US Army Corps of Engineers®

Murrieta Creek Flood Control/Environmental Restoration and Recreation Project

Riverside County, California

FINAL SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
and
SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

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U. S. Army Corps of Engineers
South Pacific Division
Los Angeles District

FINDING OF NO SIGNIFICANT IMPACT

Murrieta Creek Flood Control, Environmental Restoration and Recreation Project
Riverside County, California

I have reviewed the Supplemental Environmental Assessment (SEA) that has been prepared for the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project in Riverside County, California. The SEA is in compliance with the National Environmental Policy Act (NEPA) and all applicable environmental regulations.

The U.S. Army Corps of Engineers (Corps), in coordination with the non-Federal sponsor, the Riverside County Flood Control and Water Conservation District (RCFC&WCD), proposes to construct channel improvements within Phase II of the overall flood risk management project. This SEA addresses several minor post authorization modifications (design refinements) to the September 2000 Murrieta Creek Flood Control, Environmental Restoration and Recreation Final Feasibility Report (FR) and Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR). The Recommended Plan was approved for construction with the signing of the Record of Decision (ROD) on November 28, 2001 by the Corps.

The modified plan for Phase II (Modified Phase II Plan) is approximately 13,000 feet in length, from 200 feet upstream of Winchester Road to 1,000 feet downstream of 1st Street, and includes the following components: 1) replacement of the previously proposed gabions with approximately 68,650 cubic yards of soil cement protection in areas with less than a 2H:1V slope and 35,109 cubic yards of buried rip-rap for slope toe protection in areas with a 2H:1V and 3H:1V slope; 2) addition of five maintenance access ramps; 3) placement of fourteen drop inlets (manholes) along the maintenance road path to allow drainage into the creek; 4) removal of the Via Montezuma Road dip crossing; 5) placement of four grade control or stabilizer structures; 6) construction of a maintenance road on both sides of the channel; the west side maintenance road would also be used as a recreation trail for pedestrians, bicyclists, and equestrians; the east bank would be used as a pedestrian and bicycle trail; 7) inclusion of channel operation and maintenance activities; and 8) creation of approximately 23.67 acres of unmaintained riparian/ low-flow corridor with native riparian and aquatic habitat (averaging 70 feet in width).

Project construction for Phase II is anticipated to take 12 to 18 months to complete; the schedule, however, would ultimately depend on weather conditions, environmental restrictions, and available funding. As a result, construction may be completed in segments or stages as project funding becomes available. Project construction is scheduled to begin in 2014.

Approximately 2.65 acres of riparian, 0.32 acres of freshwater marsh, open water, and open channel, and 0.75 acres of coastal sage scrub habitat would be permanently impacted as part of the Modified Phase II Plan. Project components in the proposed modifications include approximately 44.63 acres of upland and coastal sage scrub habitat and establishment of

approximately 23.67 acres of unmaintained riparian and aquatic habitat. The Modified Phase II Plan would also result in a decrease of current channel maintenance requirements by the RCFC&WCD by about 29.61 acres. By implementation of the project revegetation plan, construction activities associated with the Modified Phase II Plan would yield a net increase in both habitat quality and acreage for riparian and upland habitat.

Short-term construction related impacts would be minimized by implementation of the environmental commitments identified in this SEA/SEIR and 2000 EIS/EIR. Environmental commitments and conservation measures have been incorporated to avoid or minimize impacts to biological and other environmental resources.

The proposed modification will not significantly impact any resources other than those described in the previously prepared environmental documents. The refinements from the original design will lessen the project impact.

The project remains in compliance with all applicable federal and state laws and statutes. The least Bell's vireo, listed as endangered under the Endangered Species Act of 1973, as amended, was detected within the Phase II project area in 2008. The Corps initiated formal consultation under Section 7 of the ESA with the U. S. Fish and Wildlife Service (USFWS). The USFWS issued a final biological opinion (BO) to the Corps on July 25, 2014 concluding that the proposed action is not likely to jeopardize the continued existence of the vireo with implementation of the conservation measures identified in the BO.

To comply with Section 404 of the Clean Water Act, a 404(b)1 evaluation has been prepared. The Modified Phase II Plan remains the Least Environmentally Damaging Practicable Alternative (LEDPA). A Section 401 water quality certification was obtained from the Regional Water Quality Control Board (RWQCB) on August 15, 2003 for the overall flood control project. The local sponsor will complete a Streambed Alteration Agreement with the California Department of Fish and Wildlife prior to construction. The project is in compliance with the Clean Air Act and Section 106 of the National Historic Preservation Act.

Based on the analyses in the SEA/SEIR Addendum, no new significant impacts were identified for the Modified Phase II Plan that had not already been assessed in the original EIS/EIR. Overall, the type, levels, and locations of impacts remain the same as described in the original EIS/EIR. I have determined that the proposed modification will not have a significant impact upon the existing environment or the quality of the human environment. Therefore, preparation of a Supplemental Environmental Impact Statement is not required.

7/29/14
DATE

Kimberly M. Colloton, PMP
Colonel, US Army
Commander and District Engineer

Executive Summary

Introduction

This Supplemental Environmental Assessment/Supplemental Environmental Impact Report (SEA/SEIR) has been prepared to assess the environmental impacts associated with implementation of ~~the Modified~~ Phase II ~~Plan. The Modified Phase II Plan is a modification~~ of the Murrieta Creek Flood Control, Environmental Restoration and Recreation ~~Phase II plan~~Project. Minor modifications and design refinements have occurred subsequent to completion of ~~described and recommended for authorization in~~ the September 2000 Feasibility Report (FR) and Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and project authorization. The Recommended Plan in the 2000 FR/EIS/EIR was authorized by Congress in Section 101(a)(5) of Public Law 106-53, the Water Resources Development Act of 1999. Project modifications and an updated evaluation of existing conditions and potential effects are addressed in this SEA/SEIR.

The U.S. Army Corps of Engineers (Corps) proposes to construct various improvements to provide flood control, a multi-purpose trail, and higher quality riparian habitat along the existing Murrieta Creek channel within the location described herein. The Riverside County Flood Control and Water Conservation District (RCFC&WCD) owns the channel right of way, will provide funding, and will operate and maintain the project. The entire Murrieta Creek Project was addressed in a previously adopted EIS/EIR (September 2000) (SCH Number 2000071051). Since that time, new information has become available, including the Western Riverside County Multiple-Species Habitat Conservation Plan (WRC-MSHCP) and the presence of the ~~Federally~~federally and State Endangered least Bell's vireo (*Vireo bellii pusillus*).

The Modified Phase II Plan includes the following key changes to ~~the Original Phase I Plan~~:

- Channel modification from the confluence with Santa Gertudis Creek (200 feet upstream of Winchester Road) to 1,000 feet downstream of 1st Street, approximately 13,000 feet in length.
- Replacement of gabions with soil cement in areas with less than a 2:1 (horizontal:vertical) slope and buried riprap in areas with a 2:1 and 3:1 slope.
- Excavation depth would range from 2 feet to 11 feet depending on the location along the creek. The excavated earthen channel side slopes would vary in slope. ~~From 200 feet upstream of Winchester Road a 2H:1V slope would be constructed on the channel bank that would extend 1,600 feet downstream of Winchester Road. From there, the channel would transition to a 3H:1V slope over the next 200 feet. The channel would continue the 3H:1V slope to 1,000 feet downstream of Rancho California Road where the slope would transition to 1H:4V over the next 300 feet. The 1H:4V slope would continue to 300 feet below 1st Street then it would transition to a 1H:2V slope over the next 50 feet. The channel would continue the 1H:2V slope for 450 feet and transition to a 2H:1V slope the next 200 feet till it connects with the Phase I constructed slope.~~
- Addition of five access ramps in four locations.

- Placement of fourteen drop inlets (manholes) along the maintenance road to allow drainage into the creek.
- Removal of the Via Montezuma Road dip crossing.
- Placement of one temporary and three ~~four~~permanent grade control or stabilizer structures instead of one permanent structure.
- Construction of maintenance roads on the east and west channel banks; the west side maintenance road would also be used as a recreation trail for pedestrians, bicyclists, and equestrians; the east bank would be used as a pedestrian and bicycle trail.
- ~~An~~ The proposed unmaintained riparian/low-flow corridor has been redesigned to maximize the extent and quality of riparian and aquatic habitat ranging between 35 feet and 150 feet in width, with an average width of approximately 70 feet; also includes the removal of the bench or terrace feature.

Supplemental Environmental Assessment/Environmental Impact Report

This Supplemental Environmental Assessment/Supplemental Environmental Impact Report (SEA/SEIR):

- Evaluates the differences in impacts between the Modified Phase II Plan and the Original Phase II Plan as documented in the 2000 EIS/EIR.
- Documents new information and newly identified areas of potential concern that have arisen since publication, circulation, and adoption of the 2000 EIS/EIR.

This SEA/SEIR concludes that impacts associated with the Modified Phase II Plan would not be substantially different with respect to the Original Phase II Plan as documented in the 2000 EIS/EIR. There were no increases in impacts for any resource. There would be a slight reduction in impacts for most resources. Mitigation measures and environmental commitments identified in the EIS/EIR 2000 continue to be sufficient to minimize and compensate for impacts associated with the Modified Phase II Plan. These measures are incorporated in this SEA/SEIR.

A revegetation plan for the Modified Phase II project is being prepared to provide direction for the design and establishment of wetland, riparian and upland habitats along areas of Murrieta Creek disturbed by project construction. The plan would ensure that restoration concepts identified in the project 2000 EIS/EIR would be developed into a functioning habitat. The objective is to actively and passively restore native riparian habitat and provide habitat values greater than those associated with the existing conditions. The revegetation plan would identify objectives, goals, and standards to guide the restoration efforts. The revegetation plan would also emphasize sensitive species habitat.

In addition, the revegetation plan would provide: (1) descriptions of native plant pallets proposed for the project area; (2) guidance for the layout, design, soil salvaging, and planting schedule for each habitat type; and (3) criteria for monitoring and evaluating the success of the habitat once established. Additional revegetation plans would be developed for each of the subsequent phases for the Murrieta Creek Project.

Final SEIR

INTRODUCTION

As the CEQA Lead Agency, the Riverside County Flood Control and Water Conservation District ("District") circulated the accompanying Draft Supplemental Environmental Impact Report ("SEIR") for the Murrieta Creek Flood Control Environmental Restoration and Recreation Phase II Project (referred to as Project and Phase II Project herein) from December 3, 2012 through January 16, 2013. The materials presented in this document along with the Draft SEIR constitute the Final SEIR required pursuant to CEQA Guidelines Sections 15089 and 15132. The following is an excerpt from the *CEQA Guidelines* Section 15132 that states that:

"The Final SEA/SEIR shall consist of:

(a) The Draft SEA/EIR or a version of the draft.
(b) Comments and recommendations received on the Draft SEA/EIR either verbatim or in summary.
(c) A list of persons, organizations, and public agencies commenting on the Draft SEA/EIR.
(d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
(e) Any other information added by the Lead Agency."

The Final SEA/SEIR includes all of these required components. The Final SEA/SEIR includes the Responses to Comments and each comment letter. A response is provided for each written comment letter, and the responding agencies are listed below.

RELATIONSHIP TO THE DRAFT SEIR

These materials, together with the November 2012 Draft SEA/SEIR, and the Environmental Commitments constitute the CEQA environmental documents that will serve as the basis for any discretionary approvals to be carried out by the RCFC&WCD for the Project.

PUBLIC REVIEW SUMMARY

The Draft SEA/SEIR was distributed for review by the Corps on November 29, 2012 (Final SEIR Appendix A). The official Clearinghouse review period began December 4, 2012 and ended January 17, 2013. In a January 18, 2013 letter, the State Clearinghouse confirmed completion of the Clearinghouse review period and forwarded a response letter from the Native American Heritage Commission (NAHC). In a January 31, 2013 letter, the Clearinghouse forwarded a January 29, 2013 letter from the California Department of Fish and Wildlife (CDFW). The CDFW letter was also received by the Corps under separate cover. The above letters are also included in Appendix ~~A~~ H of this Final SEIR. General public notice of availability of the Draft SEIR was given by publication in the *Press Enterprise*, the *Californian*, and the *North County Times* on December 3, 2012. Copies of the published notice are included in Appendix A as well. As required by Public Resources Code Section 21092.3, a copy of the public notice was posted with the Riverside County Clerk on December 3, 2012 (Final SEIR Appendix A). A copy of the public notice was also posted on the District's internet site. As provided in the public notice and in accordance with CEQA Section 21091(d), the District

accepted written comments through January 16, 2013. The District received the comment letter from the NAHC during the posted and published public review period. Subsequent to the close of the public review period, the Corps received comment letters from the California Department of Fish and Wildlife, Pechanga Band of Luiseño Indians, United States Environmental Protection Agency, Endangered Habitats League, and the U.S. Fish and Wildlife Service. Although CEQA does not require Lead Agencies to respond to late comments, responses to the above letters are included herein.

In accordance with the provisions of Public Resources Code Section 21092.5, the written proposed response to each commenting public agency shall be provided to each public agency at least 10 days prior to certifying the Final SEIR. Public Resources Code Section 21063 defines Public Agency as including any state agency, board, commission, county, city, regional agency, public district, redevelopment agency or other political subdivision. Thus, the California Department of Fish and Wildlife and the Native American Heritage Commission provided comments and are public agencies for purposes of Section 21092.5. Thus, written proposed responses to these agencies were provided at least 10 days prior to the SEA/EIR scheduled certification date.

CHANGES TO DRAFT SEA/EIR

Pursuant to Section 7 of the federal Endangered Species Act, formal consultation between the Corps and the U.S. Fish and Wildlife Service for the endangered least Bell's vireo was initiated on March 15, 2013. Further coordination occurred between the Corps, the District, the USFWS, U.S Environmental Protection Agency, the California Department of Fish and Wildlife, and the San Diego Regional Water Quality Control Board. In response to the FWS's comments regarding aquatic species (i.e. arroyo chub and southwestern pond turtle), the final Phase II design does not include the previously proposed bench or terrace feature to provide a constant channel bottom or invert. This would allow for the establishment of aquatic habitat in unmaintained areas. The Corps has included other design refinements to encourage the low flows to pass through the zone of unmaintained riparian vegetation at the invert elevation. These design refinements also include a notch in the temporary grade control structure at the upstream end of the Phase II project area and another notch in the permanent grade control structure above Rancho California Road Bridge to encourage low flows toward the unmaintained portion of the channel. The flat earthen invert design is consistent with the project description included in the September, 2000 EIS/EIR for the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project. Additional minor changes were made where necessary in the SEA/SEIR to clarify operation and maintenance activities that may affect portions of the Project not subject to regular maintenance (i.e. unmaintained riparian/low-flow zone and side slopes). Revisions are indicated in the text of the specific Final SEA/SEIR sections (e.g. Section 6 Biological Resources and Section 7 Cultural Resources) of the Final SEA/SEIR. Added or modified text is shown by underlining (example) while deleted text is shown by striking (~~example~~).

The above design refinements are not considered significant new information, as described in CEQA Guidelines Section Guidelines Section 15088.5 (a). The design refinements were made to address comments regarding aquatic species. The clarification and modifications contained herein are not considered to result in any new or more severe impacts than identified in the previously circulated Draft SEA/EIR. Therefore, recirculation of the SEA/SEIR is not required

pursuant to CEQA Guidelines §15088(b), which states "Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR."

2.0 RESPONSE TO COMMENTS

Pursuant to CEQA Guidelines Section 15088, the responses to comments presented in Appendix H ~~this section~~ address specific, relevant comments on environmental issues raised in the submitted comment letters. For clarification, copies of the original letters, including all attachments, are also presented in Appendix H~~?~~. It should be noted that responses to comments also resulted in various editorial clarifications and corrections to the original Draft SEA/EIR text. Added or modified text is shown by underlining (example) while deleted text is shown by striking (~~example~~). The additional information, corrections, and clarifications do not substantively affect the conclusions within the previously circulated Draft SEA/EIR.

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1.0 INTRODUCTION

The U.S. Army Corps of Engineers (Corps) and Riverside County Flood Control and Water Conservation District (RCFC&WCD) prepared this Supplemental Environmental Assessment/Supplemental Environmental Impact Report (SEA/SEIR) to assess the environmental impacts associated with implementation of the Modified Phase II Plan. The Phase II project was originally analyzed in the Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project prepared by the Corps in September 2000. The modifications to the Phase II project proposed in this SEA/SEIR were developed in coordination with RCFC&WCD, the non-Federal local sponsor for the project.

The construction of the Modified Phase II Plan is a jointly funded activity between the federal government and RCFC&WCD, the non-Federal sponsor. Upon completion of construction, RCFC&WCD would be solely responsible for future maintenance activities. As a result, this SEA/SEIR has been prepared in compliance with the National Environmental Policy Act (NEPA of 1969) and the requirements of the California Environmental Quality Act (CEQA, as amended), Article 14, Sections 15220 and 15164.

Subsequent to preparation of the 2000 Final EIS/EIR and during preparation of the detailed design for Phase II of the project, minor modifications were made to some of the project features identified in the Final EIS/EIR. In addition, Phase I was shortened and now extends from near the United States Geological Survey (USGS) stream gage upstream 3,000 linear feet to approximately 1000 feet downstream of 1st Street. Thus, Phase II now extends from 1000 feet downstream of 1st Street (to tie in with the Phase I constructed channel improvements) to 200 feet upstream of Winchester Road Bridge. This SEA/SEIR evaluates impacts associated with the construction, operation, maintenance, and potential emergency repairs associated with the modified Phase II.

The Corps has and would continue to coordinate with resource agencies to ensure that impacts to environmental resources are minimized and mitigated.

1.1 Project Location

The Murrieta Creek Phase II Project is located in the City of Temecula, in southwestern Riverside County, California. Specifically, the project area is located along the I-15 freeway, between the Phase I project area 1000 feet south of First St. and 200 feet upstream of Winchester Road (just downstream of the Santa Gertrudis Creek confluence) (Figure 1-1).

The proposed project is located between Front Street/Jefferson Avenue and Pujol Street/Diaz Road within and along Murrieta Creek. The project footprint is adjacent to several commercial facilities in the City of Temecula, including Old Town Temecula. Facilities include restaurants, boutiques, retailers, and business and residential complexes.

Murrieta Creek is approximately 13.5 miles long and drains an area of approximately 220 square miles. Murrieta Creek is an important component of the Santa Margarita River watershed, which encompasses approximately 750 square miles. Elevations in Murrieta Creek range between approximately 1,000 to 4,500 feet above mean sea level.

