kept on site. 				
	<p>BIO-1b: Implement Best Management Practices (BMPs). BMPs shall be implemented as standard operating procedures during all ground disturbance and construction-related activities to avoid or minimize Project impacts on biological resources. These BMPs shall include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Compliance with BMPs shall be documented and provided in a written report upon conclusion of construction activities. The report shall include a summary of the construction activities completed, a review of the sensitive plants and wildlife encountered, a list of compliance actions and any remedial actions taken to correct the actions, and the status of ongoing mitigation efforts. 	<p>Monitor during construction.</p> <p>Verify implementation of mitigation actions.</p>	VCWPD	During construction	

8.
Mitigation Monitoring and Reporting Program

Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	<ul style="list-style-type: none"> • Prior to ground disturbance of any kind, the Project work areas shall be clearly delineated by stakes, flags, or other clearly identifiable system. • Vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Speed limit signs, imposing a speed limit of 15 miles per hour, shall be installed throughout the Project site prior to initiation of site disturbance and/or construction. To minimize disturbance of areas outside of the construction zone, all Project-related vehicle traffic shall be restricted to established roads, construction areas, and other designated areas. These areas shall be included in pre-construction surveys and to the extent possible, be established in locations disturbed by previous activities or within designated permanent impact areas to prevent further impacts. Off-road traffic outside of designated Project areas shall be prohibited. • No vehicles or equipment shall be refueled within 100 feet of an ephemeral drainage or wetland unless a bermed and lined refueling area is constructed. Spill kits shall be maintained on site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven and/or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of materials. • All general trash, food-related trash items (e.g., wrappers, cans, bottles, food scraps, cigarettes, etc.) and other human-generated debris shall be stored in animal proof containers and/or removed from the site each day. No deliberate feeding of wildlife shall be allowed. • All pipes and culverts removed from the existing levee (that remain on-site after removal) or brought on-site as part of new construction, with a diameter of greater than 4 inches, shall be capped or taped closed. Prior to capping or taping the pipe/culvert shall be inspected for the presence of wildlife by a qualified biologist. If encountered, wildlife shall be allowed to escape unimpeded. • No firearms shall be allowed on the Project site, unless otherwise approved for security personnel. • To prevent harassment or mortality of listed, special-status species and common wildlife, or destruction of their habitats, no domesticated animals of any kind shall be permitted in any Project area with the exception of sheep grazing for weed management. 				

Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	<ul style="list-style-type: none"> • Use of chemicals, fuels, lubricants, or biocides shall be in compliance with all local, state and federal regulations, and shall include secondary containment. All uses of such compounds shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other state and federal legislation, as well as additional Project-related restrictions deemed necessary by the USFWS and CDFW. Use of rodenticides is restricted as described in the existing VCWPD Integrated Pest Management Program. • Any contractor or employee that inadvertently kills or injures a special-status animal, or finds one either dead, injured, or entrapped, shall immediately report the incident to the onsite representative identified in the WEEP. The representative shall contact the USFWS, CDFW, and VCWPD by telephone by the end of the day, or at the beginning of the next working day if the agency office is closed. In addition, formal notification shall be provided in writing within three working days of the incident or finding. Notification shall include the date, time, location and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to CDFW or USFWS for care, analysis, or disposition. • Avoidance of vegetation removal or any other construction activities outside of the Project boundaries. All Project impact areas must be clearly flagged prior to initiating work. In areas of temporary impacts where no excavation is required, native vegetation shall be cut to ground level and the root system left intact to permit resprouting following work. All non-native vegetation within the temporary impact area shall be removed initially, and any regrowth eliminated throughout construction, the habitat restoration period (see BIO-1c), and during the 5-year plant establishment period. • Avoidance and minimization of construction activities resulting in impacts to streambeds and banks of any ephemeral drainage. • All excavation, steep-walled holes or trenches in excess of 6 inches in depth shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth dirt fill or wooden planks. Trenches shall also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood 				

8.
Mitigation Monitoring and Reporting Program

Table 8-1. Mitigation Monitoring and Reporting Program					
Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped wildlife. Any wildlife discovered shall be allowed to escape before construction activities are allowed to resume, or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required).				
	<p>BIO-1c: Compensation for Temporary Impacts to Sensitive Vegetation Communities. To compensate for temporary impacts to sensitive vegetation communities within the Project construction footprint, all temporary impact areas shall be restored south of the existing levee in Reaches 1 – 3 and north of the floodwall in Reach 4. The intent of this mitigation measure is for VCWPD to restore temporarily disturbed areas to pre-construction conditions, or better, for arroyo willow and mulefat thickets, Fremont and black cottonwood forest, and coyote brush, sagebrush, and quailbush scrub habitats (refer to Final EIR Figure 3.2-2).</p> <p>The plans and specifications for the Project shall include, at a minimum, the following items:</p> <ul style="list-style-type: none"> • Engineering drawings depicting locations and vegetation types within the temporary disturbance areas immediately prior to Project implementation. • Description of site preparation work, such as scarification of compacted soils, removal of debris, minor grading for proper drainage, etc. • The plant species, quantities, and type of stock (e.g. container size, seed) for each of the vegetation communities. Seed and source material will be from genetic stock appropriate to the lower Santa Clara River watershed, if available. • A description of planting methods for all materials. • Detailed irrigation system plans and specifications, with criteria for soil moisture conditions to be maintained throughout the plant establishment period. • Erosion controls and other best management practices for all restoration work. • Methods for non-native species control and herbivory control. • Detailed schedule of actions for the 5-year mitigation period. 	<p>Monitor during construction.</p> <p>Verify implementation of mitigation actions.</p>	VCWPD	<p>Prior to construction. During construction and for 5 years after restoration, which will immediately follow construction.</p>	

Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	<p>The temporary impact areas shall be revegetated to 50 percent of their pre-construction cover and diversity values within three (3) years, and 90 percent within 5 years. Quantitative vegetation community characterization studies shall be conducted prior to construction, to establish the target values for years 3 and 5. These studies shall be conducted by qualified biologists knowledgeable in the area of habitat restoration specific to the on-site vegetation communities.</p> <p>Qualified biologist(s) shall conduct monitoring within the on-site vegetation communities during the restoration period. Monitoring shall include, at a minimum:</p> <ul style="list-style-type: none"> • Qualitative Monitoring – Qualitative monitoring surveys will be performed monthly in all restored/revegetated areas for the first year following planting in any phase of the Project. Qualitative monitoring will be on a quarterly schedule thereafter, until final completion and approval by the appropriate regulatory agencies. Qualitative surveys will assess native plant species performance, including growth and survival, germination success, reproduction, and plant fitness and health as well as pest or invasive plant problems. The monitoring reports will describe site progress toward achieving success criteria, conditions, and all observations pertinent to eventual success, and make recommendations as appropriate regarding remedial work, maintenance, etc. Qualitative monitoring will also include noting wildlife species present (or sign) during each of the monitoring visits. • Quantitative Monitoring – Quantitative monitoring will occur annually for years one to five or until the success criteria are met. The biologist(s) will collect data using standard scientific methods to estimate cover and density of each plant species within the revegetated areas. These data will describe native species growth performance, native and non-native species coverage, seed mix germination, native species recruitment and reproduction, and species diversity. Based on these results, the biologist(s) will make recommendations for maintenance or remedial work on the site. <p>Reporting – Reporting will comprise annual progress reports prepared by the biologist(s) summarizing the qualitative and quantitative data collected, and recommended or conducted remedial measures to ensure compliance with success criteria. Reports will include aerial photo maps showing restoration areas, transect locations, and photo</p>				

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Mitigation Monitoring and Reporting Program

Table 8-1. Mitigation Monitoring and Reporting Program					
Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	documentation locations, an explanation of the methods used to perform the work, including the number of acres treated for removal of non-native plants, and any other pertinent information. Reports will be sent to each of the appropriate regulatory agencies (i.e., USACE, CDFW, USFWS) until the established success criteria have been met.				
	<p>BIO-1d: Compensation for Permanent Impacts to Sensitive Vegetation Communities. To compensate for permanent impacts to sensitive vegetation communities within the construction footprint of the Project, similar habitats shall be enhanced in the vicinity of the Project. Enhancement includes removing non-native species and increasing native plant cover. The enhancement mitigation ratios for permanent impacts are 3:1 for arroyo willow and mule fat thickets, as well as Fremont and black cottonwood forest; a ratio of 1:1 shall be applied to coyote brush, California sagebrush, and quailbush scrub habitats.</p> <p>The enhancement shall be conducted on lands protected by a conservation easement or other legal instrument ensuring the lands will remain in natural open space in perpetuity. The lands shall also have long-term maintenance and management by a conservation entity. Ideally, the enhanced lands will be near or part of larger blocks of lands also protected in perpetuity, have low level recreational use, be outside of the five-year storm flow limits, and free of hazardous materials and wastes.</p> <p>Prior to the removal of any vegetation on the Project site, plans and specifications shall be developed to enhance the required vegetation communities on lands described above. Enhancement shall begin within 90 days of the initiation of Reach 4 (Phase 2) Project construction, or September 16th following bird nesting season if the 90 day period falls between March 1 and September 15th. The plans and specifications for the Project shall be reviewed by a qualified restoration biologist.</p> <p>The plans and specifications shall include, at a minimum, the following items:</p> <ul style="list-style-type: none"> • Engineering drawings depicting locations and vegetation types targeted for enhancement. • Description of site access, staging areas, and any preparation work, such as fencing/signage and removal of debris. 	<p>Monitor during construction.</p> <p>Verify implementation of mitigation actions.</p>	VCWPD	<p>Prior to construction.</p> <p>During construction and for 5 years after restoration, which will immediately follow construction.</p>	

Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	<ul style="list-style-type: none"> • Non-native plant and animal removal methods and materials, and herbivory control. • The plant species, quantities, and type of stock (e.g. container size, seed) for each of the vegetation communities which may need planting following non-native species removal. Seed and source material will be from genetic stock appropriate to the lower Santa Clara River watershed, if available. • A description of planting methods for all materials. • Detailed irrigation system plans and specifications, with criteria for soil moisture conditions to be maintained throughout the plant establishment period. • Erosion controls and other best management practices for all restoration work. • Detailed schedule for the 5-year enhancement period. <p>The enhancement areas shall be revegetated to 50 percent of their target cover and diversity values within three (3) years, and 90 percent within 5 years. Quantitative vegetation community characterization studies shall be conducted prior to enhancement in nearby reference habitat areas to establish the target values for years 3 and 5. These studies shall be conducted by qualified biologists knowledgeable in the area of habitat restoration specific to the on-site vegetation communities.</p> <p>Qualified biologist(s) shall conduct monitoring within the enhancement areas during the mitigation period. Monitoring shall include, at a minimum:</p> <ul style="list-style-type: none"> • Qualitative Monitoring – Qualitative monitoring surveys will be performed monthly in all enhancement areas for the first year, and on a quarterly schedule thereafter, until final completion and approval by the appropriate regulatory agencies. Qualitative surveys will assess native plant species cover, and plant fitness and health, as well as pest or invasive plant problems. The monitoring reports will describe site progress toward achieving success criteria, vegetation conditions, and all observations pertinent to eventual success, and make recommendations as appropriate regarding remedial work, maintenance, etc. Qualitative monitoring will also include noting wildlife species present (or sign) during each of the monitoring visits. 				