Murrieta Creek flows through the cities of Wildomar, Murrieta and Temecula. Two major tributaries flow into Murrieta Creek: Santa Gertrudis Creek and Warm Springs Creek. Santa Gertrudis Creek, the larger of the two tributaries, joins Murrieta Creek immediately upstream of Winchester Road, approximately 3 miles upstream of the United States Geological Survey (USGS) gauging station. The Warm Springs Creek confluence is located approximately 4 miles upstream of the USGS gauging station between Elm and Date streets. Murrieta and Temecula Creeks converge downstream to form the Santa Margarita River. The Santa Margarita River flows through San Diego County, passing through U.S. Marine Corps Base Camp Pendleton and discharges into the Pacific Ocean.

1.2 Overview of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project

The overall Murrieta Creek study area from the 2000 EIS/EIR extended from the upstream limit at McVicar Street in the City of Wildomar to approximately 0.5 mile north of Murrieta Creek's confluence with Temecula Creek. Within the study area, the creek gradient is about 18 feet/mile. Its elevation change from the upstream to downstream termini is approximately 220 feet. The study area includes the 100-year floodplain of the creek.

The RCFC&WCD periodically mows vegetation, repairs erosion and conducts sediment removal within the Murrieta Creek to maintain sufficient flood conveyance capacity.

The approved project is intended to provide 100-year flood protection, environmental restoration, and recreation components. The project is being designed by the Corps in conjunction with the RCFC&WCD. Future maintenance of the project (Phases I, II, III, and IV) would be the RCFC&WCD's responsibility. The Corps and RCFC&WCD are in the process of preparing a detailed revegetation plan, including descriptions of native plant pallets for revegetating the channel and banks after construction of the Phase II improvements (environmental commitment B-2, see Section 6.3 and Chapter 20).

1.2.1 Background

Portions of Murrieta Creek flood control channel were constructed by Riverside County in 1939, following the damaging floods of 1938. For the subsequent 25 years, no major modifications to the channel were made. By 1969, severe bank erosion and channel degradation had taken place, considerably reducing the flood conveyance of the channel. In 1969, the RCFC&WCD embarked upon a program of restoring levees and deepening within certain reaches of the channel to provide additional flood flow capacity. Additional channel widening and deepening occurred from approximately Rancho California Road to Winchester Road to protect adjacent development constructed in the early 1970s. Channel restoration also took place in 1978, 1980,

1993, and 1998 through certain reaches of the channel. The channel restoration took place along certain reaches of the channel and has generally extended from downstream of Old Town Temecula to as far upstream near Vineyard Parkway/Lemon Street in Murrieta (USACE, 1998a).

Despite past channel restoration in certain reaches, the study area is still prone to flooding. In particular, the Old Town areas of Murrieta and Temecula are susceptible to substantial flooding during periods of heavy rains. The flood control solutions associated with the proposed action are intended to reduce this potential for flooding.

Congress, in the Flood Control Act of 1936, established as a nationwide policy that flood control (i.e., flood damage reduction) on navigable waters and their tributaries is in the interest of the general public welfare and is, therefore, a proper activity of the Federal Government in cooperation with the states and local entities. It provided that the Federal Government may improve streams or participate in improvements "for flood control purposes if the benefits to whomsoever they may accrue are in excess of the estimated costs, and if the lives and social security of people are otherwise adversely affected." The 1936 Act, as amended, and more recently under the Water Resources Development Act of 1986, specifies the details for Federal participation. These subsequent actions have also enlarged the scope of the Federal interest to include consideration of all alternatives in controlling flood waters, reducing the susceptibility of property to flood damage, including improvements for protection from groundwater induced damages, and relieving human and financial losses.

The Feasibility Study for the Murrieta Creek Flood Control/Environmental Restoration and Recreation Project was authorized by U.S. Senate Resolution, dated 28 March 1996, which directed the Secretary of the Army to:

"Review the report of the Board of Engineers for Rivers and Harbors dated 31 December 1985, San Diego Streams, California, for the purpose of watershed management, including flood control, environmental restoration, stormwater retention, water conservation and supply, and related purposes, and with a specific focus on the Santa Margarita Watershed, including Murrieta Creek, San Diego and Riverside Counties, California."

1.2.2 Project Authorization

The Murrieta Creek project was authorized for construction in the Energy and Water Development Appropriations Act of 2001 (P.L. 106-377), on 27 October 2000, which stated as follows:

> "The Secretary of the Army, acting through the Chief of Engineers, is authorized to construct the locally preferred plan for flood control, environmental restoration and recreation, Murrieta Creek, California, described as Alternative 6, based on the Murrieta Creek Feasibility Report and Environmental Impact Statement dated October 2000, at a total cost of $89,850,000 with an estimated Federal cost of $57,735,000 and an estimated non-Federal cost of $32,115,000."

1.2.3 Past Prepared Environmental and Feasibility Study Reports

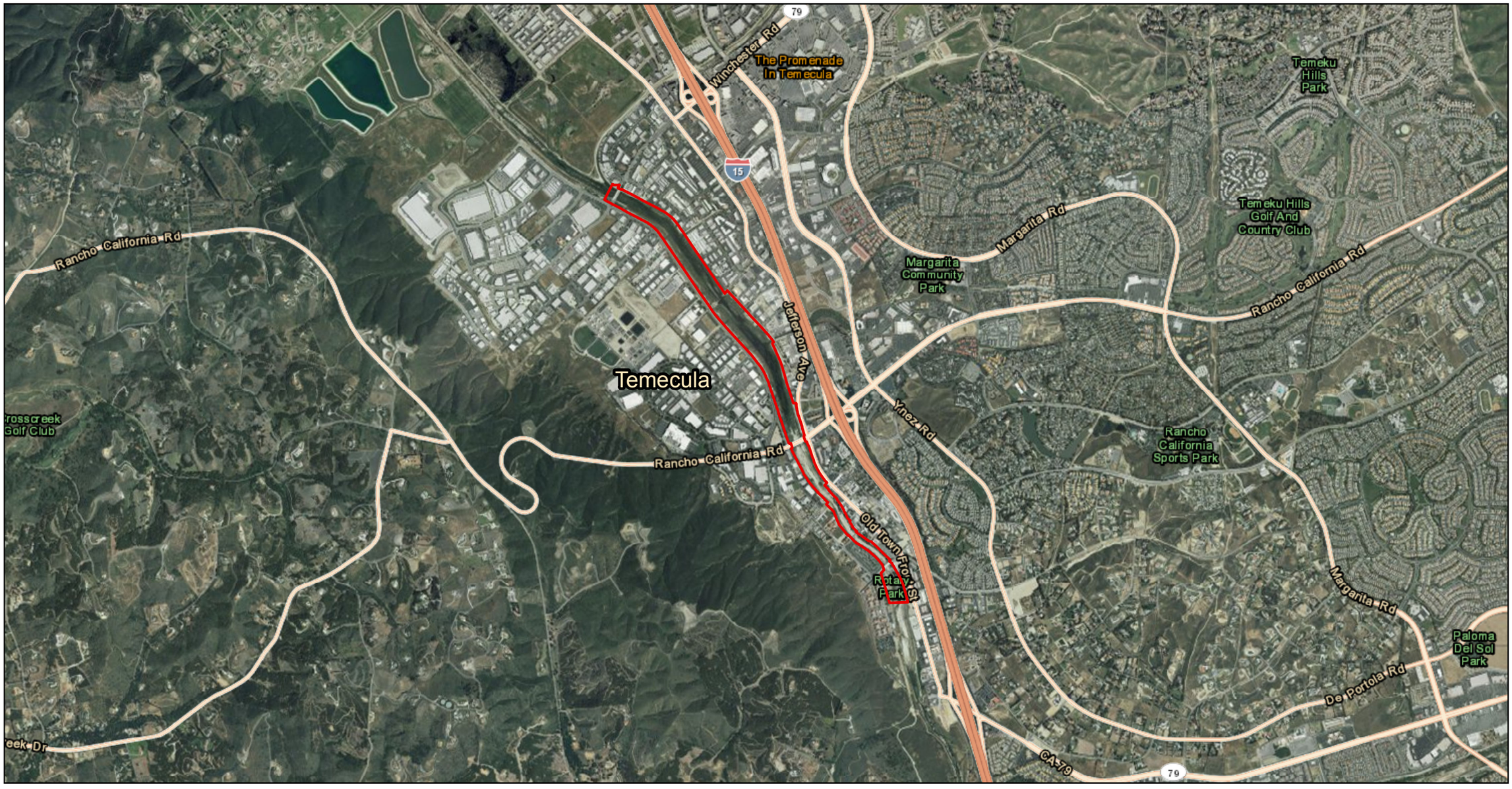
Final EIS/EIR 2000 for Murrieta Creek Flood Control, Environmental Restoration and Recreation Project

A Final EIS/EIR was completed in September 2000 that evaluated alternative means of providing flood control and protection along Murrieta Creek in Riverside County, California. A total of six alternatives were carried forward for detailed evaluation in this EIS/EIR, including the No Action Alternative (continuation of existing floodplain maintenance practices) and five structural alternatives. Alternative 6 was the Recommended Plan identified in the Final EIS/EIR, and is described below. Alternative 6 was selected and approved by RCFC&WCD on January 28, 2003.

The 2000 Final EIS/EIR assumed that the proposed project's construction would be accomplished in ~~three~~ four phases. Scenario assumptions used in the EIS/EIR for the analysis were projected for each of the ~~three~~ four phases (e.g., construction equipment, excavation quantities, etc.). The Original Phase I construction consisted of Downstream Channel Improvements (i.e., downstream of Rancho California Road), Phase II included the Multi-Purpose Detention Basin (constructed on approximately 270 acres) with the storage capacity and hydraulic capacity to manage the 100-year tributary flow between the USGS stream gage south of Old Town Temecula and Tenaja Road in the city of Murrieta, and Phase III involved Upstream Channel Improvements (i.e. upstream of the basin). The proposed project also included the construction of a recreational trail system, a regional sports park, bridge replacements, and environmental restoration. The project area was analyzed in the EIS/EIR as six separate reaches. The 2000 Final EIS/EIR contains a comprehensive list of earlier reports published for the project.

1.3 Environmental Analysis

Impacts to the Original Phase II Plan was evaluated and described in the 2000 EIS/EIR. This SEA/EIR focuses evaluation of impacts from the Original Phase II Plan to the proposed Modified Phase II Plan on applicable environmental resources. Sections 4.0 through 17.0 describe the comparison of impacts between the Original and Modified Phase II Plans. Section 18.0 contains an evaluation of growth-inducing impacts and Section 19.0 discusses cumulative impacts. Measures proposed to avoid, minimize, and mitigation potential impacts are summarized in Section 20.0. Lastly, a summary of compliance with environmental laws, regulations, and statutes are located in Section 21.0 and a summary of the evaluation findings of this SEA/SEIR is found in Section 22.0.



Legend

Right of Way for Murrieta Creek

N

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
Copyright:© 2012 Esri, DeLorme, NAVTEQ, TomTom

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: November 27, 2012

0 0.25 0.5 1 Miles

Figure 1-1 Project Location

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Draft Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

2.0 PURPOSE AND NEED

2.1 PURPOSE

The primary purpose of the Modified Phase II Plan is the same as was identified in the 2000 Final EIS/EIR: Reduce the impact of flooding along Murrieta Creek. This would result in protection of human life and reduce public and private flood inundation damages to residential, commercial, industrial, historic property, and bridges and road crossings along Murrieta Creek. In addition, the proposed action would also protect, establish, and maintain a rich and diverse biotic community to the extent possible while maintaining flood risk management capacity. In addition, the proposed action would provide storm water detention and recreation features. ~~the construct a maintenance road of both sides of the channel, establish, and maintain a rich and diverse biotic community while maintaining flood capacity. Restoration activities would create additional habitat within the project area and enhance the riparian/wetland corridor improving connectivity with adjacent downstream habitat. Implementation of the restoration plan would increase the functional capacity of the habitats and increase riparian vegetation.~~

2.2 NEED

In the absence of structural flood control solutions, flooding would continue to occur along Murrieta Creek and downstream along the Santa Margarita River. Potential damages from future events could include flood inundation of residences and commercial structures in the cities of Murrieta and Temecula. At the time the 2000 EIS/EIR was prepared, an estimated 542 structures were located within the 100-year floodplain and are considered at risk. The continued development of the areas adjacent to Murrieta Creek may put more structures at risk.

3.0 ALTERNATIVES

3.1 Introduction to the Alternatives Analysis

Reasonable alternatives for the entire Murrieta Creek project including Phase II were evaluated in the 2000 Final EIS/EIR. The 2000 Final EIS/EIR evaluated six primary alternatives including the No Action Alternative and considered, but did not carry forward, nine other alternatives (i.e., channelization, nonstructural, and other drainage improvements). Alternative 6 of the 2000 EIS/EIR was selected and approved by the Corps and RCFC&WCD.

The purpose of this SEA/EIR is to assess the environmental impacts associated with implementation of the Modified Phase II Plan, and compare them to impacts associated with the original Phase II evaluated in the 2000 Final EIS/EIR.

The comparison would include only the portions of the 2000 recommended plan that is within the same location as the modified Phase II plan. Section 3.3 presents the approved recommended plan while Section 3.4 presents the modified Phase II plan. Section 3.5 provides a review of the alternatives considered and eliminated from detailed study, as documented in the 2000 EIS/EIR.

3.2 Alternatives Considered and Eliminated from the 2000 Final EIS/EIR.

As discussed in the 2000 EIS/EIR, a determination of the range and scope of the alternative plans was accomplished with input from RCFC&WCD, local cities, and resource agencies. Both non-structural and structural measures were identified and evaluated. The original EIS/EIR provided a detailed discussion for each alternative considered and the reasons for elimination for further consideration in the document (EIS/EIR, 2000, Section 2.2). The following is a summary of those alternatives eliminated from further analysis in the 2000 EIS/EIR. Alternative 6 was selected and approved by the Corps and RCFC&WCD. Phase II is a component of the previously approved project, and potential alternatives are limited to the Phase II project footprint. While designing Phase II, minor modifications to the original project were evaluated for engineering and environmental considerations. The proposed Phase II design is feasible while complying with the previous environmental commitments.

Non-structural alternatives initially considered during this process included the following:

- **Flood Insurance.** The provision of flood insurance to property owners within the flood-prone area was considered as a means to mitigate for monetary losses associated with flood damages. This approach was rejected because it would not alleviate the safety risks and physical damages to structures that result from flooding.
- **Evacuation.** The development of detailed evacuation plans for the flood-prone areas could increase public safety, but would do nothing to prevent property damage within the affected areas. An evacuation approach would have to be combined with improved flood warning.
- **Flood Warning.** By providing a warning system for the affected areas, it would be possible to provide property owners and tenants a chance to remove personal belongings from the area prior to flooding. This approach would increase public safety and would decrease damage to small items that are easily transported or stored above the 100-year flood level. This approach would not address the more substantive issue of structural damage within the flood zone.

- **Emergency Response.** Typical actions taken as part of an emergency response include using heavy equipment and materials to maintain streets to provide safe driving conditions. This can include, but not be limited to, barricading and/or sandbagging locations subject to hazardous flooding. This approach would not address the issue of structural damage within the flood zone.
- **Floodproofing.** This approach would consist of floodproofing individual structures through methods such as floodwalls along property lines, raising building elevations above the 100-year flood level, or some combination of these. This approach would not be economically feasible given that there are over 540 structures within the flood-prone area that would require protection.
- **Floodplain Management.** Floodplain management can be an effective means of preventing flood damage in areas that have not yet been developed—for example, limiting the construction of buildings in a floodplain or requiring that structures be elevated above flood levels can reduce future damages. This approach, however, is considerably less effective in areas that have already been developed, such as the land along Murrieta Creek. The flood-prone area includes over 540 structures, including buildings that were constructed in the 1800s (before the implementation of zoning and General Plans).

Structural alternatives initially considered included the following:

- **Ring Levees.** The term "ring levees" refers to the construction of flood control berms around individual structures or small groups of structures. This approach is infeasible given the number of structures within the flood-prone area and the space constraints within the Old Town Temecula area and the City of Murrieta designated historic district.
- **Dams.** Dams can be used to detain peak flood flows upstream from flood-prone areas. Within the Murrieta Creek watershed, however, dams would not be an effective means of reducing peak flows because of the area's hydrological and topographic characteristics. More specifically, the natural drainages that could be feasibly dammed upstream from the study area are not large enough to provide the desired 100-year flood protection.
- **Channelization.** By removing the natural contours of a channel and lining it with an impervious substance such as grouted stone or concrete, channel capacity can be dramatically increased. This type of approach eliminates virtually all biological resource values associated with a creek and also substantially degrades the esthetic and other community values associated with a natural water feature.

- To addresses comments from resource agencies during the public review period of the Draft SEA/SEIR, the Corps evaluated proposed design modifications to reduce impacts specific to Phase II. Those proposed modifications that were dismissed from further consideration are discussed in Section 3.5

3.3 Comparison of the Modified Phase II Plan and Original Phase II Plan, 2000 EIS/EIR

Table 3-1 provides a comparison matrix of the features and parameters of the Modified Phase II Plan and ~~original~~ Original Phase II Plan detailed in the 2000 Final EIS/EIR. The comparison would include only the portions of the 2000 recommended plan that are within the same boundaries as the modified Phase II plan. Table 3-1 describes the key differences between these two plans.

Table 3-1 Comparison of Key Project Features

Project Features	Recommended Plan (2000 Final EIS/EIR)	Modified Phase II Plan	Key Differences
Project boundary	200 feet upstream of Winchester Road to 1,000 feet downstream of 1st Street	200 feet upstream of Winchester Road to 1,000 feet downstream of 1st Street	None
Channel Modification Length	Approximately 12,800 feet	Approximately 13,000 feet	Modified Phase II would increase the length of the project area by 200 feet.
Embankment slope	From Winchester Road a 3:1 slope would be constructed on the channel banks that would extend downstream of Rancho California Road for a distance of approximately 600 feet. The channel would transition to a 0.5:1 slope over the next 500 feet. The channel would continue the 0.5:1 slope for approximately 3,000 feet to just below 1st Street bridge. Downstream of 1st Street, the channel banks would transition back to a 3:1 slope over a distance of approximately 200 feet. The 3:1 slope would continue over the next 2,800 feet downstream to the terminus of the channel modifications.	From 200 feet upstream of Winchester Road a 2:1 slope would be constructed along the channel banks. This extends to 1,600 feet downstream of Winchester Road bridge. The channel would transition to 3:1 slope over the next 200 feet. The channel would continue the 3:1 slope to 1,000 feet downstream of Rancho California Road bridge where the slope would then transition to 1:4 over the next 300 feet. The 1:4 slope would continue to 300 feet below 1st Street bridge then transition to 1:2 slope over the next 50 feet. The channel would continue the 1:2 slope for 450 feet and then transition to a 2:1 slope over the next 200 feet at which it would connect with Phase 1 constructed slope	Modified Phase II would result in steeper side slopes, and a wider earthen channel invert width.
Bridge Replacement	Replacement of the Main Street Bridge	Removed Main Street Bridge replacement element. However, City of Temecula would be ~~plans to~~ designing and ~~replac~~constructing~~e~~ the Main Street Bridge.	Reduction in impacts to wetland and riparian habitat associated with bridge construction.
Gabions	Placement of gabions at selected locations from Rancho California Road downstream to 1st Street to reinforce the banks in areas with less than 3:1 slopes.	None proposed.	The gabions have been replaced with soil cement and riprap for bank protection in Phase II.
Soil Cement	None proposed.	Approximately 68,650 cubic yards of soil cement is proposed in areas with steeper than 2:1 slope.	Soil cement would be used for bank protection.
Rip Rap	None proposed.	Approximately 35,109 cubic yards of rip rap is proposed in areas with a 2:1 and 3:1 slope. The riprap would be buried with soil and vegetation placed on top.	Buried riprap placed for bank protection.

Project Features	Recommended Plan (2000 Final EIS/EIR)	Modified Phase II Plan	Key Differences
Access Ramps	None proposed.	Five access ramps would be place in four locations. These would range from 200 feet to 300 feet in length.	This would not create new impacts.
Drop Inlets	None proposed	~~Fifteen~~ Fourteen drop inlets will be placed along the maintenance road path. Fourteen on the west bank of the channel and one on the east bank.	These would require a ~~2 x 2 foot or 4 x 4 foot~~ concrete structure placed in the bank. These would connect to existing pipes to allow drainage into Murrieta Creek.
Grade Control Structures	One proposed at station 113+50.	Four grade control structures are proposed. One at station 113+50, one just upstream of station 189+00, and one each at the confluence of Long Canyon and Empire Creeks.	This is an increase of three grade control structures.
Removal of Via Montezuma	Not proposed	The existing dip crossing at Via Montezuma would be closed. Ramps will be placed here to allow maintenance access to the creek.	This would reduce the traffic in the creek, reducing impacts to water quality.
Permanent Impacts to vegetation	0.5 acres alkali marsh, 0.5 acres of coastal sage scrub	Approximately 12 acres of permanent vegetation impacts.	There is a 11 acre increase in permanent impacts to vegetation.
Temporary Disturbance of vegetation	52.6 acres	Approximately 86.3 acres would be impacted temporarily.	There is a 33.7 acre increase in the amount of vegetation temporarily impacted.
Unmaintained riparian corridor	20-60 feet in width	Varies between ~~20~~ 35 feet and 150 feet in width. Average width ~ 70 feet.	Results in net increase of undisturbed riparian vegetation.
Recreation	Pedestrian/Bicycle and Equestrian trail	Top of each bank would be used as a maintenance road; top of east bank would also be used as a pedestrian and bicycle trail; top of west bank would be used as a pedestrian, bicycle, and equestrian trail.	A portion of the proposed trail in the 2000 EIS/EIR has been constructed between Winchester and Rancho California Roads.
Excavation Requirements	1,100,481 cubic yards[1]	952,000 cubic yards	15.5 percent increase in excavated material.[2]

1 This number includes both Phase I and II cubic yards of excavation. The 2000 EIS/EIR did not break out the amounts by phases.
2 This percentage was based on the 320,000 c y excavated in Phase I plus the cubic yards for Phase II, divided by the 2000 EIS/EIR estimate.

3.4 Approved Recommended Plan – Original Phase II Plan (2000 Final EIS/EIR)

The approved recommended plan consisted of channel modification (i.e., widening, and deepening), levee construction, construction of a drop structure, construction of gabions, and operation and maintenance for flood risk management of Murrieta Creek from Tenaja Road in the city of Murrieta to the USGS stream gage south of Old Town Temecula. The original proposed project also included the construction of a multi-purpose detention basin, equestrian and pedestrian/bicycle trail system, bridge placement or replacement, and environmental restoration. For comparison to the modifications made for Phase II construction, the approved recommended plan features that are within the Phase II project area are described below based on the 2000 Final EIS/EIR descriptions.

3.4.1 Channel Construction Features

Channel improvements would occur along a 12,800-foot length of Murrieta Creek between Winchester Road and the USGS gage. From Winchester Road to approximately 600 feet downstream of Rancho California Road the channel would be widened and the side slopes graded to a 3:1 slope. The channel would then transition to a 0.5:1 slope over the next 500 feet and continue for approximately 3,000 feet to just below 1st Street Bridge. Downstream of 1st Street, the channel banks would transition back to a 3:1 slope over a distance of approximately 200 feet. The 3:1 channel slope would continue over the next 2,800 feet downstream to the terminus of the channel improvements. Gabions would be utilized to reinforce the channel banks in areas between the 3:1 slopes. The purpose of these improvements is to provide increased capacity of the creek to convey flood flows in the downstream reaches.

Deepening of Murrieta Creek would occur from Winchester Road to the USGS gage. The excavation depth would range from 2 to 6 feet depending upon the location along the creek. A drop structure would be constructed in Murrieta Creek approximately 300 feet upstream of Rancho California Road. This drop structure would lower the creekbed elevation by 3 feet over a distance of 50 feet. The drop structure would consist of a grouted stone surface with grouted stone aprons extending up the slopes along either side of the creek.

The unmaintained vegetated corridor would extend downstream from the Ranch California Road to 6th Street along the east side of the creek. The corridor would be 50 feet wide at the Rancho California Road and would gradually decrease to 20 feet in width at 6th Street. The corridor would remain 20 feet wide to 200 feet downstream of 1st Street where it would gradually increase and to a width of 60 feet to a point approximately 100 feet upstream of the USGS gage.

A pedestrian/bicycle trail would be constructed along the maintenance/service road on the eastern side of Murrieta Creek from Rancho California to the detention basin. The paved trail would include an undercrossing beneath Winchester Road. An equestrian trail would be constructed utilizing the maintenance/service road on the western side of Murrieta Creek from the upstream end of the project area to just downstream of Old Town Temecula (downstream of 1st Street). The trail would consist of a 20 feet-wide unpaved service road between Murrieta

Creek and Diaz Road. Trail crossings beneath Winchester and Rancho California Roads would be included to ensure safe crossing of the roads for the horses and riders.

The Main Street bridge would be demolished and replaced within the project area. The new bridge would allow for the channel modifications. This bridge would be longer and wider to meet current design and safety standards for bridge construction. The City of Temecula would be designing and constructing the new bridge.

3.4.2 Operation and Maintenance

Operation and maintenance of the channel improvements would consist of periodic inspections and repairs to channel side slopes, gabions, riprap, and the service roads. In addition, a maintenance schedule for vegetation management and sediment removal would be established for the channel to preserve the flood flow capacity. The extent of maintenance in the channel invert would vary through the project boundary, although an annually maintained corridor is a feature throughout the entire project area. Maintenance activities would not affect the unmaintained vegetated corridors.

The channel invert outside the unmaintained vegetation corridor would be subject to annual mowing and periodic sediment removal (every 5 to 12 years). Sediment removal between 6th Street to 1,300 feet downstream of Main Street would be performed on a more frequent basis than the other channel segments (every 1 to 5 years) due to the constricted nature of this reach. Maintenance is not scheduled for the side slopes of the channel but would be performed in the event of an emergency or erosion.

The 2000 Final EIS/EIR described the operation and maintenance activities and evaluated the associated impacts. The RCFC&WCD would be responsible for operation and maintenance of the entire project.

3.4.3 Material Required for Construction

Construction would require earthen fill material that would be obtained from native material excavated on site. Other materials to be procured off site include plastic covers for stockpiles, planters, topsoil, sod, and other materials required to establish vegetation. Most of the material is assumed to be available from sources located approximately 10 to 15 miles from the project area.

3.4.4 Duration of Construction

Construction duration for Phase II is estimated at approximately 12 months. About 1,100,000 cubic yards of material would be excavated; of this amount, approximately 960,000 cubic yards would require off-site disposal, with the remaining material utilized to construct the future basin side slopes and embankments during future project phases. All surplus excavation material and construction debris, including existing structures, would be hauled off site to an approved landfill requiring 48,000 truck trips for the Phase II project.

3.4.5 Staging/Stockpiling Areas

Construction equipment would generally be staged at four locations between Winchester and Rancho California Roads and at one location south of Rancho California Road (Figure 2-5, EIS/EIR, 2000). Some equipment staging and stockpiling would take place at the proposed ecological restoration area.

3.4.6 Bridge Replacement

The channel improvements described above would require the replacement of the Main Street Bridge.

3.4.7 Construction Equipment

Typical equipment to be used during the construction period include loaders, scrapers, dozers, trucks, blades, roller compactors, a process plant, concrete mixers, water trucks, and backhoes. Construction equipment would be operated up to eight hours a day. The Original Phase I construction activities might not be continuous, meaning that the 12 months of construction activity might be spread out over more than 12 calendar months.

3.5 Modified Phase II Plan

The Murrieta Creek Modified Phase II Plan would be essentially the same design and maintenance as the 2000 Final EIS/EIR design from 200 feet upstream of Winchester Road to 1,000 feet downstream of 1st Street. The Modified Phase II Plan would:

- Replace the previously proposed gabions with approximately 68,650 cubic yards of soil cement in areas with less than a 2:1 slope and 35,109 cubic yards of buried riprap in areas with a 2:1 and 3:1 slope.
- Add five maintenance access ramps.
- Place ~~fifteen~~fourteen drop inlets (manholes) along the maintenance road path to allow drainage into the creek.
- Remove Via Montezuma Road dip crossing.
- Place four grade control or stabilizer structures ~~instead of one~~.
- Construct maintenance road on both sides of the channel; the west side maintenance road would also be used as a recreation trail for pedestrians, bicyclists, and equestrians; the east bank would be used as a pedestrian and bicycle trail.
- Include channel operation and maintenance activities.
- Creation of approximately ~~24.6~~23.67 acres of unmaintained riparian/low-flow corridor (see Figures 3-1a through 3-1e, Project Features).

The sideslopes would be graded to a steeper slope, reducing the width required and increasing the channel bottom width and capacity (see Table 3-1). Construction of the Modified Phase II Plan would entail excavation of approximately 952,000 cubic yards of material and would result in the temporary disturbance to approximately ~~121~~122.42 acres of existing vegetation along

Murrieta Creek. Appendix B contains ~~draft~~ design plates of the Modified Phase II Plan showing the design profile and typical cross sections.

3.5.1 Channel Construction Features

The purpose of these improvements is to provide increased flood conveyance through the reach transecting downtown Temecula. Channel widening and deepening would involve excavation of the side slopes of Murrieta Creek through the entire project area within publicly owned property. No additional real estate acquisition is required; however, temporary construction easements may be required for construction.

The excavation depth would range from 2 feet to 11 feet depending on the location along the creek. The excavated earthen channel would vary in slope. From 200 feet upstream of Winchester Road a 2H:1V (horizontal:vertical) slope would be constructed on the channel bank which extends to 1,600 feet downstream of Winchester Road. From there, the channel would transition to a 3:1 slope over the next 200 feet. The channel would continue the 3:1 slope to 1,000 feet downstream of Rancho California Road where the slope would transition to 1:4 over the next 300 feet. The 1:4 slope would continue to 300 feet below 1st Street then it would transition to a 1: 2 slope over the next 50 feet. The channel would continue the 1:2 slope for 450 feet and transition to a 2:1 slope the next 200 feet till it connects with the Phase I constructed slope.

Soil cement and riprap with a geotextile liner would be used ~~replace the use of gabions~~ throughout the project for bank protection. Soil cement would be used on slopes less than 2:1 and riprap with a geotextile liner on areas with slopes 2:1 and 3:1. The riprap would be covered with 1-2 feet of soil and then ~~the soil would be~~ stabilized with the same seed mix as the rest of the side slopes. Table 3.2 below shows the side channel slopes and protections used for this project and the location in the channel where these change.

Table 3.2 Side Slopes and Slope Protection

Approx. Stations	Slope (H:V)	Slope Protection	Start Point for Slope	End Point for Slope
189+00 to 170+00	2:1	Buried riprap with geotextile liner	Upstream project end	Upstream of Long Canyon Creek
170+00 to 168+00	2:1 to 3:1 transition for 200 feet	Buried riprap with geotextile liner	Upstream of Long Canyon Creek	Downstream of Long Canyon Creek
168+00 to 98+00	3:1	Buried riprap with geotextile liner	Downstream of Long Canyon Creek	Beginning of transition 1000 feet downstream of Rancho California Road
98+00 to 95+00	3:1 to 1:4 transition for 300 feet	Buried riprap with geotextile liner for 3:1 slope, soil cement at start of transition	Beginning of transition 1000 feet downstream of Rancho California Road	1300 feet downstream of Rancho California Road
95+00 to 66+00	1:4	Soil cement	1300 feet downstream of Rancho California Road	350 feet downstream of 1st Street
65+50 to 61+00	1:2 for 450 feet	Soil cement	350 feet downstream of 1st Street	Transition to connection with existing Reach 1 channel 1000 feet downstream of 1st Street
59+00	2:1	Buried riprap with geotextile liner	Downstream project end	1000 feet downstream of 1st Street

~~**Table 3.2 Side Slopes and Slope Protection**~~

~~Slope (H:V)~~	~~Slope Protection~~	~~Start Point for Slope~~	~~End Point for Slope~~
~~2:1~~	~~Buried riprap~~	~~Upstream project end~~	~~Upstream side of Long Canyon Creek~~
~~2:1 to 3:1 transition for 200 feet~~	~~Buried riprap~~	~~Upstream side of Long Canyon Creek~~	~~Downstream side of Long Canyon Creek~~
~~3:1~~	~~Buried riprap~~	~~Downstream side of Long Canyon Creek~~	~~Beginning of transition 1000 feet downstream of Rancho California Road~~
~~3:1 to 1:4 transition for 300 feet~~	~~Buried riprap for 3:1 slope, soil cement at start of transition~~	~~Beginning of transition 1000 feet downstream of Rancho California Road~~	~~1300 feet downstream of Rancho California Road~~
~~1:4~~	~~Soil cement~~	~~1300 feet downstream of Rancho California Road~~	~~350 feet below 1st Street~~
~~1:2 for 450 feet~~	~~Soil cement~~	~~350 feet below 1st Street~~	~~Connection to~~

			~~existing Reach 1 channel 1000 feet below 1st Street~~

Five access ramps would be included in four locations along Murrieta Creek. These ramps are approximately 15 feet in width and would be constructed to allow channel maintenance access. These locations and descriptions are:

- One approximately 300-foot long concrete ramp with a 10% slope located downstream of Winchester Road, on the west bank.
- Two approximately 265-foot long concrete ramps located downstream of Via Montezuma Road, on the west and east banks.
- One approximately 200 feet long ramp located 800 feet upstream of Rancho California Road, on the east bank.
- One approximately 265-foot long ramp located 1,000 feet upstream of Main Street, on the west bank.

A 15 foot wide maintenance road would be placed on the slope tops of both sides of the channel for the entire project length. The right bank (right side of creek when facing downstream) would be decomposed granite and the left bank would be asphalt. Where possible, the maintenance roads would connect to other roads or trails in the project area. If a connection to other roads or trails is not possible, then a turn-around would be placed to allow maintenance vehicles to maneuver. There are two creeks that confluence on the left side of Murrieta Creek. Empire Creek is approximately 1,700 feet downstream of Via Montezuma Road and Long Canyon Creek is approximately 1,800 feet upstream of Via Montezuma Road.

The Via Montezuma dip crossing will be removed from the channel with this project. The road currently is an approximately 675 foot long concrete road that dips into Murrieta Creek. This road would be replaced at a different location with the Overland bridge during a future project by the City of Temecula.

The project would include forty-one side drains that connect existing side drains along Murrieta Creek to outlet through the proposed side slopes. Fourteen drop inlets (manholes) would also be included in the design of the side drains along the maintenance road to allow drainage into the creek. These drop inlets would connect to existing pipes within the right-a-way. The pipes may need to be cut or extended to fit with the drop inlet structure. Each drop inlet construction would be different; however, they would be between 2 x 2 foot or 6 x 6 foot concrete box strucutre. The box structure would have a shaft that extends to street grade and is covered by a grate to allow flows into the structure.

Four ~~grouted~~ grade control or stabilizer structures would be placed for this project as described below~~. Each are described as follows~~:

1. Upstream of Winchester Road a temporary ~~grade control~~drop structure/end protection would be placed to protect the flood control measures constructed in the project area. This temporary structure would be removed when Phase III of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project is constructed. The grade control structure includes a 36-inch thick riprap layer placed on a 2:1 slope on the upstream side and a 2:1 slope on the downstream side. The bottom of the structure would

be placed seven feet under the low flow invert. The upstream protection would be flush with the existing channel invert. The downstream invert would be ten feet lower and flush with the new channel invert. This structure would also include a 1-foot notch at the surface on the east side of the channel to help direct flows towards the unmaintained area. The existing temporary drop structure at the upstream end of Phase I would be removed, thereby removing a disturbed area and improving the potential for species movement in Murrieta Creek.

2. Drop structures would be constructed at the confluence of both Long Canyon and Empire Creeks as a transition to the invert elevation of the lowered Murrieta Creek. These structures would be two foot thick grouted stone trapezoidal structures. The top of the structure would be flush with the upstream end channel invert. On the downstream slope, there would be approximately six feet of exposed slope. The grade control structure at Long Canyon and Empire Creeks would have an upstream slope of 2:1, a ten foot wide top, and a downstream slope of 3:1. The required fill material would be approximately 4,320 cubic yards (cy) at Long Canyon and 8,100 cy at Empire Creek. A 1-foot notch would be included at the surface in each structure to convey flows within a smaller cross section, increase low-flow depths,and improve aquatic species access.

3. A grade stabilizer would be constructed upstream of Rancho California Road to increase flow capacity under the bridge and protect against erosion of the channel bottom. The structure, buried within the creek bed, would have a 10-foot wide top at grade with a buried upstream slope of 2:1 and a buried downstream slope of 3:1, and require approximately 112,320 cy of fill. This structure would also include a notch at the surface within the riparian/low flow zone to concentrate low flows and provide for fish passage and other aquatic species movement, when wetted.

The unmaintained vegetated corridor would extend the entire length of the Phase II project area along the east side of the creek bottom. Breaks in the unmaintained riparian/low flow corridor would be limited to where the access ramps and grade control structures cross the corridor as well as at the outlets of Long Canyon and Empire Creeks and under bridges. The corridor would vary from approximately 35 feet to 150 feet in width. Starting from the upstream end of the project to about 700 feet upstream of Rancho California Road, the unmaintained corridor would range between 100 to 150 feet in width. The unmaintained riparian/low flow corridor would then narrow down to 35 feet in width through the Old Town reach. It would gradually widen to 70 feet to connect with the Phase I construction improvements.