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Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	<ul style="list-style-type: none"> • Quantitative Monitoring – Quantitative monitoring will occur annually for years one to five or until the success criteria are met. The biologist(s) will collect data using standard scientific methods to estimate cover and density of each plant species within the enhancement areas. These data will describe native species growth performance, native and non-native species cover, native species recruitment and reproduction, and species diversity. Based on these results, the biologist(s) will make recommendations for maintenance or remedial work within the enhancement areas. • Reporting – Reporting will comprise annual progress reports prepared by the biologist(s) summarizing the qualitative and quantitative data collected, and recommended or conducted remedial measures to ensure compliance with success criteria. Reports will include aerial maps showing restoration areas, transect locations, and photo documentation locations, an explanation of the methods used to perform the work, including the number of acres treated for removal of non-native plants, and any other pertinent information. Reports will be sent to each of the appropriate regulatory agencies (i.e., USACE, CDFW, USFWS) until the established success criteria have been met. 				
	<p>BIO-1e: Implement Biological Construction Monitoring. Prior to the commencement of ground disturbance or site mobilization activities, a qualified biologist(s) shall be in place to monitor Project construction. The biologist will have demonstrated expertise with special-status plants, terrestrial mammals, reptiles, and birds. Monitoring will occur continuously during initial ground disturbance for each phase of construction. Once initial ground disturbance is complete, monitoring will occur periodically during all construction activities. The qualified biologist(s) shall be present at all times during ground-disturbing activities immediately adjacent to, or within, habitat that supports populations of listed or special-status species. Any special-status plants shall be flagged for avoidance. Any special-status terrestrial species found within a Project impact area shall be relocated by the authorized biologist to suitable habitat outside the impact area. Surveys for special-status species shall be conducted by the authorized biologist prior to the initiation of construction each day during initial ground disturbance, and weekly thereafter. If nesting birds are found during the pre-construction surveys, buffers shall be installed (as prescribed in</p>	<p>Monitor during construction. Verify implementation of mitigation actions.</p>	<p>VCWPD</p>	<p>Prior to and during construction</p>	

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Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	<p>Mitigation Measure BIO-3 [Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures] discussed below.</p> <p>If, during construction, the biological monitor observes a dead or injured special-status wildlife species on the construction site, a written report shall be sent to CDFW and USFWS (as appropriate) within five calendar days. The report will include the date, time of the finding or incident (if known), and location of the carcass or injured animal and circumstances of its death or injury (if known). Injured animals will be taken immediately to the nearest appropriate veterinary or wildlife rehabilitation facility. The biological monitor shall, immediately upon finding the remains or injured animal, coordinate with the onsite construction foreman to discuss the events that caused the mortality or injury, if known, and implement measures to prevent future incidents. Details of these measures shall be included with the report. Species remains shall be collected and frozen as soon as possible, and CDFW and USFWS, as appropriate, shall be contacted regarding ultimate disposal of the remains.</p>				
Disturb nesting birds or raptors, as well as wildlife located in adjacent habitat	<p>BIO-3: Conduct Pre-construction Surveys for Nesting and Breeding Birds and Implement Avoidance Measures. Prior to construction activities (i.e., mobilization, staging, grading, or construction) a qualified avian biologist shall be in place to conduct pre-construction surveys for nesting birds within the recognized breeding season in all areas within 500 feet of all Project components (i.e., levees, staging areas, floodwalls, and access road locations). Surveys for raptors shall be conducted for all areas from January 1 to August 15. The required survey dates may be modified based on local conditions, as determined by the qualified avian biologist, in coordination with CDFW and USFWS. Measures intended to exclude nesting birds shall not be implemented without prior approval by CDFW and USFWS.</p> <p>If breeding birds with active nests are found prior to or during construction, the qualified avian biologist shall establish a 300 foot buffer (500 foot for raptors) around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails.</p> <p>The prescribed buffers may be adjusted by the qualified avian biologist based on existing conditions around the nest, planned construction</p>	Review pre-construction survey reports. Monitor during construction. Verify implementation of mitigation actions.	VCWPD	Prior to and during construction	

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	<p>activities, tolerance of the species, and other pertinent factors. The qualified avian biologist shall conduct regular monitoring of the nest to determine success/ failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The avian biologist shall be responsible for documenting the results of the surveys, nest buffers implemented, and presenting the results of ongoing monitoring in monitoring reports.</p> <p>Surveys shall be conducted to include all impact areas on the Project site as well as all construction equipment. If birds are found to be nesting in facility structures or construction equipment and the nests contain eggs or young, buffers as described above shall be implemented.</p> <p>If trees with nests are to be removed as part of Project construction activities, this will be done outside of the nesting season to avoid additional impacts to nesting raptors. If removal during the nesting season cannot be avoided, all trees will be inspected for active nests by the avian biologist. If nests are found within these trees and contain eggs or young, no activities within a 300 foot buffer for nesting birds and/or a 500 foot buffer for nesting raptors shall occur until the young have fledged the nest.</p>				
<p>Disturb nesting southwestern willow flycatchers, least Bell's vireos, or their habitat</p>	<p>BIO-5: Conduct Protocol Surveys for Least Bell's Vireo and Southwestern Willow Flycatcher and Avoid Occupied Habitat. If Project-related activities are scheduled to occur during the breeding season (March through September), a qualified avian biologist shall conduct focused surveys in suitable habitat within 500 feet of disturbance areas. The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season.</p> <p>If a territory or nest is confirmed in a previously unoccupied area, the CDFW and USFWS shall be notified within 48 hours. In coordination with the CDFW and USFWS, a 300 foot disturbance-free buffer shall be established and demarcated by fencing or flagging. This buffer may be adjusted as determined by a qualified avian biologist in coordination with the CDFW and USFWS. VCWPD, in consultation with the qualified biologist, shall halt construction if activities outside of but near the 300-foot buffer are determined to be negatively impacting the nesting birds. The qualified biologist shall devise methods to reduce the noise and/or disturbance in the vicinity as needed. This may include methods such as,</p>	<p>Review pre-construction survey reports.</p> <p>Identify known territories on construction plans.</p> <p>Monitor during construction.</p> <p>Verify implementation of mitigation actions.</p>	<p>VCWPD</p>	<p>Prior to and during construction</p>	

Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
	<p>but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge.</p>				
<p>Mortality or injury to southwestern pond turtles or disrupt nesting habitat</p>	<p>BIO-7: Conduct Surveys for Southwestern Pond Turtle and Implement Monitoring, Avoidance, and Minimization Measures. Prior to ground disturbance or vegetation clearing, a qualified biologist shall conduct focused surveys for southwestern pond turtle within the Project site and adjacent habitats to a distance of 200 feet away. Focused surveys shall occur between 1 April and 1 September, and shall consist of a minimum of four daytime surveys, to be completed prior to ground disturbance or vegetation clearing. The qualified biologist shall conduct focused, systematic surveys for southwestern pond turtle nesting sites. The survey area shall include all suitable nesting habitat located within 200 feet of occupied habitat in which ground disturbance will occur. Surveys will entail searching for evidence of pond turtle nesting, including remnant eggshell fragments, which may be found on the ground following nest depredation.</p> <p>If an active southwestern pond turtle nesting area would be adversely impacted by construction activities, the nesting area shall be avoided. If avoidance of the nesting area is determined to be infeasible, the authorized biologist shall coordinate with the CDFW to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without written authorization from the CDFW.</p> <p>A qualified biologist with demonstrated expertise with southwestern pond turtles shall monitor construction activities where pond turtles are present. The authorized biologist will be present full time during all vegetation removal activities immediately adjacent to, or within, habitat that supports populations of southwestern pond turtles, and part time for all remaining activities. If the installation of fencing to prevent turtles from entering the work area is deemed necessary by the qualified biologist, one pre-construction survey for southwestern pond turtles shall be conducted at the time of the fence installation. Pre-construction surveys for southwestern pond turtles shall also be conducted by the qualified biologist prior to vegetation clearing and/or removal of the existing levee structure.</p>	<p>Review pre-construction survey report. Monitor during construction. Verify implementation of mitigation actions.</p>	<p>VCWPD</p>	<p>Prior to and during construction</p>	

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Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
Injury or mortality of two-striped garter snakes and south coast garter snake	<p>BIO-8: Conduct Surveys for Two-Striped Garter Snakes and Implement Monitoring, Avoidance, and Minimization Measures. Prior to ground disturbance or vegetation clearing in the Project area, a qualified biologist shall conduct focused surveys for two-striped and south coast garter snakes where suitable habitat is present and directly impacted by construction vehicle access, or maintenance. Focused surveys shall consist of a minimum of four daytime surveys within one week of vegetation clearing. The qualified biologist will be present full time during all vegetation removal activities immediately adjacent to or within habitat that supports populations of the two-striped garter snake, and part time for all remaining activities. Surveys for garter snakes shall be conducted by the authorized biologist prior to the initiation of each day of vegetation removal activities. Any snakes found within the area of disturbance or potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the Project.</p>	<p>Review pre-construction survey report. Monitor during construction. Verify implementation of mitigation actions.</p>	VCWPD	Prior to and during construction	
Injury or mortality of amphibian and reptile species designated as California Species of Special Concern and/or Ventura County Locally Important Species	<p>BIO-9: Conduct Surveys for Terrestrial Herpetofauna and Implement Monitoring, Avoidance, and Minimization Measures. Prior to ground disturbance or vegetation clearing at all Project locations, a qualified biologist shall conduct surveys for terrestrial herpetofauna where suitable habitat is present and directly impacted by construction vehicle access, or maintenance. Focused surveys shall consist of a minimum of three daytime surveys and one nighttime survey within one week of vegetation clearing. The qualified biologist will be present full time during all vegetation removal activities immediately adjacent to or within habitat that supports terrestrial herpetofauna, and part time for all remaining activities. Surveys for terrestrial herpetofauna shall be conducted by the qualified biologist prior to the initiation of each day of vegetation removal activities in suitable habitat. Terrestrial herpetofauna found within the area of disturbance or potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the Project.</p>	<p>Review pre-construction survey report. Monitor during construction. Verify implementation of mitigation actions.</p>	VCWPD	Prior to and during construction	