The Corps and RCFC&WCD further coordinated with the resource agencies to address their concerns and comments on the proposed Phase II design. As a result of this further coordination to address comments received during the public review period, design recommendations proposed by the USFWS and CDFW were considered by the Corps and RCFC&WCD to address comments regarding the Phase II design, floodplain and riverine function, and aquatic species (i.e. arroyo chub & southwestern pond turtle).

In efforts to address the resource agencies concerns, the Corps conducted additional hydraulic analysis for scenarios of a widened channel as well as looking for opportunities to reduce the project operation and maintenance requirements specific to regular vegetation mowing of the

channel bottom. These results were discussed with the resource agencies during a meeting on June 19, 2013.

Specifically, the Corps looked at areas within the project right-of-way limits to determine if there were additional opportunities to design a wider channel in the Phase II project area. Two potential areas that were identified included an approximate 1,600 foot length by 75 foot width area along the right bank, looking downstream, between river stations 145+00 and 129+00 (Area A). A second area identified included an approximate 600 foot length by 100 foot width area extending from river station 65+00 to 59+00 (Area B).

The Corps performed additional hydraulic modeling to determine whether a widened channel cross section design at these locations would reduce the requirements for regular maintenance (i.e., mowing) of the creek bottom or allow for additional unmaintained riparian or wetland vegetation within the channel. Based on the hydraulic modeling results, the additional widened channel sections do not alter the channel hydraulics significantly enough to allow for reduce maintenance requirements or additional unmaintained vegetation within the channel.

Other constraints identified include likely conflict with existing and planned utilities and facilities. An existing City of Temecula bike trail runs through portions of the project right-of-way limits in Area A. A widened channel in this section would require the existing public facility to be demolished, redesigned, and rebuilt. There are also utilities that cross the creek bottom that would be directly impacted by widening without realignment. Additionally, there are two planned facilities within Area A. One is a planned pump station to be installed along the right back within Area A. Therefore, the length of channel section available for a widened channel segment would be shortened to 1400 feet. The second is the City of Temecula's proposed Overland Bridge, which is currently at or near 100% design. A proposed widened segment in Area A would conflict with the design of the bridge, and may require a new bridge design to be developed to span a wider creek channel. There is also a planned use for Area B. The local Boys' and Girls' Club plans to expand their facilities onto portions of Area B, which would reduce the amount of area available for channel widening.

Given the very limited benefits attained by a widened channel scenario and the identified constraints, further widening of the Phase II channel design in Areas A and B would not be feasible and therefore not incorporated into the Phase II design.

To address concerns over the need for future maintenance within the channel, the Corps also performed additional hydraulic analysis to see if there were opportunities to further refine maintenance requirements originally identified. The Corps analyzed two scenarios for vegetation maintenance within the channel – "no vegetation mowing" and "less frequent vegetation mowing (every other year)" – and compared the results, including water surface elevation (WSE) changes with the proposed Phase II design that was identified in the Draft SEA/EIR. Under the "no vegetation mowing" scenario, there were significant increases in the WSE throughout the Phase II project area, which would exceed the required "freeboard" needed for the flood risk management element of the project, resulting in water overtopping the channel banks, and not meet the project purpose as authorized. Under the "less frequent vegetation mowing (every other year)" scenario, the WSE were not considerably different than the "no vegetation mowing" scenario. The WSE did not change as significantly as the "no vegetation mowing" scenario in certain sections, however, the WSE in other segments of the Phase II

project area did not meet the required "freeboard" limit and would result in water overtopping the channel banks.

The Corps also analyzed a scenario that incorporated a widened channel in Areas A and B, as well as "no vegetation mowing". The results confirmed the previous analysis for a widened channel proposal and the "no vegetation mowing" scenario, with similar WSE results as the "no vegetation mowing" scenario.

Based on input from USFWS and CDFW, the Corps investigated whether the proposed bench or terrace could be relocated from the vegetated corridor (left side of channel when looking downstream) to coincide with the maintained area on the west side (right side when looking downstream). This could potentially allow for the thalweg or low flow to pass through the vegetated corridor, which would not be maintained for flood risk management, and thus provide the opportunity for aquatic habitat to establish within the unmaintained zone. Based on additional analysis, relocation of the bench from the east side to west side of the channel would result in significantly increasing sediment maintenance requirements and potentially impact flow conveyance through the channel. With the goal of minimizing environmental impacts and managing flood risk, this was not considered an acceptable change to the project.

While not altering the location of the vegetated corridor, the Corps has refined the final design to include the removal of the bench or terrace feature completely from the Modified Phase II Plan, which would result in a flat channel bottom or invert cross section. This also could potentially allow for the thalweg or low flow to pass through the vegetated corridor, which would not be maintained for flood risk management, and thus allow for the increased opportunity for aquatic habitat to establish within the unmaintained zone. In conjunction with removal of the bench feature, the Corps is including additional design refinements to ~~"encourage"~~train the low flows to pass ~~through~~ toward the vegetated corridor section of the channel. These include a notch in the temporary grade control structure at the upstream end of the Phase II project area and another notch in the permanent grade control structure above Rancho California Road Bridge to ~~"encourage"~~train flows toward the left side of the channel. ~~While removal of the bench or terrace feature would leave a channel bottom that was essentially flat~~ In addition to the design refinements, three drainages (Santa Gertrudis, Long Canyon, and Empire Creeks) and smaller storm drains outlet into Murrieta Creek on the left or east side of the channel, which could help ~~creek~~ low flows continue within the vegetated corridor section of the channel, with the potential to create aquatic habitat that would not be disturbed by regular maintenance activities. However, the design refinements ~~this design~~ would not preclude flows from meandering into the regularly maintained section of the channel. A small temporary "sugar" berm would be formed during initial construction of Phase II within the Maintained Area adjacent to the Riparian/Low-Flow Corridor and that would extend the length of the Phase II area. The purpose of this temporary berm would train any creek flows towards the Riparian/Low-Flow Corridor.

The Corps also reviewed the hydraulic model and data closely to see if there were any areas within the channel where the need for regular maintenance (mowing) could be reduce but still meet the flow conveyance goals of the project. Based on the review of the model and data, the only feasible location is between Stations 185+00 and 180+00. Here, the regularly maintained area would decrease by about 10 feet in width, which would correspond to a slight widening of the unmaintained vegetated corridor to approximately 125 feet.

3.5.2 Operation and Maintenance

Operation and maintenance of the project area under the Modified Phase II Plan is generally the same as described for the Original Phase II Plan. Refinements for operation and maintenance of Phase II were also identified during consultation with the USFWS and coordination with the other resource agencies. ~~, however, more~~Additional details of operation and maintenance is provided here for clarity. Operation and maintenance would consist of annual inspections, maintenance, and repairs to channel side slopes, drop inlets, grade control structures, maintenance roads and access ramps, and storm drain outlets. Maintenance will include vegetation management and sediment removal within the maintained channel zone and at the side drain outlets to preserve the flood flow capacity of the ~~channel~~project. The annually maintained zone is designated as Regularly Maintained Area and mapped throughout the entire project area. Regular maintenance activities would not affect the unmaintained riparian/low flow corridor described in section 3.5.1 "Channel Construction Features" above, except for maintenance of side drain outlets, plant maintenance during the first 5-year monitoring period, and weeding as necessary as described below.

The most frequent maintenance activities would include, regular annual mowing of the identified 41.19 acres of Regularly Maintained Area within the channel invert (see Figures 3-1a through 3-1e). Maintenance activities would also include debris and sediment removal within the identified Regularly Maintained Area. When sediment deposition levels reach 3 feet or more above the design invert elevation, sediment would be removed from the Regularly Maintained Area consistent with the design drawings (see attached Design Plates Plan and Profile). It is estimated that sediment would need to be removed approximately every 1 to 5 years through the Old Town reach, and every 5 to 12 years through the remaining Phase II area. These periods vary since flow rates and sediment deposition rates are affected by rainfall amounts. It is anticipated that sediment would not need to be removed from the entire Phase II regularly maintained area all at once; however, it is a possibility as the need for sediment removal will be dependent on localized channel conditions, individual storm events, and the severity of a winter season.

The channel design has a flat channel bottom or invert, with the intent of allowing the low flows to pass through the unmaintained Riparian/Low-Flow Corridor. However, this design would not preclude flows from meandering into the regularly maintained section of the channel. Should the low flow or thalweg flow through the regularly maintained areas of the channel, no measures are proposed to physically redirect flows through the unmaintained Riparian/Low-Flow Corridor. However, during sediment removal operations in the maintained area, when needed, a small temporary "sugar" berm would be re-formed locally at the sediment removal area to encourage flows towards the Riparian/Low-Flow Corridor. This essentially would entail sediment being pushed up to form a small berm within the sediment removal area, adjacent to the unmaintained Riparian/Low-Flow corridor that would be aligned parallel with the channel.

Less frequent maintenance activities include repairs of degraded and eroded areas and structural features, clearing of debris and sediment from storm drains and drop inlets, and repairs of the maintenance and access roads and ramps. Other minor maintenance activities would also include repair of fences and trash removal. Removal of trees obstructing the pipe outlets would also be

conducted on an as-needed basis. Repairs would be conducted from the top of the bank to the maximum extent practicable. In cases where access from the top of the bank is not feasible, access to the damaged structure (e.g., side drain outlet, or channel lining) would be obtained from the invert. An approximate 15 feet width of vegetation clearance through the unmaintained Riparian/Low-Flow Corridor would be maintained annually for equipment access to the side drain outlets. Equipment used could include a bobcat, dump truck and/or excavator.

Trees and shrubs on the vegetated slopes that would affect the flow conveyance capacity of the channel or integrity of the side slope protection would be maintained (i.e., trimmed) or removed to maintain a maximum height of 3-4 feet along the side slopes.

Habitat management of the unmaintained Riparian/Low-Flow Corridor and channel side slopes would also be part of the long term operation and maintenance of the project. These areas would be weeded and watered as needed, and monitored for the first 5 years by the Corps for plant establishment and restoration success. Weeding of invasive exotic species would continue as part of long term habitat management by the District. Plants that do not survive during this first 5 year period would be replaced as determined by a restoration ecologist to meet the established restoration success criteria. If vegetation is removed or damaged by heavy flows within the unmaintained Riparian/Low-Flow Corridor during the initial 5 year restoration period, plants would be replaced one time and/or allow for natural recruitment, as determined by a restoration ecologist to meet the restoration success criteria. Natural regeneration is one of the strongest allies to the restoration of existing riparian habitats by regrowth of vegetative material and the existence of a native seed. No regular ~~annual mowing or~~ sediment removal activities would occur within the unmaintained riparian/low flow zone. ~~Flood control m~~Maintenance for flood risk management within the Riparian/Low-Flow Corridor would be limited to providing access for equipment to the storm drains, as indicated above, and emergency or other erosion repairs described below. Maintenance of the landscaped areas on the top of the channel banks adjacent to the maintenance road and trails would be carried out by the City of Temecula.

Future routine maintenance/repair activities would occur outside of rain events and sensitive species nesting seasons (March 15 to August 15). If emergency repair work is to be conducted through the nesting season, the work area will be surveyed for active bird nests. If active nests are identified in the emergency work area, the necessary resource agencies will be notified prior to clearing vegetation for the emergency repairs. A qualified biological monitor will be present during all emergency brush clearing activities within the unmaintained Riparian/Low-Flow Corridor between March 15 and August 15. Impacts to vireo associated with routine operation and maintenance of the project would be avoided and minimized by the implementation of maintenance specific measures and the timing of routine maintenance activities.

Operation and maintenance of the Project features as well as habitat management activities are a part of the project and would be regularly conducted within the project area as described herein. The City of Temecula has an agreement with the District and will be responsible for maintenance of the maintenance roads and trails, and the landscaped areas on the top of bank landwards of the maintenance roads, on the District's behalf. The District will be responsible for maintaining the sideslopes and channel including the unmaintained riparian/low-flow corridor, maintained areas,

and structural features of the channel (i.e., soil cement slopes, grade control structures, drains and outlets, and any other structural features within the channel prism).

Prior to commencement of operation and maintenance activities by the District, the Corps would provide a Operation and Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) Manual to the District, that would include the as-built plans and document the operation and maintenance activities described herein. The OMRR&R Manual would also include the project environmental commitments to avoid and/or minimize impacts to the vireo as well as any regulatory permitting requirements. A Corps Section 404 Regulatory Permit would be obtained by the District prior to conducting maintenance activities that would result in a regulated discharge of fill material. Operation and maintenance activities would be conducted in accordance with the conditions identified in the Section 404 Regulatory Permit. A Section 401 Water Quality Certification for the construction and maintenance of the entire project has been obtained from the RWQCB. Conditions identified in the previously issued Section 401 Water Quality Certification would be implemented for the project construction as well as the maintenance described herein to minimize impacts on environmental resources. Operation and maintenance activities would also be conducted in compliance with the Streambed Alteration Agreement. Detailed commitments to avoid and/or minimize effects to vireo are identified herein.

Emergency Repairs

Emergency repairs may be required in situations such as flood waters escaping the channel, failure of channel lining, failure of channel stabilizers or structures, or obstruction of the channel or its laterals by sediment or debris and is typically conducted during and/or immediately after storm events on an as-needed basis. The repair/removal activities may result in a temporary disturbance of habitat within the unmaintained Riparian/Low-Flow Corridor not described above. Under these circumstances, the RCFCD&WCD would obtain all applicable permits, approvals, and authorizations to conduct these repairs.

3.5.3 Project Features to Mitigate and Avoid Impacts to Biological Resources

An unmaintained riparian/low-flow corridor would be established along the eastern side of the entire Phase II project area, with the exception of the outlets of Long Canyon and Empire Creek, under bridges, and where access ramps and grade control structures cross. With implementation of the project revegetation and monitoring plan ~~(Appendix H~~Environmental Commitment B-~~1~~2), the unmaintained riparian/low-flow corridor ~~(riparian terrace)~~ would attain a more natural condition and function than existing conditions. The increased width of the corridor would provide for a net increase in unmaintained riparian and aquatic habitat and increase the structural diversity and habitat value within Murrieta Creek. Thus, the Phase II habitat features will ensure that potential impacts to biological resources remain less than significant. ~~Mitigation for habitat disturbance would occur within or adjacent to Murrieta Creek~~

3.5.4 Material Required for Construction

Construction would require approximately 952,000 cubic yards of earthen fill material that would be recycled from material excavated on site. Other materials to be procured off site include approximately 35,109 cubic yards of riprap and 68,650 cubic yards of soil cement, and plastic covers for stockpiles, planters, topsoil, sod, and other materials required to establish vegetation. Most of the material is assumed to be available from sources located approximately 10 to 15 miles from the project area.

3.5.5 Construction Duration and Schedule

Project construction for Phase II~~2~~ is anticipated to take 12 to 18 months to complete; however, it would ultimately depend on weather conditions, environmental restrictions, and available funding. During construction, excavation activities would not be carried out in the creek channel during heavy rains or floods. Every effort would be made to complete the project in the 12 to 18 months. Project construction is scheduled to begin in 2014~~February 2013. to avoid any nesting bird species.~~ The clearing and grubbing, demolition and removal of structures, and excavation would all be completed over sections of the creek length as construction progresses, and is expected to take approximately four months. Grading/planting, levee construction, and maintenance road construction is anticipated to take approximately ~~roughly~~ eight months.

It is anticipated that construction equipment would be operated up to eight hours a day. Operations would be limited to 6:30 a.m. to 7:00 p.m. Monday through Friday. No work would be permitted on Federal holidays, Saturday or Sunday without prior written approval.

3.5.6 Staging and Stockpiling Areas

Staging and stockpiling areas would be located adjacent to the work areas. Construction facilities, stockpiling, loading, processing, and hauling of excavated material would be as described above, and would include ~~for the original project, with the exception for~~ a batch plant for~~and~~ soil cement processing required for construction of soil cement protected slopes. Approximately 952,000 cubic yards of excess material would be generated, of which a portion would be reused ~~to construct the bench for the vegetated corridor (riparian terrace) and~~ as miscellaneous fill material. Temporary ~~D~~disposal of the remaining excavated materials would occur at the proposed Phase III detention basin site upstream (haul route is approximately less than 6 miles round trip). The construction contractor is responsible for managing excess soil. Phase III basin would only be used as a temporary holding area by the contractor. Total truck trips would be approximately 15,000. For the Modified Phase II channel improvements, construction equipment could be staged at 4 different locations:

1. A 200 foot wide by 500 foot long area on the right bank approximately 400 feet downstream of 1st Street. This site is currently an unvegetated vacant site that would be returned to preconstruction conditions upon completion of construction.
2. The site on the upstream end of the project is 1,100-1,400 feet wide by 1,800 feet long within the project boundaries for the Phase III basin. This site is currently vegetated with grasses that would be converted to soccer fields. Several large cottonwood trees located in the mid-area of the site would be protected in-place. A drainage feature at the

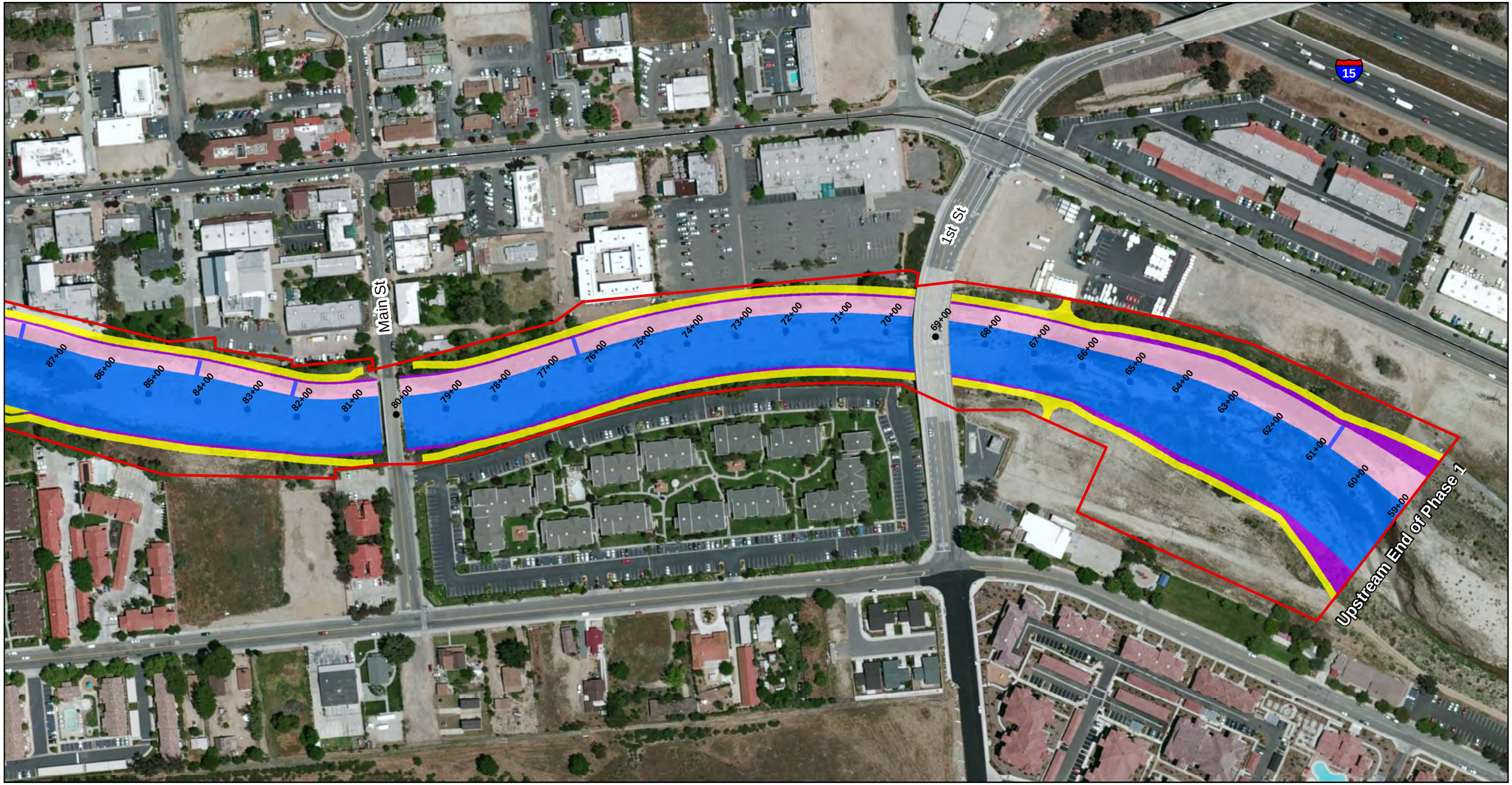
northwest end of the site would be avoided. This site may also be used as an optional temporary disposal site.

3. A City of Temecula-owned, triangular-shaped property at the corner of Rancho California Rd and Diaz Rd would serve as a staging area.
4. A 200 to 280 foot by 200 foot unvegetated vacant lot 900 feet upstream of Main Street on the right bank. The site would be accessed from Pujol and Felix Valdez Streets.

3.5.7 Construction Equipment

Construction equipment required for the excavation of the creek channel typically includes the following equipment types and numbers:

- Dozers (1)
- Scrapers (3)
- Graders (2)
- Loaders (2)
- Pickup truck (1)
- Water trucks (2)
- Flatbed truck (1)
- Trencher (1)
- Crane (1)
- Pile Hammer (2)
- Compactors (2)
- Excavators (1)
- Dump trucks (20)
- Brush chipper/shredders and chain saws, rubber tracked mowers (4)
- Air compressor (1)
- Bobcat, Ag tractor, and Skidsteer loaders



Legend

- Right of Way
- Grade Control Structures
- Regulary Maintained Area
- Maintenance Roads
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope
- Side Drain Access

N

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
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Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

0 100 200 400 Feet

Figure 3-1a Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Legend

- Right of Way
- Grade Control Structures
- Regulary Maintained Area
- Maintenance Roads
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope
- Side Drain Access

N

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
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Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

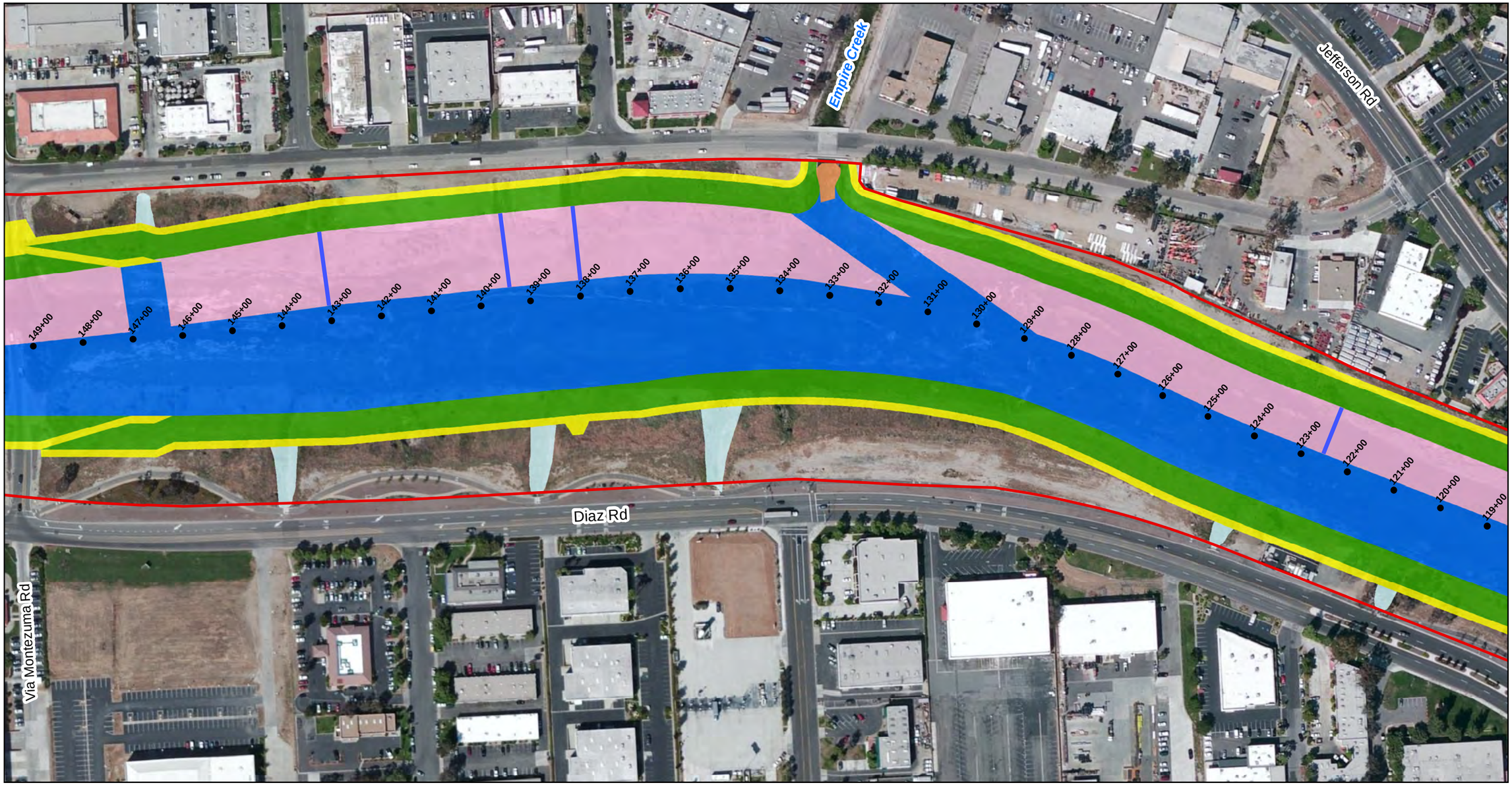
0 100 200 400 Feet

Figure 3-1b Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT



Legend

- Right of Way
- Grade Control Structures
- Regulary Maintained Area
- Maintenance Roads
- Side Drain Access
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope
- Side Drains

N

Sources:

Imagery Background:
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Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

0 100 200 400 Feet

Figure 3-1c Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Legend

- Right of Way
- Grade Control Structures
- Regulary Maintained Area
- Maintenance Roads
- Side Drain Access
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope
- Side Drains

N

Sources:

Imagery Background:
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Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

0 100 200 400 Feet

Figure 3-1d Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Legend

- Right of Way
- Buffered Riparian/Low Flow Corridor
- Grade Control Structures
- Regulary Maintained Area
- Side Drain Access
- Maintenance Roads
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope

N

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
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Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

0 100 200 400 Feet

Figure 3-1e Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

4.0 GEOLOGY AND SOILS

4.1 Affected Environment

Soils within the general area are dominated by Riverwash. Riverwash is found on slopes of zero to eight percent in valley fills and on alluvial fans. These sandy, gravelly, or cobbly areas lie in the beds of the major streams and larger creeks, such as Murrieta Creek. Other soil types potentially occurring within the general area include Graingerville sandy loam, drained, saline-alkali, zero to five percent; Graingerville sandy loam, sandy substratum, drained, zero to five percent; Chino silt loam, drained, saline alkali; and rock land (USDA, 1971).

Along Murrieta Creek, surficial creekbed material consists of well-sorted, fine-to-medium sands with occasional gravels. This alluvial sand and gravel layer is several yards thick. Below this are a reported 50 to 100 feet of the Quaternary-age Pauba Formation, composed of coarse fanglomerates and interbedded sands, silts, and some marls (USACE, 1998). The project area and vicinity consists of several types of earth materials, including Pauba Formation, Terrace Deposits, Older Alluvium, and Alluvium.

4.2 Environmental Effects

4.2.1 Construction

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would involve excavating and grading approximately 70 acres of Murrieta Creek. Vegetation within the project footprint would be cleared and grubbed. Approximately, 1,100,481 cubic yards of alluvial substrate would be removed from the channel invert to lower the invert elevation by approximately 3-8 feet. Construction would also involve creating side slopes between 3:1 and 1:4 over a distance of 12,800 feet. Gabions would be utilized to reinforce the channel banks with 3:1 slopes. A grouted stone drop structure would be constructed approximately 300 feet upstream of Rancho California Road. A 20 to 60 foot wide unmaintained vegetated corridor would be constructed between Rancho California Road downstream to the project terminus. The Main Street bridge would be replaced. Accordingly, concrete would be discharged for the construction of bridge abutment and piers.

During construction, there would be substantial disturbance of existing topsoil in the channel invert associated with excavation activities to deepen the channel. However, the composition of the newly exposed substrate would remain the same. However, the loss of alluvial substrate would be temporary, since sedimentation from future flows through the project area would replace the excavated topsoil. Upon completion of construction, the general topography of the channel would largely remain the same; the channel would be slightly wider and deeper. The discharge of gabions and rip rap would be limited to the banks of the channel. Furthermore, the discharge materials would be natural substrate (i.e. rocks and rip rap) which are chemically inert.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would involve excavating and grading and disturbance from equipment and vehicle access to approximately 122.42~~1~~ acres of Murrieta Creek, which have been subject to past construction and maintenance. Vegetation within the excavation footprint would be cleared and grubbed. Approximately, 952,000 cubic yards of alluvial substrate would be removed from the channel invert. The excavation depth would range from 2 feet to 11 feet depending on the location along the creek. The excavated earthen channel would vary in slope to lower the invert elevation to depths ranging from 3 to 8 feet. From 200 feet upstream of Winchester Road a 2H:1V slope would be constructed on the channel bank that would extend 1,600 feet downstream of Winchester Road. From there, the channel would transition to a 3H:1V slope over the next 200 feet. The channel would continue the 3H:1V slope to 1,000 feet downstream of Rancho California Road where the slope would transition to 1H:4V over the next 300 feet. The 1H:4V slope would continue to 300 feet below 1st Street then it would transition to a 1H:2V slope over the next 50 feet. The channel would continue the 1H:2V slope for 450 feet and transition to a 2H:1V slope the next 200 feet till it connects with the Phase I constructed slope.

Soil cement and riprap with a geotextile liner would replace the use of gabions throughout the project for bank protection. Soil cement would be used on slopes less than 2H:1V and riprap with a geotextile liner on areas with slopes 2H:1V to 3H:1V. The riprap and liner would be covered with 1-2 feet of soil then stabilized with the same seed mix as the rest of the side slopes. ~~Construction would also involve creating steeper side slopes when compared to the Original Phase II Plan. The Modified Phase II Plan would change the side slopes over most of the project area from 3:1 (using gabions) to 2:1 (using soil cement). A grouted stone drop structure would be constructed approximately 300 feet upstream of Rancho California Road.~~ A 35~~20~~ to 150~~125~~ foot wide unmaintained vegetated corridor would be constructed, starting from the upstream end of the Project to about 700 feet upstream of Rancho California Road, the unmaintained riparian strip would range from 100 to 150 feet in width. The unmaintained riparian low-flow corridor would then narrow to 35 feet in width through the Old Town reach and then gradually widen to 70 feet before connecting with the Phase I channel improvements. The Main Street bridge replacement would not be included in the modified Phase II Plan~~replaced~~. Accordingly, there would be no discharge of concrete for the construction of bridge piers and abutments.

During construction, there would be substantial disturbance of existing topsoil in the channel invert associated with excavation activities to deepen the channel. However, the composition of the newly exposed substrate would remain the same. ~~However, t~~The loss of alluvial substrate would be temporary, since sedimentation from future flows through the project area would replace the excavated topsoil. Upon completion of construction, the general topography of the channel would largely remain the same; the channel would be slightly wider and deeper. The discharge of ~~gabions and~~ rip rap would be limited to the banks of the channel. Furthermore, the discharge materials would be natural substrate (i.e. soil cement and rip rap) which are chemically inert.

The changes associated with the Modified Phase II Plan when compared to the Original Phase II Plan are minor. The Modified Phase II Plan would:

Lengthen the project footprint by 200 feet, resulting in a length increase of 1.6%.
Decrease the volume of excavation by 148,481 cubic yards, resulting in a decrease of approximately 13.5%.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

4.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

As identified in the 2000 Final EIS/EIR and summarized in Section 3.0, future maintenance activities would be regularly conducted within the project area by the ~~RCFCDWCD~~RCFC&WCD. Activities such as invasive weed removal from the embankments and regular mowing of the dictation in the channel invert outside of the unmaintained riparian corridor would not change the soils or geology of the project area. At maximum, use of mowers and the mechanical disturbance of the dictation would loosen topsoil. Maintenance of the gabion/riprap embankments; the drop structure; access roads; and landscaped sites would entail the like-for-like replacement of materials at localized areas. The removal of debris and sediment from the channel to maintain the design width and depth could entail substantial disturbance of existing topsoil in the channel invert. The volume and the geographic extent of the sediment and debris removal process would vary. However, the composition of the newly exposed substrate would remain the same. The loss of alluvial substrate would be temporary, since sedimentation from future flows through the project area would replace the excavated topsoil. The general topography of the channel would largely remain the same. The repair of degraded and eroded areas to grade would entail the discharge of native materials.

If vegetation is removed or damaged by heavy flows within the unmaintained riparian corridor, revegetation would be allowed to occur via natural recruitment. Natural regeneration is one of the strongest allies to the restoration of existing riparian habitats by regrowth of vegetative material and the existence of a native seed bank.

Emergency and other erosion repairs conducted on the bank, side slopes or unmaintained riparian corridor the area would be stabilized and re-seeded with a native seed mix at the completion of repair activities.

Impacts associated with the maintenance and operation of the project would be minimized by the implementation of project mitigation measures (Section 20.0) and the timing of maintenance activities. Future maintenance has been evaluated and mitigated for the life of the project.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the ~~RCFCDWCD~~RCFC&WCD. With the exception of the length increase of 1.6%, the operations and maintenance activities under the Modified Phase II Plan would remain unchanged.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.~~Operations and maintenance activities would be the sole responsibility of RCFCDWCDRCFC&WCD. Therefore, no impact determination is made under NEPA.~~

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

5.0 WATER RESOURCES

5.1 Affected Environment

The Phase II project area is located between the Phase I project area, approximately 1,000 feet south of First Street, and 200 feet upstream of Winchester Road. As discussed in the 2000 Final EIS/EIR, Murrieta Creek drains an area of approximately 220 square miles and is an important component of the Santa Margarita River watershed, which encompasses approximately 750 square miles. Elevations within the Murrieta Creek watershed range between approximately 1,000 to 4,500 feet above mean sea level (msl). Murrieta Creek is fed by two main tributaries, Warm Springs Creek and Santa Gertrudis Creek. Tucalota Creek is also a major tributary to Santa Gertrudis Creek and is part of its approximate 70 square mile drainage. Warm Springs Creek and Santa Gertrudis Creek enter Murrieta Creek just downstream of Elm Street and just upstream of Winchester Avenue, respectively.

Stormwater runoff is the primary water source for Murrieta Creek during the winter season. Additional sources include natural springs (rising groundwater) and irrigation runoff. Flow data from the USGS gauging station in Temecula indicate that total flows during the 2011 water year (October 2010 through September 2011), totaled 28,720 acre-feet. Average annual flows from 1974 through 2011 were 15,520 acre-feet (USGS 2012).

Population within the Murrieta Creek valley has been increasing rapidly over the past decade, converting larger amounts of former grazing and other agricultural uses to various urban uses. As summarized in the 2008 Santa Margarita Region Annual Monitoring Report, the results of the trend analysis and regression calculations of water quality monitoring indicate that there are no statistically significant trends in the water quality monitoring data (RCFC&WCD 2009). The lack of trends in the data presented in the Annual Monitoring Report contrasts with the rapid population growth over the same time frame. The significant growth in population and resulting urban land use area that has occurred in the area contrasts sharply with the lack of statistically significant increases in concentrations of constituents of concern that would otherwise be expected in stormwater runoff from urbanized areas. These results demonstrate and can be attributed to the effectiveness of the RFCF&WCD and other Permittee's programs, under the National Pollutant Discharge Elimination System (NPDES) program, at addressing the Focus Area Constituents of Concern, which are targeted and designed to prevent the discharge of these constituents into the Receiving Waters.

Flooding

In a natural ecosystem, rainfall infiltrates the soil and replenishes groundwater basins, evaporates, or flows into natural drainage channels with a minimum of flooding. Development reduces the amount of infiltration by introducing impervious surfaces (i.e., streets, parking lots, buildings) in the landscape. The greater the amount of hard surfaces, the larger the amount of rainfall that becomes surface run-off. Increased surface run-off means higher floodwater levels and potential for increased flooding.

Potential flooding along Murrieta Creek is related to inadequate capacity of the existing channel. Major flooding events have occurred along Murrieta Creek in 1938, 1969, 1980*, 1993*, 1995*, and 1998* (*Presidential Disaster Declaration). In January 1993 Camp Pendleton Marine Base sustained $88 million in flood damage. Cities of Murrieta and Temecula sustained $12 million in damages. This large flood event resulted in two to six feet of sediment deposition in the Murrieta Creek streambed from Winchester Road south into the Old Town area of the city of Temecula (RCFC&WCD, 2003).