<p>Mortality of special-status bat species, and loss of habitat</p>	<p>BIO-11: Survey for Maternity Colonies or Hibernaculum for Roosting Bats. Prior to ground disturbance or vegetation clearing at all Project locations, a qualified biologist shall conduct surveys for sensitive bats. Surveys shall be conducted no more than 15 days prior to grading near or the removal of trees or other structures. Surveys shall also be conducted during the maternity season (1 March to 31 July) within 300 feet of Project activities. If active maternity roosts or hibernacula are found, the structure, tree or tower occupied by the roost shall be avoided (i.e., not removed), if feasible. If avoidance of the maternity roost is not feasible, the qualified biologist will implement the following actions.</p> <ul style="list-style-type: none"> • Maternity roosts. If a maternity roost will be impacted by the Project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the Project site no less than three months prior to the eviction of the colony. Alternative roost sites will be constructed in accordance with the specific bat's requirements in coordination with CDFW. By making the roosting habitat available prior to eviction, the colony will have a better chance of finding and using the roost. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. The CDFW shall be notified of any hibernacula or active nurseries within the construction zone. • Exclusion of bats prior to eviction from roosts. If non-breeding bat hibernacula are found in trees scheduled to be removed, the individuals shall be safely evicted, under the direction of a qualified biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern coastal California. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified biologist shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one night between initial disturbance and the grading or tree removal). 	<p>Review pre-construction survey report. Verify implementation of mitigation actions. Monitor during construction.</p>	<p>VCWPD</p>	<p>Prior to and during construction</p>	
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Disturbance of endangered, threatened, proposed, or other special-status plant species or their habitat	<p>BIO-14: Conduct Pre-construction Surveys for State and Federally Threatened, Endangered, Proposed, Petitioned, Candidate, and Special-status Plants and Avoid any Located Occurrences of Listed Plants or Perform other Conservation Strategy. Focused surveys for federal- and state-listed and other special-status plants shall be conducted. All special-status plant species (including listed threatened or endangered species, Ventura County Locally Important species, and all California Rare Plant Rank (CRPR) 1A, 1B, 2, 3, and 4 species) subject to disturbance shall be documented in a pre-construction survey report. Surveys shall be conducted during the appropriate season in all suitable habitat located within the Project disturbance areas and within 100 feet of disturbance areas and access roads and be conducted by a qualified botanist. The field surveys and reporting must conform to current CDFW botanical field survey protocols (CDFW, 2009) or more recent updates, if available. The report will describe any conditions that may have prevented target species from being located or identified, even if they are present as dormant seed or below-ground rootstock (e.g., poor rainfall, recent grazing, or wildfire).</p> <p>If federally or State-listed plants are detected in disturbance areas or within 100-feet of the disturbance areas, these populations would be avoided and the USFWS and CDFW notified as appropriate.</p> <p>Impacts to any State or federally listed plants shall be avoided to the extent feasible. If Project activities result in the loss of more than 10 percent of the known individuals within a special-status plant species (List 1.B and List 2 only) occurrence/population to be impacted, USFWS and CDFW shall be consulted regarding the most appropriate conservation strategy for the particular species being impacted.</p>	<p>Review pre-construction survey report.</p> <p>Verify implementation of mitigation actions.</p> <p>Monitor during construction.</p>	VCWPD	Prior to and during construction	
Scenic Resources					
Increased graffiti due to floodwall	<p>SR-1: Graffiti Avoidance. The intent of this mitigation measure is to incorporate design features to avoid graffiti on the floodwall along Reach 4. Potential options include incorporating textured patterns on the wall, adding a mural or other artistic motif, providing vegetative screening, or application of an anti-graffiti coating which aids in the graffiti removal process (allows graffiti to be washed off). Prior to Project construction, the VCWPD and the City of Oxnard shall coordinate to develop a design plan for the floodwall, which is located within the City's jurisdiction.</p>	<p>Review design plan and/or Agreement with City of Oxnard.</p> <p>Document coordination with the City of Oxnard prior to construction.</p>	VCWPD	Prior to construction	

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Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
Hazards					
Encounter hazardous waste at landfill tie-ins and during retaining wall footing excavation	HAZ-2: Pre-Construction Testing for Landfill Waste, Landfill Gas, and Groundwater. Prior to construction, develop and implement a landfill waste and landfill gas testing plan. The plan shall outline the procedures to conduct an investigation at each levee-landfill tie-in (Option 1B only – Coastal and Santa Clara landfills) and along the proposed retaining wall north of the golf course maintenance building (Option 1A only), depending on whether Option 1A or 1B is selected. Generally, the plan and investigation shall determine if landfill waste or landfill gas will be encountered to the planned depths of excavation and soil conditioning for the proposed tie-in. The plan shall also include procedures to sample waste debris and conduct laboratory testing to identify any hazardous waste contamination. The plan shall include a landfill gas testing program to collect vapor samples from the planned depth of soil disturbance and conduct gas measurements for methane and vinyl chloride.	Develop testing and sampling plan. Review investigation results and determine whether landfill waste or gas will be encountered.	VCWPD	Prior to construction	
Damage existing gas recovery pipelines	HAZ-3: Coordination to Protect, Remove, or Relocate Landfill Gas Pipelines. Prior to construction, VCWPD shall coordinate the Project design with VRSD to identify and locate all landfill gas recovery wells, pipelines, condensate lines and sumps, and groundwater monitoring wells near the Project limits and ground disturbance areas. Based on the location of gas pipelines, a plan shall be developed to protect the pipelines in place or relocate them prior to construction. Active pipelines to be relocated will require additional coordination with VRSD to stop the gas flow, evacuate the line, and create the necessary connections to install the replacement pipeline. Inactive pipelines in the work areas shall be tested for residual gas or evacuated prior to removal or abandonment in place.	Verify identification of landfill gas infrastructure. Verify that construction plans avoid, relocate, or protect landfill gas infrastructure. Monitor during construction.	VCWPD	Prior to and during construction	
Fire Hazards	EC FR-1: Construction contracts shall provide standard measures for fire safety in compliance with the applicable sections of the California Uniform Fire Code and adopted Ventura County Fire Protection ordinances, standards and regulations. Measures may include, but not be limited to, the following: • Materials that are susceptible to spontaneous ignition, such as oily rags, would be stored in appropriate containers and safeguards would be taken to minimize the risk of exposing combustible materials to unintended sources of ignition;	Verify standard fire prevention measures are stated in construction contracts. Monitor during construction.	VCWPD	Prior to and during construction	