Groundwater and Water Supply

As discussed in the 2000 Final EIS/EIR, depth to groundwater varies considerably within the project area, mostly due to the presence of several earthquake faults in the area. Groundwater depths also vary considerably as distance from the centerline of the creek increases. Downstream of Winchester Avenue, reported depth to groundwater of 24 to 30 feet occur (USACE, 1998a). Prior to intense development in the area, rising groundwater was a major source for stream flow.

Data supplied by the former Murrieta Creek Water District indicate that the groundwater encountered within their water supply wells meets all California Department of Health Services drinking water standards. Primary standards adopted by this department are enforceable for all public drinking water supplies. Secondary standards for drinking water address the taste, odor, and appearance.

Surface Water Quality

The California Regional Water Quality Control Board (RWQCB) San Diego Region enforces water quality standards within Murrieta Creek to assure that the established water quality-related impairment of beneficial uses are protected. Each RWQCB has developed a Basin Plan that identifies beneficial uses of various water bodies within its jurisdiction. Murrieta Creek occurs within the jurisdiction of the San Diego RWQCB (Region 9).

Beneficial uses for surface water resources in the region were established by the San Diego RWQCB in the Water Quality Control Plan for the San Diego (Region 9) (Basin Plan, September 8, 1994, with amendments effective on or before April 4, 2011). The following beneficial uses are applicable to Murrieta Creek.

- Municipal and Domestic Supply (MUN) – Includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
- Agricultural Supply (AGR) – Includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
- Industrial Process Supply (PROC) – Includes uses of water for industrial activities that depend primarily on water quality.
- Industrial Service Supply (IND) – Includes uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.

- Ground Water Recharge (GWR) – Includes uses of water for purposes of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
- Contact Water Recreation (REC-1) – Includes uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs. This is a potential beneficial use for Murrieta Creek.
- Non-contact Water Recreation (REC-2) – Includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beach combing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
- Warm Freshwater Habitat (WARM) – Includes uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.
- Wildlife Habitat (WILD) – Includes uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Surface waters in the Santa Margarita River basin, including the Temecula Creek, Murrieta Creek, and the Santa Margarita River, have historically been monitored by the RCWD, Eastern Municipal Water District (EMWD), and the Natural Resource Office (NRO) at Marine Corps Base Camp Pendleton.

Historically, Murrieta Creek water quality samples were collected at the USGS gauging station upstream from the confluence of Murrieta and Temecula Creeks. These samples represent existing water quality in the Murrieta hydrologic area. Results show that concentrations of most constituents have historically been highly variable, and water quality objectives for the Murrieta hydrologic area have frequently been exceeded at this sampling location. See Section 3.3.2 of the 2000 Final EIS/EIR for additional information.

5.2 Environmental Effects

5.2.1 Construction

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would involve excavating and grading approximately 70 acres of Murrieta Creek. Vegetation within the project footprint would be cleared and grubbed. Approximately, 1,100,481 cubic yards of alluvial substrate would be removed from the channel invert to lower the invert elevation by approximately 3-8 feet. Construction would also involve creating side slopes between 3:1 and 1:4 over a distance of 12,800 feet. Gabions would be utilized to reinforce the channel banks with 3:1 slopes. A grouted stone drop structure would be

constructed approximately 300 feet upstream of Rancho California Road. A 20 to 60 foot wide unmaintained vegetated corridor would be constructed between Rancho California Road downstream to the project terminus. The Main Street Bridge would be replaced. Accordingly, concrete would be discharged for the construction of bridge abutment and piers.

Flooding

The Original Phase II Plan would widen and deepen approximately 12,800 feet of the channel from 200 feet upstream of Winchester Road to 1,000 feet downstream of 1st Street. The channel would be deepened by approximately 3 to 8 feet. The project would increase the flood conveyance capacity and provide approximately a 100-year level of flood protection.

Surface Water Quality

Impacts and mitigation measures described in the 2000 Final EIS/EIR remain unchanged. In summary, the Original Phase II Plan would involve substantial grading and excavation to widen and deepen the channel. In addition, the earthen embankments would need to be excavated for the installation of gabion/riprap embankments. As a result, there will be a number of earth moving equipment working within the channel invert. Furthermore, there would be a number of on road dump trucks accessing the worksite to transport excess fill material off-site. As a result, there would be substantial disturbance to substrate during construction that could impact water quality. However, all construction and maintenance activities will not be conducted ~~from~~ during ~~December 1 through February 28 in order to avoid winter~~significant rains events ~~and~~ to correspondingly reduce the potential for water quality impacts. Furthermore, work areas would be isolated from active flows to prevent or minimize turbidity during construction. There would be a temporary increase in turbidity when initial water flows across disturbed areas introduce unconsolidated or loose topsoil into the water column. However, since most of the substrate is alluvial, sand and gravel are expected to quickly settle out of the water column. The use of earth moving equipment within the channel could impact water quality by introducing oils and solvents to the work area.

However, the implementation of best management practices listed below would minimize the potential for accidental releases and spills. Moreover, all terms and conditions of the 401 Water Quality Certification would be implemented.

Groundwater and Water Supply

Construction would entail excavation and grading across approximately 70 acres of the channel. The elevation of the channel invert would be lowered by approximately 8 feet. The Original Phase II Plan would also entail construction of two grouted-riprap drop structures in the channel each measuring approximately 50 feet wide and 200 feet long (0.2 acre in area). These concrete structures are not permeable. These structures would reduce the amount of area available for groundwater recharge by approximately 0.4 acre. The Main Street Bridge would be replaced. Accordingly, concrete would be discharged for the construction of bridge abutment and piers. However, since new structures would replace existing piers and abutments, the change in the amount of area available for groundwater recharge would be minimal. With the exception of the drop structures and the bridge piers and abutments, there would be no discharge of impermeable fill material within the invert; the permeable alluvial substrate would remain in place. The earthen embankments would be excavated and lined with gabion embankments. However, water

would still be able to percolate through the gabions to retain area along the embankments available for groundwater recharge.

Modified Phase II Plan (Preferred Alternative)

In comparison to the Original Phase II Plan~~t~~, the Modified Phase II Plan would in general~~,:~~ ~~I~~increase the project length by approximately 200 feet, representing an increase of 1.6% in length compared to the Original Phase II Plan.

- Construct five access ramps approximately ~~30~~15 feet in width and 200 to 300 foot in length.
- Increase the width of the unmaintained riparian/low-flow corridor to an average width of 70 feet.
- Widen the width of the channel in some reaches by utilizing steeper slopes ranging from 2:1 to 1:4.
- Utilize soil cement with geotextile liners for bank stabilization and instead of gabions.
- Utilize grade control or stabilizer structures instead of drop structures.

Flooding

The Modified Phase II Plan, like Original Phase II Plan, would widen and deepen the channel. However, the length of the channel being modified would be extended by approximately 200 feet. Due to the steeper 2:1 slopes allowed by the use of soil cement embankment, the channel would be slightly wider, and therefore the volume of material excavated from the channel would be less. In particular, Modified Phase II Plan would decrease the volume of excavation by 148,481 cubic yards, resulting in a decrease of approximately 13.5% when compared to the Original Phase II Plan. Though there are minor differences between the Modified Phase II Plan and the Original Phase II Plan~~,~~. However, potential impacts to flooding remain unchanged~~.:~~ The Modified Phase II Plan would increase the flood conveyance capacity and provide approximately a 100-year level of flood protection.

Surface Water Quality

The acreage of channel invert that would be disturbed would be slightly larger since the length of the channel being modified would be extended by approximately 200 feet. Due to the steeper 2:1 slopes allowed by the use of soil cement embankment, the channel would be slightly wider, and therefore the volume of material excavated from the channel would be less. In particular, Modified Phase II Plan would decrease the volume of excavation by 148,481 cubic yards, resulting in a decrease of approximately 13.5% when compared to the Original Phase II Plan. Though there are minor differences between the Modified Phase II Plan and the Original Phase II Plan, potential impacts to surface water quality would likely remain the same. Modified Phase II Plan would involve substantial grading and excavation to widen and deepen the channel. In addition, the earthen embankments would need to be excavated for the installation of ~~gabion/~~soil cement riprap embankments. As a result, there will be a number of earth moving equipment working within the channel invert. Furthermore, there would be a number of on-road dump trucks accessing the worksite to transport excess fill material off-site. As a result, there would be substantial disturbance to substrate during construction that could impact water quality. However, all construction and maintenance activities will not be conducted from December 1 through February 28 in order to avoid winter rains and to correspondingly reduce the potential for water quality impacts. Furthermore, work areas would be isolated from active flows to

prevent or minimize turbidity during construction. There would be a temporary increase in turbidity when initial water flows across disturbed areas introduce unconsolidated or loose topsoil into the water column. However, since most of the substrate is alluvial, sand and gravel are expected to quickly settle out of the water column. The use of earth moving equipment within the channel could impact water quality by introducing oils and solvents to the work area. However, the implementation of best management practices listed below would minimize the potential for accidental releases and spills. Moreover, all terms and conditions of the Section 401 Water Quality Certification (File No. 03C-046, August 15, 2003) would be implemented.

Groundwater and Water Supply

Construction would entail excavation and grading across approximately 70 acres of the channel. The elevation of the channel invert would be lowered by approximately 8 feet. The Modified Phase II Plan would construct 3 permanent and 1 temporary~~four~~ grade control or stabilizer structures. ~~replace the to drop structures with two grade control structures each measuring approximately 50 feet wide and 200 feet long (0.2 acre in area).~~ These concrete structures are not permeable. Therefore, like the Original Phase II plan, the Modified Phase II Plan would reduce the amount of area available for groundwater recharge by possibly 0.4 acre. The earthen embankments would be excavated and lined with soil cement embankments. In contrast to the Modified Phase II Plan, the soil cement embankments would not be permeable. Therefore, water would not percolate into the ground beneath the embankments. However, in comparison to the Original Phase II Plan where most reaches would have a 3:1 slope, the Modified Phase II plan would entail construction of steeper slopes at various reaches ranging from 2:1 to 1:4. Therefore, the reduction in surface area along the embankments available for groundwater recharge would be minimal. During construction, there would be substantial disturbance of existing topsoil in the channel invert associated with excavation activities to widen and deepen the channel. However, the composition of the newly exposed substrate would remain the same, and would still allow for groundwater recharge.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

5.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

As identified in the 2000 Final EIS/EIR and summarized in Section 3.0, future maintenance activities would be regularly conducted within the project area by the RCFC&WCD. Operations and maintenance activities would be undertaken to maintain the integrity of the built structures

and the design configuration of the channel. Therefore, these activities would continue to maintain the approximately a 100-year level of flood protection provided by the Original Phase II Plan.

Regular mowing of the channel invert outside of the unmaintained riparian/low-flow *corridor* and debris and sediment removal from the channel would entail a limited number of mechanized or earth moving equipment working within the channel invert. As a result, there would be disturbance to substrate during operations and maintenance activities that could impact water quality. However, with the exception of emergency maintenance activities, operations and maintenance activities would not be conducted from December 1 through February 28 in order to avoid winter rains and to correspondingly reduce the potential for water quality impacts. Furthermore, work areas would be isolated from active flows to prevent or minimize turbidity during construction. There would be a temporary increase in turbidity when initial water flows across disturbed areas introduce unconsolidated or loose topsoil into the water column. However, since most of the substrate is alluvial, sand and gravel are expected to quickly settle out of the water column. The use of earth moving equipment within the channel could impact water quality by introducing oils and solvents to the work area. However, the implementation of best management practices listed below would minimize the potential for accidental releases and spills. Moreover, all terms and conditions of the 401 Water Quality Certification would be implemented.

Maintenance of the soil cementgabion and riprap embankments or maintenance of the drop grade control or stabilizer structures would in most cases entail a like-for-like replacement of existing structures, and therefore would not increase impermeable surface area within the channel invert. In some cases, maintenance may require minor extension of the grade control or stabilizer structuresdrop structure such as concrete aprons which may increase the impermeable surface area. Given the approximately 70 acres of native substrate within the channel, impacts to groundwater recharge due to increases in impermeable surface area would *de minimis*. Other operations and maintenance activities would not affect groundwater and water supply.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the RCFCDWCDRCFC&WCD. Monitoring and maintenance of the restoration revegetated areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan. The Modified Phase II Plan maximizes the extend and quality of the Riparian/Low-Flow Corridor compared to the Original Phase II Plan, thereby reducing the extent of the required annual mowing and periodic sediment management in the maintained area.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

5.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

W-1 Channel construction and routine maintenance activities will not be conducted if bank to bank flows exist and during rain events to reduce the potential for significant impacts to water quality. The construction contractor will monitor and record weather reports for any indication of potential rain events. The contractor shall divert the low flow channel consistent with the Storm Water Pollution Prevention Plan (SWPPP) and regulatory permits to minimize working within the live channel. Construction activities shall conform to the requirements of the State-wide National Pollutant Discharge Elimination System (NPDES) General Permit (Board Order No. 2009-0009-DWQ, NPDES No. CA000002 as amended by Board Order No. 2010-0014-DWQ) for Stormwater Discharges Associated with Construction and Land Disturbance Activities. The SWPPP created and implemented pursuant to the NPDES General Construction Permit requirements shall also include provisions identified in the Section 401 water quality certification for the project and requirements of the current Construction Permit.

W-2 During construction and maintenance activities, equipment will be in proper working condition and inspected for leaks and drips on a daily basis prior to commencement of any in-channel ~~maintenance~~ work.

W-3 ~~RCFC&WCD would develop and~~ Implement a spill prevention and remediation plan and construction workers will be instructed as to its requirements. Construction supervisors and workers ~~and maintenance personnel~~ would be instructed to (1) be alert for indications of equipment related contamination such as stains and odors, keep spill kits containing absorbent materials at the construction site, and (2) respond immediately with appropriate actions as detailed in the spill prevention and remediation plan if indications of equipment-related contamination are noted. RCFC&WCD will implement its standard Hazardous Waste Disposal (i.e. Safety and Operations Manual Procedure #28) to address any hazardous material spills while conducting maintenance activities.

W-4 During construction and maintenance activities, fuels, solvents, and lubricants would be stored ~~in a bermed area so~~such that potential spills and/or leaks will be contained. Soil contamination resulting from spills and/or leaks would be remediated as required by Federal and/or state law. Storage areas would be constructed so that containers would not be subjected to damage by construction and maintenance equipment. RCFC&WCD will implement its standard Hazardous Waste Disposal (i.e. Safety and Operations Manual Procedure #28) to address any hazardous material spills while conducting maintenance activities.

W-5 Implement~~ation of~~ appropriate best management practices (BMPs) during construction and maintenance to minimize soil erosion and transport of pollutants, and train operators.

W-6 Whenever possible, confine construction work within the flood control channel to low-flow periods. All construction and routine maintenance activities within the channel would be limited during wet weather.~~,~~ ~~to~~ Construction contracts shall include specifications for: construction material stockpiling, channel slope protection, grading, levee openings, and excavation.

W-7 Construct sediment barriers (e.g. sandbags, silt fence, temporary containment dam) downstream of each major construction operation to trap sediments.

W-8 Conduct dewatering operations behind temporary sheet pile cofferdams. Groundwater dewatering operations shall be conducted in accordance with the requirements of the latest San Diego Regional Water Quality Control Board's General Waste Discharge Requirements (e.g. Regional Board Order No. R9-2008-0002), if applicable.

W-9 Cover and secure stockpiles of bulk granular building materials

W-10 Stabilize any areas of exposed soil, such as dirt stockpiles, dirt berms, and temporary dirt roads, with controlled amounts of sprinkled water.

W-11 At the close of each working day, sweep up any materials tracked onto the street or laying uncontained in the construction areas, and dispose of any trash accumulated in construction areas.

W-12 Contain concrete, asphalt, and masonry wastes and dispose of these wastes away from project construction sites.

W-13 Prohibit the storage of fuels and other hazardous materials and refueling and maintenance of equipment and vehicles near the flood control channel. Prohibited locations shall include all land and structures (e.g. bridges) within 50 feet of the creek.

~~W-14 Keep spill kits containing absorbent materials at the construction site.~~

~~W-15 Store fuels and other hazardous materials away from project drainage.~~

W-1~~4~~6 Required Opinions, Concurrences, and Permits:

- Applicable Regulatory Section 404 Permit (RCFC&WCD to obtain for operation and maintenance activities)
- Section 401 Water Quality Certification
- Section 402 National Pollution Discharge Elimination System General Construction
- A Storm Water Pollution Prevention Plan will be prepared and implemented during construction.

6.0 BIOLOGICAL RESOURCES

6.1 Affected Environment

The Final EIS/EIR for the Murrieta Creek Flood Control Project (Corps 2000) has an extensive discussion of the biological resources found in and around the project area. The EIS/EIR describes the various habitat areas (i.e., alluvial scrub, riparian, and aquatic resources) and the fish and wildlife within the project area. That information is incorporated by reference as per 40 CFR 1502.21. The EIS/EIR included information from the California Natural Diversity Data Base (CNDDB), the Fish and Wildlife Baseline Conditions Report on Biological Resources at Murrieta Creek (USACE, 1998b), the report for the Delineation of Wetlands of the Murrieta Creek Flood Control Project Riverside County, California (USACE, 1992), and the Murrieta Creek Floodplain Maintenance Plan (FMP) Project Wetland Delineation conducted by Dudek & Associates in 2000. Further discussion is provided in the 2003 Supplemental Environmental Assessment for the Phase I Modifications of the Murrieta Creek Flood Control Project (Corps 2003). Additional, extensive data relative to biological resources has been collected since the Final EIS/EIR and SEA were completed in 2000 and 2003. This new information, described below, has been incorporated into the biological resources discussion and analysis of this SEA/SEIR. Furthermore, the biological resources analysis for this Final SEA/SEIR utilizes ~~sensitive species~~ southwestern pond turtle and arroyo chub survey information, from the Western Riverside County Multiple Species Habitat Conservation Plan "MSHCP" (2010-2011).~~for species that either occur within or adjacent to the Project area.~~

Field surveys were conducted by Corps and Aspen Staff biologists (2013, 2012, 2011, 2010, 2008), to update and supplement the biological resources data. One objective of the field surveys was to determine if habitat for sensitive species was present in or adjacent to the Murrieta project site. The surveys included:

- vegetation community identification and mapping,
- identification of observed plant species,
- evaluation of existing habitat for potential special-status plant and wildlife habitat,
- evaluation of aquatic habitat,
- identification of aquatic species, and
- incidental species observations.

The August/September 2012 field investigations were focused primarily within the Phase II project limits.