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	<ul style="list-style-type: none"> • Smoking would be prohibited except in approved areas; • Leaking equipment would be immediately repaired and/or taken out of service, and leaked materials cleaned up; • Fire protection equipment, including fire extinguishers, would be kept on site and inspected/maintained in accordance with applicable manufacturer recommendations; • Readily accessible emergency telephone facilities would be provided to all work crews to immediately report fire ignition to "911" emergency response services; • Internal-combustion-powered construction equipment would be located so that exhausts do not discharge against combustible material, equipment would not be refueled while in operation, and fuel for equipment would be stored in appropriate areas (if the contractor opts to store fuel on site); and • Combustible debris, rubbish and waste material would be removed and/or appropriately stored at the end of each workday and would not be disposed of by burning. 				
Public Health and Safety	EC PS-1: The contractor shall employ appropriate signaling and signage to accommodate interruptions in existing traffic flows. These measures shall be defined in the Traffic Control Plan (see EC T-2).	Review Traffic Control Plan (Approval by City of Oxnard and Ventura County). Monitor during construction.	VCWPD	Prior to and during construction	
	EC PS-2: Prior to implementation of the Project, relevant fire, police, and other emergency service agencies of the proposed work areas shall be notified of potential congestion, and traffic management methods to be used to ensure access at all times.	Document coordination with emergency service providers	VCWPD	Prior to construction	
	EC PS-3: On-site re-fueling of construction equipment would be accomplished at least 100 feet away from flowing water and with the use of liners. Best Management Practices (BMPs) would be used and include such actions as having hazardous waste clean-up equipment and spill kits staged on site, using the appropriate size and gauge drip pans and absorbent diapers. Spill kits shall be in close proximity to the fuel truck in case of fuel or other fluid spills. All equipment would be checked for leaks prior to operation and repaired as necessary.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction	

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	EC PS-4: Fluids released because of spills, equipment failure (broken hose, punctured tank) or refueling would be immediately controlled, contained, and cleaned-up per Federal, State, and local regulations. All contaminated materials would be disposed of promptly and properly to prevent contamination of the site. Someone would be present to monitor refueling activities to ensure that spillage from overfilling, nozzle removal, or other action does not occur.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction	
Noise and Vibration					
Disturb sensitive noise receptors, nesting birds or raptors, and wildlife (Reach 4)	NV-1a: Movable Construction Noise Barriers. During construction, install an approximately 10-foot-high moveable barrier along the sidewalk between the construction activity and the residential property wall, extending approximately 30 feet in both directions from the construction activity. If determined to be infeasible due to space constraints, install alternative moveable noise barriers with sound-absorptive surfaces facing the noise source between construction equipment and sensitive receptors (i.e. residences) in Reach 4. As feasible, moveable noise barriers should also be used to shield habitat areas in the Santa Clara River from construction noise.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction in Reach 4	
	NV-1b: Monitor Noise Levels. Periodically monitor noise levels during floodwall construction near noise-sensitive receptors in Reach 4 to determine whether construction noise levels exceed predicted levels. If construction noise is substantially greater than predicted, investigate whether it is feasible to install additional noise barriers or reposition construction equipment to reduce noise levels at sensitive receptors.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction in Reach 4	
Annoy nearby residences due to construction-related vibrations	NV-4: Community Notification. At least two weeks prior to construction, residences located within 500 feet of vibratory pile driving activities along Reach 4 (i.e., first three rows of houses along the south side of N. Ventura Road), and/or within 190 feet of vibratory roller activities in Reach 4 (i.e., first row of houses along the south side of N. Ventura Road) shall be notified. Multiple notifications may be needed if activities along the river side occur at a substantially different time from those on the land side of N. Ventura Road. The notification should provide residences the hours of construction, recommendations on ways to reduce noise levels (e.g., close windows), and contact information for vibration and noise complaints.	Verify distribution of notices.	VCWPD	Prior to construction in Reach 4	

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Mitigation Monitoring and Reporting Program

Table 8-1. Mitigation Monitoring and Reporting Program					
Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
Transportation and Circulation					
Affect traffic flow during construction	TC-2: Restrict Project Traffic from Using Highway 101 at Victoria Avenue during Peak Hours. No Project construction traffic shall travel on Highway 101 immediately north and south of Victoria Avenue between the hours of 7:00 to 8:00 a.m. and 5:00 to 6:00 p.m.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction	
	EC T-1: Haul routes shall be designed to minimize distances to the work site and avoid heavily congested areas or large residential communities to the maximum extent feasible.	Review Traffic Control Plan (Approval by City of Oxnard and Ventura County). Monitor during construction.	VCWPD	Prior to and during construction	
	EC T-2: The contractor shall submit a Traffic Control Plan to the County of Ventura and/or the City of Oxnard for review and approval at least 30 days prior to the onset of construction. The Traffic Control Plan shall demonstrate practices and safety precautions designed to minimize temporary traffic impacts, including but not limited to the signage requirements required per EC PS-1.	Review Traffic Control Plan (Approval by City of Oxnard and Ventura County). Monitor during construction.	VCWPD	Prior to and during construction	
	EC T-3: If damage to roads occurs, the contractor shall coordinate repairs with the affected public agencies to ensure that any impacts to area roads are adequately repaired. Roads disturbed by trucks or equipment shall be properly restored to ensure long-term protection of road surfaces. Such repairs shall occur as part of the active construction period.	Document coordination with affected road agencies Verify implementation of mitigation actions.	VCWPD	Immediately following construction.	
	EC T-4: The contractor shall obtain all applicable permits and clearances from appropriate agencies for transporting and hauling equipment and debris.	Review and verify all permits completed.	VCWPD	Prior to construction	