6.1.1 Vegetation Communities

Habitat located within the proposed Phase II project area remains consistent with conditions previously described by the 2000 EIS/EIR, unless otherwise noted. The existing channel bottom has continued to be annually maintained (mowed) by Riverside County Flood Control and Water Conservation District (RCFC&WCD) according to the current, authorized, and permitted July 1999 Murrieta Creek Channel Maintenance Plan (CMP) (RCFC&WCD 1999). RCFC&WCD currently implements this CMP in accordance with two separate Streambed Alteration

Agreements (SAA) issued by the CDFW and subsequently extended by letter on September 2, 2004, to the RCFC&WCD and City of Temecula. Per coordination with Corps Regulatory on the CMP, mowing of the channel vegetation per specific methods would not require a Section 404 permit. The regular mowing of Murrieta Creek within the Phase II area by RCFC&WCD has been performed consistent with the jurisdictional determination made by the Corps Regulatory Division that a 404 permit is not needed. The RCFC&WCD regularly maintains the channel, typically in the fall prior to the winter season, to reduce the potential for flooding by mowing majority of the creek bottom annually (approximately 62.4 acres within the Phase II area) and a vegetated corridor (ranging in average width of 20 to 30 feet, approximately 8.4 acres) every 2 to 4 years. As a result, the vegetation within the creek ranges 0 to 4 years in age in any given time of the year. Figures 6-1 and 6-2 shows the condition of the channel subject to recent maintenance mowing. There are a few patches of vegetation along the banks of the creek that may not be maintained regularly due to its location.

By late spring, vegetation in the channel is recovering, with regrowth of species typical of riparian scrub and freshwater marsh vegetation communities. The following discussion describes the habitat within the Phase II project area as documented during vegetation surveys performed in the summer of 2012. Recovering habitat within the Phase II area consists primarily of riparian vegetation, freshwater marsh, and non-native/disturbed areas. Urban development and a section of Riversidian coastal sage scrub occur adjacent to Murrieta Creek. Per CEQA Guidelines 15125, baseline conditions to evaluate impacts consist of the environmental setting at the time the Notice of Preparation is published, and therefore incorporates the RCFC&WCD implementation of the CMP into the project baseline conditions.

Figure 6-1. Post Maintenance Mowing Channel Conditions Upstream of Rancho California Road

Source: Google Maps, website accessed November 2012.

Figure 6-2. Post Maintenance Mowing Channel Conditions in Vicinity of Via Montezuma

Source: Google Maps, website accessed November 2012.

The following is a description of the vegetation communities observed within the Phase II project area and its immediate vicinity. Distribution of communities within the project area is depicted in Figures 6-3a through 6-3e, Vegetation Maps. In addition, plant species observed in the project area are discussed below. All plant community descriptions are derived from Holland (1986), and Gray and Bramlet (1992). The mapped vegetation communities occupy approximately 122.42 ~~121.37~~ acres in Phase II as shown in Table 6-1 and are discussed as follows:

Table 6-1. Vegetation Communities in Phase II

Vegetation Communities and Other Cover Types[1]	Acreage
Cottonwood willow riparian	1.01
Riparian Scrub	14.15 ~~17.58~~
Mulefat Scrub	5.59 ~~62~~
Freshwater Marsh1 ~~/wetland~~	36.35 ~~0.90~~
Coastal Sage Scrub (CSS)	2.16
Open Water/Open Channel	12.81 ~~44.82~~
Ornamental/exotic/ nonnative/disturbed	47.57 ~~46.43~~
Unvegetated/ Barren/Developed	2.78 ~~2.85~~
Total	122.42 ~~121.37~~

Based on Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986).

CWR- Cottonwood Willow Riparian

This community is winter-deciduous and requires moist, bare mineral soil for germination and establishment, provided when flood waters recede. Early stands develop as uniform-aged stands from seedlings established on open post-flood sites (Holland, 1986). Southern cottonwood-willow riparian forest and disturbed cottonwood/willow riparian woodland is present in patches, in various stages of maturity, throughout the Murrieta Creek corridor. Several species of willows including black willow (*Salix gooddingii*) yellow willow (*S. lasiandra*) and arroyo willow (*S. lasiolepis*), and sometimes Fremont cottonwood (*Populus fremonttii*), are the dominant trees in riparian woodlands and forests within the project area. In the project area these woodlands are narrow due to the confined channel and often have dense understories of emergent willows, mulefat (*Baccharis salicifolia*), and mugwort (*Artemisia douglasiana*). Tree canopy may be open (woodland) or closed (forest) depending on location and is greater than 20 feet tall in specific areas. These woodlands and forests are found in areas of Murrieta Creek supporting perennial surface water. The more mature stands occur downstream of Phase I and in portions of the project near Kalima Street, upstream of Phase II. Activities from clearing, off-road vehicle activity, and invasion by exotic species such as giant reed, tamarisk, pepper-tree (*Schinus* spp.), and eucalyptus (*Eucalyptus* spp.), among others, have disturbed or degraded this vegetation in some parts of the project area.

Approximately 1.01 acres of Cottonwood Willow Riparian habitat occur within the Phase II project area.

SWS~~RS~~ - Southern Willow Scrub or Riparian Scrub

Southern willow scrub (Holland 1986) is a dense, broadleafed, winter-deciduous riparian thicket habitat dominated by several willow species, with scattered emergent cottonwood and California sycamore (*Platanus racemosa*). Riparian scrub vegetation is typically less mature than "willow

1 Includes existing maintained or mowed channel area of approximately 35.72, as observed during the Corps 2012 vegetation survey.

riparian" habitat. Most stands are too dense to allow much understory development. Site factors include loose, sandy or fine gravelly alluvium associated with stream channel deposition. Stands wholly dominated by scrubby willows are termed southern willow scrub; stands with significant cover of other species are termed mixed riparian scrub. Scattered individuals of cottonwood or western sycamore may exist as canopy emergents within this community.

This is an early seral community that requires periodic flooding for its maintenance (Holland, 1986). In long periods without scouring or damaging floods, willow riparian scrub develops into a riparian woodland or forest. This vegetation occurs in small patches scattered throughout the creek in the Phase II project area. On the vegetation maps (Figures 6-3a to 6-3e), this vegetation community is mapped as southern willow scrub, disturbed southern willow scrub, and emergent southern willow scrub ~~and riparian scour zone~~.

Approximately ~~17.58~~ 14.15 acres of Riparian Scrub habitat occur within the Phase II project area.

MF- Mulefat
Mulefat scrub is a riparian shrub community that is strongly dominated by mulefat, often in association with scattered willow species, heliotrope (*Heliotropum curassavicum*), mugwort, and blue elderberry (*Sambucus oronate*). Mulefat-dominated scrub usually occurs along intermittent streams and is common in many sections of Murrieta Creek.

Approximately 5.59 ~~62~~ acres of mulefat scrub habitat occur within the Phase II project area.

M- Freshwater Marsh~~/Wetland~~
Freshwater marsh is characterized by standing or slowly-flowing surface water, with vegetation dominated by tall perennial wetlands species emergent above the water line (Holland 1986). Marshes are often covered by uniform stands of bulrushes (*Scirpus* spp.) or cattails (*Typha* spp.). Other typical species include nutsedges (*Cyperus* spp.) and rushes (*Juncus* ssp.). This vegetation matches the freshwater marsh described by Holland (1986) and includes the Bulrush series, Bulrush – cattail series, and Cattail series described by Sawyer and Keeler-Wolf (1995). Within the Phase II project area, these communities are prevalent in the hydric portions of the creek between Rancho California Boulevard and the Santa Gertrudis Creek area.

Approximately ~~0.90~~ 36.35 acres of freshwater marsh, ~~and~~ freshwater marsh/mowed channel, and mowed channel habitat occur within the Phase II project area, as observed in 2012. Of this, approximately 35.72 were observed as mowed channel.

CSS- Riversidian Sage Scrub
Coastal sage scrub (CSS) is comprised of low, soft-woody sub-shrubs to about three feet high, and is one of the major shrub-dominated communities within California. This community occurs on xeric sites with shallow soils or on dry sites, such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. Sage scrub species are typically drought deciduous plants with shallow root systems. The Riversidian association is characterized by a higher evapotranspiration stress (i.e., loss of water from the soil and vegetation during the life cycle of the plants growing in this community) during the summer than the other associations (O'Leary

1990). This upland community within slopes and ROW of the project area is fairly open and is dominated by brittlebush *(Enceliafarinosa)* in association with California sagebrush *(Artemisia californica)* and Mojave yucca *(Yucca schidigera).* Because of the open composition of this community, exotic herbaceous species (i.e., having little or no woody tissue and persisting usually for a single growing season) such as annual bur-sage *(Ambrosia acanthicarpa),* Russian thistle *(Salsola tragus),* tocalote *(Centaurea melitensis),* mustard *(Brassica* spp.), wild oats *(Avena* spp.), and red brome *(Bromus rubens)* are prevalent in the spaces between the shrubs.

Approximately 2.16 acres of CSS, including disturbed CSS, restored CSS, and emergent sawtooth goldenbush (*Hazardia squarrosa*) habitat occur within the Phase II project area.

Ow- Open Water/Open Channel

Though not considered a vegetation community because of the lack of vegetation, open water ~~and open channels are~~ is associated with ~~water~~ surface flow and occasionally with wetland communities, whereas open channels are typically dry. They both provide habitat for a variety of wildlife species. Open water habitat can contain a sandy substrate with pure sand or sand with very sparse aquatic vegetation. Much of the creek channel proper from immediately upstream of Old Town Temecula to approximately Calle Del Oso Oro Road is unvegetated and mostly consists of sandy channel bottom or sand banks. There are however, small patches of juvenile willows and mulefat scattered along the unvegetated portion of the creek, especially where there is a semi-permanent source of water from urban and/or agricultural runoff. Included in this community are areas mapped as riparian scour zone, where very little vegetation is present due to natural scouring of vegetation and substrate from creek flows. ~~Included in this community, in addition to naturally occurring open water and sandy areas within the channel, is the cleared region as described in the CMP where varying portions of the channel bed are annually cleared by mowing and/or sediment removal by RCFC&WCD.~~

Approximately 0.84 ~~44.82~~ acres of open water and 11.97 acres of open channel are~~, and mowed channel is mapped~~ within the Phase II of the proposed project.

Orn- Ornamental/exotic/nonnative/disturbed

Non-native woodlands are generally dominated by several species of eucalyptus trees and other less extensive stands of ornamental trees, such as elm (*Ulmus* spp.) and Peruvian pepper. These species were planted for aesthetic and horticultural purposes, and most sites where they are now found in the project area are probably old plantings or recruits. Salt Cedar areas are dominated by dense stands of the invasive salt cedar (*Tamarix* sp.). Arundo (*Arundo donax*) is another aggressive non-native/invasive that is present within the Phase II project area.

The small amount of vegetation that begins to reclaim the soil is dominated by non-native, weedy species that are adapted to frequent disturbance. Many of the characteristic species of disturbed habitat are also indicator species of annual non-native grassland, but disturbed areas mapped here have less overall vegetation cover and greater relative abundance of forbs rather than grasses. The areas mapped as disturbed include dirt access roads, maintenance buffers, and other barren areas with limited vegetation that have not shown signs of recolonization by natives.

Approximately 47.57 ~~46.43~~ acres of ornamentals, exotic, non-native, and disturbed areas occur within the Phase II project area.

Un- Unvegetated/Developed
These areas as mapped (Figures 6-3a to 6-3e) are devoid of vegetation due to recent or on-going disturbances or permanent land use changes. A variety of land uses in and around the project area have little or no native or non-native vegetation. These include developed lands, paved areas (e.g., roads and parking areas), barren soil (e.g., equipment yards or unpaved parking areas), concrete (e.g., lined channel banks), riprap channel armoring, and rock outcrops.

Approximately 2.78 ~~85~~ acres of developed, rock outcrop, stone habitat occur within the Phase II project area.

6.1.2 Wildlife

Murrieta Creek is primarily surrounded by urban development. A narrow corridor of Riversidian coastal sage scrub exists near the Phase II project area along the east side of the channel. Wildlife species likely to occur along the creek in these areas would be limited to widespread, mobile generalist species including reptiles, small mammals and birds well suited for life in an urbanized surrounding. Portions of Murrieta Creek do offer suitable habitat for a variety of wildlife species and may provide a limited corridor for animal dispersal to the mature Riparian woodlands in Temecula Creek to the south and the coastal sage scrub habitat located at the nearby Santa Rosa Plateau. Murrieta Creek is likely used for foraging by a variety of bird species, and as a transportation corridor for relatively urban tolerant mammals such as raccoons (*Procyon lotor*), coyotes (*Canis latrans*), bobcat (*Felis rufus*), and other small mammals and rodents.

Common mammal species observed during surveys include desert cottontail (*Sylvilagus audubonii*) and California ground squirrel (*Otospermophilus beecheyi*). Tracks located in muddy sections of the creek indicate the site is well used by such species as raccoon, coyote, and possum (*Didelphis virginiana*). Beaver (*Castor oronates*), although not directly observed during the survey, are known residents of Murrieta Creek.

Numerous bird species were observed within Phase II of the proposed project or adjacent to the project area. Some of the bird species observed included red-winged blackbird (*Agelaius phoeniceus*), American crow (*Corvus brachyrhynchos*), greater road runner (*Geococcyx californianus*), bushtit (*Psaltiparus minimus*), and marsh wren (*Cistothorus palustris*). Several raptor species were observed foraging across the area including red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). Similarly, great blue heron (*Ardea oronate*), egrets (*Ardea alba*), and several mallards (*Anas platyrhynchos*) were observed foraging along the creek bed. The least Bell's vireo (*Vireo bellii pusillus*) (LBV) was observed foraging in several locations along the Phase II project area during the 2011 and recent 2013 LBV nesting surveys. Details of the vireo survey may be found under heading "*Results of LBVI Protocol Surveys"* below.

Common reptile and amphibian species that are expected to occur within the proposed project area include western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), western toad (*Anaxyrus boreas*), and bullfrog (*Rana catesbeiana*). Although many of the species observed are important members of wildland ecosystems and communities, most are common and have wide distributions in the region.

6.1.3 Special Status Species

Special status species include those listed as threatened or endangered under the Federal or California Endangered Species Acts, species proposed for listing, species of special concern, and other species identified either by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and ~~Game~~ Wildlife (CDF~~G~~W) as unique or rare, and which have the potential to occur within the study area.

Wildlife

The California Natural Diversity Database (CNDDB) and supplemental investigations listed 62 special-status wildlife species with potential to occur in the vicinity of the study area. See Table 6-2 below for a list of sensitive wildlife.

Many of these species are not associated with the vegetation communities found within the Murrieta Creek study area or are located in similar habitats but of higher quality, found outside the study area. Futhermore, the periodic and often frequent flooding of Murrieta Creek may limit the potential for many species to occur.

Four of the federally or state listed threatened or endangered wildlife species have moderate to high potential to occur or are present within the Phase II project area. These include Swainson's hawk (*Buteo swainsoni*) (State Threatened), southwestern willow flycatcher (*Empidonax traillii extimus*, SWFL) (Federally Endangered, State Endangered), coastal California gnatcatcher (*Polioptila californica californica*) (Federally Threatened), and least Bell's vireo (*Vireo bellii pusillus*) (Federally Endangered, State Endangered). Of these species, the least Bell's vireo (LBVI) has been observed in the project area. The coastal California gnatcatcher (CAGN) has been observed foraging downstream of the Phase I project area, and critical habitat occurs west of the Phase I project area ranging from 0.15 to 1.15 miles away. USFWS protocol surveys were completed for least Bell's vireo in the project area in 2013, 2011, 2010 and 2008. Protocol surveys were completed for southwestern willow flycatcher in the project area in 2008.

Twenty-one wildlife species designated as ~~CDFG~~ CDFW Species of Special Concern were found to have moderate to high potential to occur within the Phase II project area. Eight wildlife species listed in the MSHCP for Riverside County were found to have moderate to high potential to occur within the Phase II project area. These MSHCP species may also be federally or state listed, or listed as a Species of Special Concern.

Sensitive species, including their status, habitat requirements, and potential to occur within the study areas are presented in Table 6-2 below.

Table 6-2. Known and Potential Occurrence of Sensitive Wildlife Species Within and Adjacent to Proposed Project				
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Habitat and Known Occurrences**
INVERTEBRATES				
Branchinecta lynchi	Vernal pool fairy shrimp	FT	Low	Endemic to the grasslands of the Central Valley, Central Coast Mountains and the South Coast Mountains in rain filled pools. Vernal pools have not been documented in the Project area. This Reach of Murrieta Creek consists of a confined channel bordered by urban development. This species has not been documented in the Project area..
Branchinecta sandiegonensis	San Diego fairy shrimp	FE	Low	Endemic to San Diego and Orange County mesas. Vernal pools have not been documented in the Project area. This Reach of Murrieta Creek consists of a confined channel bordered by urban development. This species has not been documented in the Project area.
Euphydryas editha quino	Quino checkerspot	FE	Low	Open canopied habitats in sage scrub, chaparral, grasslands; strongly associated with host plants. This Reach of Murrieta Creek consists of a confined channel bordered by urban development. Suitable habitat consisting of host plants is not present in the Project area.
Streptocephalus woottoni	Riverside fairy shrimp	FE	Low	Restricted to deep, seasonal, long-lived vernal pools, vernal pool-like ephemeral ponds, and stock ponds. Vernal pools have not been documented in the Project area. This Reach of Murrieta Creek consists of a confined channel bordered by urban development. This species prefers warm water with low to moderate dissolved solids. This species has not been documented in the Project area.
AMPHIBIANS				
Anaxyrus californicus	Arroyo Toad	FE	Low	Semi-arid regions that support intermittent to perennial streams including Valley-foothill and desert riparian/desert wash habitats. Closest population is known from the Santa Rosa Plateau. Habitat conditions in this Project Reach consist of marsh habitat upstream of Rancho California Road and dry stream channel downstream. Most of this reach does not support adequate breeding conditions for this species.

Table 6-2. Known and Potential Occurrence of Sensitive Wildlife Species Within and Adjacent to Proposed Project				
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Habitat and Known Occurrences**
Rana aurora draytonii	California red-legged frog	FT, CSC, MSHCP	Low	Dense, shrubby riparian vegetation associated with deep, still or slow-moving water. Only one extant population is known from Santa Rosa Plateau Ecological Reserve in Riverside County. Although perennial water occurs in portions of this reach this species has not been detected in the Project area.
Spea (=Scaphiopus) hammondii	Western spadefoot	CSC	High	Streams, ponds, and temporary rain pools that last at least three weeks. This species is known to occur in the watershed. Documented in 2003 in Warm Springs Creek (CNDDB, 2009).
FISH				
Catostomus santaanae	Santa Ana sucker	FT, CSC	Low	Sand, rubble, or boulder-bottomed streams. This species has not been documented in the Project area.
Gila orcutti	Arroyo chub	CSC, MSHCP	~~High~~ Low	Slow water sections of south coastal streams with mud or sand bottoms. This species is known to occur in the Project area watershed. This species has not been detected in the Phase II Project area and suitable habitat would not likely be present due to degraded habitat conditions, insufficient water flow, and the presence of invasive species. No suitable arroyo chub habitat is present in the identified staging, stockpile, and storage areas.
REPTILES				
Actinemys marmorata pallid	Southwestern pond turtle	CSC, MSHCP	Present	Deep pools in rivers and streams below 6000 feet in elevation with adequate basking sites. This species ~~has been~~was previously documented on the Project site during surveys in 2000, downstream of the Main Street bridge and in trapping surveys completed in 2011 where suitable habitat is present downstream of Phase II in the lower Murrieta Creek (MSHCP). Suitable habitat is not present in the identified Phase II staging, stockpile, storage areas.