Table 8-1. Mitigation Monitoring and Reporting Program

Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
Cultural Resources					
Encounter subsurface cultural resource remains	CUL-1: Unanticipated Discovery of Archaeological or Historic Resources. In the event that archaeological or historic resources are found during Project implementation, an approved archaeological consultant shall be contacted immediately. Additionally, all ground-disturbing activities shall be halted at the discovery site and within 100 feet of it until the discovery has been evaluated by the approved archaeological consultant and all appropriate agencies have been notified. If the discovery is recommended as eligible for listing in the California Register of Historic Resources (CRHR), mitigation of the impacts may include archaeological data recovery and/or monitoring.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction	
	CUL-2: Unanticipated Discovery of Human Remains. If human remains are encountered during excavations associated with this Project, all work must halt, and the County Coroner must be notified (Section 7050.5 of the California Health and Safety Code). The coroner will determine whether the remains are of forensic interest. If the coroner determines that the remains are subject to his or her authority and that the remains are Native American in origin, the coroner will contact the Native American Heritage Commission (NAHC). The NAHC will identify the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 5097.98 of the Public Resources Code. The MLD should make his/her recommendations within 48 hours of their notification by the NAHC. This recommendation may include (A) the nondestructive removal and analysis of human remains and items associated with Native American human remains; (B) preservation of Native American human remains and associated items in place; (C) relinquishment of Native American human remains and associated items to the descendants for treatment; or (D) other culturally appropriate treatment.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction	
Daytime Glare					
Affect motorists and residences as a result of nighttime lighting	DG-1: Illumination and Glare. All nighttime lighting shall be shielded or positioned to avoid direct illumination onto any nearby roads or private homes.	Monitor during construction. Verify implementation of mitigation actions.	VCWPD Planning and Permits and Design and Construction Divisions	During construction	

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Mitigation Monitoring and Reporting Program

Table 8-1. Mitigation Monitoring and Reporting Program					
Environmental Issue	Mitigation Measures and Environmental Commitments	Method of Review Verification	Monitoring or Reporting Responsibility	Timing	Status of Implementation
Recreation					
Disrupt recreation activities at the River Ridge Golf Course (Option 1B only)	REC-1: Construction Notification. The River Ridge Golf Course shall be contacted thirty (30) days prior to the start of construction to minimize disruptions to activities within the golf course.	Document coordination with the River Ridge Golf Course.	VCWPD	Prior to construction	
Water Resources					
Affect drainage capacity	EC WR-1: Work on existing drainage facilities would be completed outside of the rainy season, or measures will be taken to maintain the flood carrying capacity if work occurs during the rainy season.	Monitor during construction.	VCWPD	During construction	
Affect water quality	EC WR-2: All BMPs associated with the Stormwater Pollution Prevention Plan (SWPPP) may include but are not limited to the following: General Site Design Control Measures (Conserve Natural Areas / Protect Slopes and Channels / Control Peak Stormwater Runoff Discharge Rates / Minimize Impervious Area); Site-Specific Source Control Measures (Storm Drain Message and Signage / Outdoor Material Storage Area Design / Outdoor Trash Storage Area Design / Fueling Area Design); and Treatment Control Measures (Grass Strip Filter / Grass Swale Filter / Detention Basin / Porous Landscape Detention / Infiltration Trench).	Monitor during construction. Verify implementation of mitigation actions.	VCWPD	During construction	

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810. Glossary and Acronyms

810.1 Glossary

A

alignment	In transportation, the horizontal and vertical ground plan of a roadway, railroad, transit route, or other facility as it would appear in plan and profile.
alluvial	Relating to or deposited by flowing water.
attainment area	An area considered to have air quality standards that are good or better than the National Ambient Air Quality standards as defined in the Clean Air Act.
A-weighted decibel (dBA)	Unit for measuring sound in which the sensitivity of the human ear to certain frequencies is taken into account.

B

Best management practice (BMP)	Techniques used in various industries to assure that projects, work, or processes meet regulatory or industry standards.
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C

cumulative impact	The effects of two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts.
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D

decibel (dB)	Unit for measuring sound, based on a logarithmic scale.
de minimis	Minimal importance.

E

equivalent sound-level (Leq)	The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.
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erosion The process by which the Earth's surface gets worn down due to natural processes such as water and wind flow.

expansive soils Soils characterized by their ability to undergo significant volume change (shrink and swell) due to variation in soil moisture content. Expansive soils are typically very fine grained with a high to very high percentage of clay. The amount and type of clay minerals in the soil influence volume change.

F

fault A fracture in the crust of the earth along which rocks on one side have moved relative to those on the other side.

frequency A measure of how rapidly sound pressure fluctuates over one second, in units of hertz.

fugitive dust Emissions of windblown dust from sources other than exhaust stacks (e.g., wheel dust from unpaved roads).

H

Holocene An epoch of the Quaternary period spanning the time from the end of the Pleistocene (8,000 years ago) to the present

hydraulics The study of the mechanical properties of liquids.

hydrology The study of the occurrence, distribution, movement and properties of water on Earth.

I

impact The effect of an action on the environment.

L

Leq Equivalent sound pressure level-the steady sound level that, over a specified period of time, would produce the same energy equivalence as the fluctuating sound level actually occurring.

liquefaction The phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong ground-shaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude and frequency of earthquakes in the surrounding region.

M

mesic	Of, pertaining to, or adapted to a habitat having a moderate supply of moisture.
mitigation (mitigation measure)	Methods proposed to avoid, minimize, rectify, reduce, eliminate, or compensate for a significant impact.

N

noise	Unpleasant, unwanted, undesirable, or disturbingly loud sound that disrupts a person's quality of life by interfering with communication, sleep, and/or leisure.
nonattainment area	An area considered to have air quality standards that are worse than the National Ambient Air Quality standards as defined in the Clean Air Act.

P

peak ground acceleration	The measure of earthquake acceleration on the ground.
Pleistocene	The latest major geological epoch, colloquially known as the "Ice Age" due to the multiple expansion and retreat of glaciers.

Q

Quaternary	The most recent period in the Earth's history.
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S

safety	The protection of people from accidental occurrences that could injure or kill them and protection of property from such accidents.
sedimentation	A process used to settle out suspended solids in water under the influence of gravity.
seiche	A series of waves caused by an earthquake within an enclosed or semi-enclosed body of water.
sensitive receptor	An individual who is more susceptible to the effects of air pollution than the general population. Sensitive receptors generally include children and elderly individuals.

seral¹ In ecological terms, a “sere” is the series of biotic communities formed by the process of ecosystem development called succession. In forested landscapes, the various vegetation communities that occupy disturbed sites and make up a sere are called “seral stages.” Seral-stage communities consist of vegetation types that are adapted to the site’s particular set of physical and biotic conditions. In the unmanaged forested landscape, various natural disturbance agents (such as fire, windthrow, landslides, and insects) are responsible for creating forests containing a full range of stand ages.

subsidence General term for the slow, long-term regional lowering of the ground surface with respect to sea level.

T

taxon, taxa A taxonomic category or group, such as a phylum, order, family, genus, or species. Taxa is the plural of taxon.

tsunami A series of waves generated by an undersea disturbance, such as an earthquake or landslide.

W

wetlands Areas “inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” (33 CFR 328.3, 40 CFR 230.3).

¹ Ministry of Forests Research Program, British Columbia. 1998. Biodiversity Management Concepts in Landscape Ecology. Extension Note 18. “Seral Stages across Forested Landscapes: Relationship to Biodiversity, Part 7 of 7”. April.

810.2 Acronyms

AAQS	Ambient Air Quality Standards
APCD	Air Pollution Control District
APNs	Assessor Parcel Numbers
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BACT	Best available control technology
bgs	Below Ground Surface
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal-EPA	California Environmental Protection Agency
Cal-OSHA	California Occupational Safety and Health Administration
CARB	California Air Resources Board
CAA	Federal Clean Air Act of 1970
CCAA	California Clean Air Act of 1988
CCC	California State Coastal Conservancy
CCR	Code of California Regulations
CDF	California Department of Forestry and Fire Protection
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CI	<i>Coccidioides immitis</i> fungus (San Joaquin Valley Fever)
CLOMR	Conditional Letter of Map Revision
CMB	Crushed miscellaneous base
CMP	Congestion Management Program
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon monoxide
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Rank
CUP	Conditional Use Permit
CWA	Clean Water Act
CY	Cubic yards
dB	Decibels
dBA	A-weighted decibels

10.

Glossary and Acronyms

DBH	Diameter at Breast Height
DFIRM	Digital Flood Insurance Rate Map
DOORS	Diesel Off-Road Online Reporting System
DPM	Diesel particulate matter
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EHD	Environmental Health Division
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FTA	Federal Transit Administration
g	Gravity
GBV	Ground-Borne Vibration
GHG	Greenhouse Gas
GMA	Groundwater Management Agency
HAPs	Hazardous air pollutants
HP	High pressure
HRMP	Habitat Restoration and Monitoring Plan
ICU	Intersection capacity utilization
LARWQCB	Los Angeles Regional Water Quality Control Board
Ldn	Day/Night average noise level
Leq	Energy equivalent or energy average level
Leq(h)	Average or mean noise level over a period of time (1-hour)
LID	Low impact development
LLAP	Local Levee Assistance Program
Lmax	Instantaneous maximum noise level
LOMR	Letter of Map Revision
LOS	Levels of service
LSCR	Lower Santa Clara River
MBI	Michael Baker International
MBTA	Migratory Bird Treaty Act
MLD	Most likely descendant
MOE	Measure of Effectiveness
MRP	Mineral Resource Protection
MS4	Municipal Separate Storm Sewer System
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAVD	North American Vertical Datum
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program

NO ₂	Nitrogen Dioxide
NOP	Notice of Preparation
NO _x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRHP	National Register of Historic Places
NTC	Noise threshold criteria
O ₃	Ozone
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PCE	Passenger car equivalent
PCH	Pacific Coast Highway
PERP	Portable Equipment Registration Program
PM	Particulate matter
PM10	Respirable particulate matter
PM2.5	Fine particulate matter
ppm	Parts per million
PPV	Peak particle velocity
PSI	Pounds per square inch
PWA	Public Works Agency
RACT	Reasonably Available Control Technology
RC	Reinforced concrete
RCP	Reinforced concrete pipe
RMS	Root mean square
ROC	Reactive Organic Compounds
RWQCB	Regional Water Quality Control Boards
SCAG	Southern California Association of Governments
SCCAB	South Central Coast Air Basin
SCE	Southern California Edison
SCRT	Santa Clara River Trail
SFHA	Special Flood Hazard Areas
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SRP	Scenic Resource Protection
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
µg/m ³	Micrograms per cubic meter
UPRR	Union Pacific Rail Road
USACE	U.S. Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	US Fish and Wildlife Service

10.

Glossary and Acronyms

USGS	United States Geological Survey
V/C	Volume/capacity
VCAPCD	Ventura County Air Pollution Control District
VCFPD	Ventura County Fire Protection District
VCWPD	Ventura County Watershed Protection District
VdB	Vibration decibels
VDECS	Verified Diesel Emission Control Strategies
VOC	Volatile organic compound
VRSD	Ventura Regional Sanitation District
WDR	Waste discharge requirements
WEPP	Worker Environmental Education Program

Appendices Provided on Attached CD