Table 6-2. Known and Potential Occurrence of Sensitive Wildlife Species Within and Adjacent to Proposed Project				
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Habitat and Known Occurrences**
Anniella pulchra pulchra	Silvery (=California) legless lizard	CSC	Moderate	Sandy or loose loamy soils under sparse vegetation of beaches, chaparral, or pine-oak woodland; or sycamores, cottonwoods, or oaks that grow on stream terraces; also in desert scrub at the western edge of the Mojave Desert. Often found under or near surface objects such as logs, rocks, old boards, woodrat nests. Mesic to xeric sections of the Project may provide potential habitat.
Aspidoscelis hyperythra	Orange-throated whiptail	CSC	Moderate	Low-elevation coastal scrub, chaparral, and valley-foothill hardwood; prefers washes and other sandy areas with patches of brush and rocks; feeds primarily on termites. Suitable habitat may occur on the Project site. This species has been documented within 2 miles of the Project area.
Aspidoscelis tigris steinegeri	Coastal western whiptail	None	Moderate	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. This species has been documented downstream of the Project area at the confluence with the Santa Margarita River.
Charina bottae umbratica	Southern rubber boa	ST	Low	Occurs in conifer forests near streams and meadows. This species is known to occur in the Transverse Range, San Bernardino, San Gabriel and San Jacinto Mountains. Suitable habitat does not occur in the Project area.
Crotalus ruber ruber	Northern red-diamond rattlesnake	CSC	Moderate	Found in a number of vegetative associations, and more frequently in habitats with heavy brush and large rocks or boulders. Limited suitable habitat is present in the Project site. This species has been documented with 5 miles of the Project area (CNDDB, 2012).
Eumeces skilltonianus interparietalis	Coronado skink	CSC	Low	Grassland, chaparral, pinyon-juniper and juniper-sage woodland, pine-oak and pine forests in coast ranges of Southern California. This species has been documented downstream of the Project area near the confluence with Santa Margarita River.
Lampropeltis zonata parvirubra	San Bernardino mountain kingsnake	CSC	Low	Canyons with rocky outcrops or rocky talus slopes in conifer forest or chaparral habitats. Suitable habitat does not occur in the Project area.

Table 6-2. Known and Potential Occurrence of Sensitive Wildlife Species Within and Adjacent to Proposed Project				
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Habitat and Known Occurrences**
Phrynosoma coronatum blainvillei	Coast (San Diego) horned lizard	CSC	Moderate	Coastal sage, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest with loose, fine soils with a high sand fraction; an abundance of native ants or other insects; open areas with limited overstory for basking; and low but relatively dense shrubs for refuge. Suitable habitat does occur in dry areas of the Project site and the species has been documented within 3 miles of the Project area.
Salvadora hexalepis virgultea	Coast patch-nosed snake	CSC	Low	Brushy or shrubby vegetation in coastal Southern California. This species has not been documented in the Project area.
Thamnophis hammondii	Two-striped garter snake	CSC	Moderate	Permanent streams, intermittent creeks, vernal pools. Suitable habitat does occur within the Project area. This species has been documented within 5 miles of the Project area.
Xantusia henshawi henshawi	Granite night lizard	CSC	Low	Restricted to narrow microenvironment of rocky outcrops and/or flaked granite. Suitable habitat does not occur in the Project area.
BIRDS				
Accipiter cooperii	Cooper's hawk	MSHCP	Present	Nests in woodlands, especially riparian growths and residential areas. This species has been observed foraging near the Project area.
Accipiter striatus	Sharp-shinned hawk		Low	Habitat consists of a variety of woodlands with high canopy and proximity to open areas. Suitable foraging habitat may occur in open grasslands and agricultural fields near the Project area.
Agelaius tricolor	Tricolored blackbird	CSC	Moderate	Freshwater marshes, uplands, and agricultural fields. Suitable habitat occurs in the Project area.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	CSC	High	Open scrub habitats and brushy slopes with grassy patches. This species has been documented within 3 miles of the Project area.

Table 6-2. Known and Potential Occurrence of Sensitive Wildlife Species Within and Adjacent to Proposed Project				
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Habitat and Known Occurrences**
Amphispiza belli belli	Bell's sage sparrow	CSC	Moderate	Coastal sage scrub and chaparral. This species has been documented downstream of Project areas near the confluence with Santa Margarita River
Aquila chrysaetos	Golden eagle	FP, CSC, MSHCP	Moderate	Undeveloped open terrain with grassland, pasture, sage scrub, and open woodland; regular inhabitant of rugged foothills and backcountry terrain with scattered farms, grassland valleys, and rock outcrops, as well as lakes and rivers. This species is known from the Santa Rosa Plateau and may forage in the Project area.
Athene cunicularia	Burrowing owl (burrow sites)	CSC, MSHCP	Moderate	Open lowlands including grasslands, desert scrub, and agricultural areas. Suitable may occur in and near Project areas. This species has been documented within 2 miles of the Project area (CNDDB, 2012). Suitable habitat is found in the temporary storage area within the proposed Phase III basin site and in the Phase II Project area. Recent burrow, census and mapping surveys conducted by Corps biologists in June and July 2013 did not detect this species. ~~within the Phase I and Project area. Suitable habitat is found in the Phase III basins and potentially found in the Project area.~~
Buteo regalis	Ferruginous hawk	CSC	Moderate (migrant)	Common in southern California grasslands and agricultural areas from mid-September to early April. This species may be found foraging in or adjacent to the Project area.
Buteo swainsoni	Swainson's hawk	ST	Moderate (migrant)	Developed, non-native grassland, coastal sage scrub, agricultural fields, and chaparral for foraging. Suitable foraging habitat may occur within or near the Project area.
Campylorhyncus bruneicapillus sandiegensis	San Diego cactus wren	CSC	Low	Coastal sage scrub with cacti for nesting. Suitable habitat for this species does not occur within Project area.
Circus cyaneus	Northern harrier	CSC	Moderate	Open habitats, meadows, grasslands, coastal sage scrub, chaparral. Has been documented within 5 miles of Project areas (CNDDB, 2012).

Table 6-2. Known and Potential Occurrence of Sensitive Wildlife Species Within and Adjacent to Proposed Project				
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Habitat and Known Occurrences**
Coccyzus americanus occidentalis	Western yellow-billed cuckoo	FSC, SE	Low	Cottonwood-willow riparian habitat. This species has been detected within 2 miles of Project areas (CNDDB, 2012). Although riparian habitat is present in the Project area it is limited to narrow stringers of willows and cottonwoods often less than one tree in width.
Tachycineta bicolor	Tree swallow	MSHCP	Moderate	The tree swallow can be found in wet habitats like flooded meadows, marshes, lakeshores, streams, and open areas near woods has been documented within 5 miles of Project areas (CNDDB, 2012).
Cypseloides niger	Black swift	CSC	Low	Rugged terrain and coastal cliffs. Suitable habitat does not occur in the Project area.
Dendroica petechia brewsteri	Yellow warbler	CSC, MSHCP	High	Riparian habitat. Although highly urbanized riparian habitat in the Project area may support his species.
Elanus leucurus	White-tailed kite	DFGFP, MSHCP	High	Low elevation, open grasslands, agricultural fields, wetlands, oak woodlands; uses areas with dense canopies for cover. This species has been detected at the upstream terminus of the Project near the proposed detention basin and may periodically forage in the river channel.
Empidonax traillii extimus	Southwestern willow flycatcher	FE, SE MSHCP	Moderate	Dense structured riparian thickets. This species has not been documented in the Project area but has been observed in downstream areas of the Santa Margarita River. Habitat conditions in the Project area would likely only support a migrant bird. Nesting habitat is marginal.
Eremophila alpestris actia	California horned lark	CSC	High	A variety of open habitats lacking trees and shrubs. This species has been documented within 2 miles of the Project site (CNDDB, 2009)
Falco columbarius	Merlin	FP, CSC	Low	Breed in open country and winter in open grasslands, agricultural fields. This species has not been documented in the Proejct area.
Falco mexicanus	Prairie falcon	CSC	Low	Forages in open arid areas; requires cliffs for nesting. Suitable foraging habitat may occur within or near Project areas.

Table 6-2. Known and Potential Occurrence of Sensitive Wildlife Species Within and Adjacent to Proposed Project				
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Habitat and Known Occurrences**
Falco peregrines	Peregrine falcon	SE, FP	Low	Large variety of open habitats; breeds in woodland, forest, and coastal habitats. Suitable foraging habitat occurs within or near Project areas.
Icteria virens	Yellow-breasted chat	CSC	Present	Dense riparian thickets of willow and other brushy tangles near watercourses. This species was detected in Project area during surveys completed in 2003.
Lanius ludovicianus	Loggerhead shrike	CSC	Low	Open habitats with sparse shrubs and trees, other perches, bare ground, and low or sparse herbaceous cover and riparian woodlands. This species has not been documented in the Project area.
Plegadis chihi	White-faced ibis	CSC	Low	Nest in dense marsh vegetation near foraging areas in shallow water or muddy fields. This species has not been documented in the Project area.
Polioptila californica californica	Coastal California gnatcatcher	FT, CSC	High	Low, coastal sage scrub. This species has been detected foraging at the downstream portion of Phase I, within 0.25 miles of the Phase II project area. Phase II does not support habitat for this species, however the bird may forage within the project area.
Progne subis	Purple martin	CSC	Low	Valley foothill and montane hardwood and hardwood-conifer woodland, coniferous, and riparian habitats. This species has not been documented i in the Project area.
Vireo bellii pusillus	Least Bell's vireo (nesting)	FE, SE, MSHCP	Present	Summer resident of cottonwood-willow forest, oak woodland, shrubby thickets, and dry washes with willow thickets at the edges. Nesting vireo has been detected in two locations upstream of Rancho California Road. Corps biologists updated presence/absence surveys between April and July 2013 and detected nesting vireos within the Project area in similar numbers to past surveys.
Xanthocephalus xanthocephalus	Yellow-headed blackbird	CSC	Present	Marshes with tall emergent vegetation. This species was documented in the project area during surveys conducted in 2006 (Varanus).
MAMMALS				
Antrozous pallidus	Pallid bat	CSC	Low	Deserts, grasslands, shrublands, woodlands, and forests with rocky areas for roosting; very sensitive to disturbance at roosting sites. While roosting habitat is not present on the Project Site this species may utilize Project areas for foraging.

Table 6-2. Known and Potential Occurrence of Sensitive Wildlife Species Within and Adjacent to Proposed Project				
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Habitat and Known Occurrences**
Chaetodipus californicus femoralis	Dulzura (California) pocket mouse	CSC	Low	Dry shrublands and lowland grasslands. This species has been documented within 3 miles of Project areas (CNDDB, 2009).
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	CSC	Low	Coastal scrub, chaparral, disturbed grasslands. Limited suitable habitat may be present in Project areas. This species has been documented within 5 miles of the Project.
Chaetodipus fallax pallidus	Pallid San Diego pocket mouse	CSC	Low	Sage scrub, chaparral, non-native grasslands. Limited suitable habitat may be present in Project areas.
Dipodomys merriami parvus	San Bernardino kangaroo rat	FE, CSC	Low	Undisturbed Riversidian alluvial sage scrub with sandy loam soils. This species has not been documented in the Project area.
Dipodomys stephensi	Stephens' kangaroo rat	FE, ST	Low	Annual grasslands with sparse perennial vegetation. Some portions of the Project area may provide limited suitable habitat. This species has been documented within 1 mile of the Project.
Eumops perotis californicus	Western mastiff bat	CSC	Low	Open semi-arid to arid; conifer and deciduous woodlands, coastal scrub, chaparral, grasslands; roosts in crevices of cliffs, structures. While roosting habitat is not present on the Project Site this species may utilize Project areas for foraging.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	CSC	Present	Non-native grasslands, Riversidean sage scrub, alluvial fan sage scrub, chaparral, disturbed. This species has been detected in the Project area and frequently observed in the proposed Phase III basin site
Lynx rufus	Bobcat	MSHCP	Low	Most closely associated with rocky and brushy areas near perennial water source. This species has not been detected in the Project area.
Neotoma lepida intermedia	San Diego desert woodrat	CSC	Low	Coastal sage scrub, chaparral, desert habitats.

Table 6-2. Known and Potential Occurrence of Sensitive Wildlife Species Within and Adjacent to Proposed Project				
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Habitat and Known Occurrences**
Nyctinomops femorosaccus	Pocketed free-tailed bat	CSC	Low	Arid areas, including pine-juniper woodlands, desert scrub, desert wash, desert riparian, palm oasis. While roosting habitat is not present on the Project Site this species may utilize Project areas for foraging.
Onychomys torridus Ramona	Southern grasshopper mouse	CSC	Low	Desert areas with low to moderate shrub cover. This species has not been detected in the Project area.
Perognathus longimembris internationalis	Jacumba pocket mouse	CSC	Low	Lower elevation grasslands and coastal scrub; open ground with fine, sandy soils. Dry portions of the Project area may provide suitable habitat for this species.
Perognathus longimembris brevinasus	Los Angeles pocket mouse	CSC	Low	Lower elevation grasslands and coastal scrub; open ground with fine, sandy soils. Dry portions of the Project area may provide suitable habitat for this species.
Puma concolor	Mountain lion	SP, MSHCP	Low	Rocky areas, ledges, cliffs within chaparral and open woodlands. This species has not been detected in the Project area.

FT = Federally Threatened Species
FE = Federally Endangered Species
FSC = Federal Species of Special Concern
PT = Federally Proposed Threatened Species
P = Federally Protected Species

ST= State Threatened species
SE = State Endangered Species
CSC = California Species of Special Concern
DFGFP = CDFG Fully Protected Species
SP = State Fully Protected Species

MSHCP = MSHCP Murrieta Creek Phase II Planning Species

Results of LBVI Protocol Surveys and SWFL Surveys

In 2011, 2010 and 2008, protocol surveys were conducted for the LBVI to support the permitting and approval process for the proposed construction in the Phase II project area. During the ~~3 years of~~ 2008, 2010, and 2011 surveys, LBVI were observed at ~~six~~ 6 locations within the Phase II project area. During the 2010 and 2008 surveys, ~~two~~ 2 pairs were detected each year, one of which was observed with a nest and fledgling each year. In 2011, LBVI were detected at ~~three~~ 3 locations (one pair and ~~two~~ 2 individuals) within the Phase II project limits (as shown in the map below), however no evidence of nesting was detected. Occupied LBVI habitat by the pair was estimated at 0.4 acres (see Figure 6-4). To further clarify the current LBVI status within Phase II, updated protocol surveys were conducted in 2013. During the 2013 surveys, 4 LBVI individuals were audibly detected at 4 locations within the Project area. A 150-ft buffer was established for each of the 4 territories to show the approximate limit of the habitat that the LBVI were using (see Figures 6-7 and 6-7). The 2013 survey results (i.e. total number of LBVI and number of locations) were not significantly different from the prior surveys.

Surveys for the ~~southwestern willow flycatcher~~ SWFL were performed concurrently with LBVI in 2008, however no ~~SWWF~~ SWFL were detected. Additionally, no SWFL were detected during the recent 2013 for LBVI (although protocol surveys were not conducted for this species in 2013), and the Biological Monitoring Program for the MSHCP has not detected any SWFL within the project area.

Figure 6-4. Locations of LBVI sighted in Phase II during the 2011 LBV Protocol Surveys

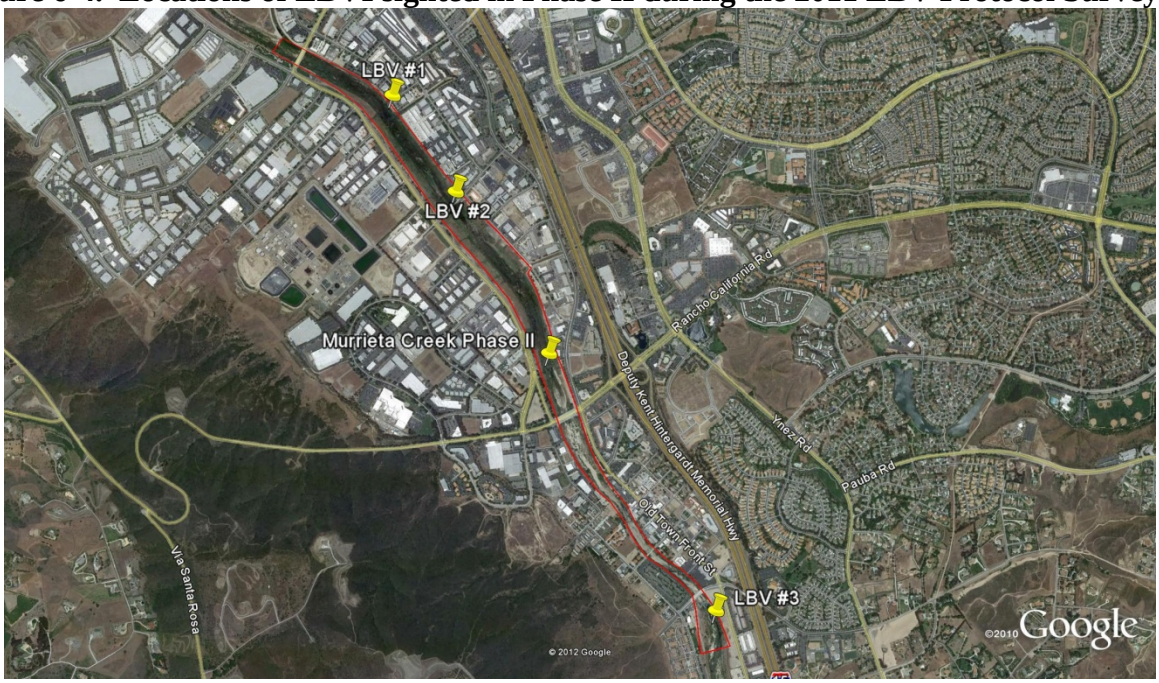


Figure 6-5. 2011 LBVI (Paired) Territory

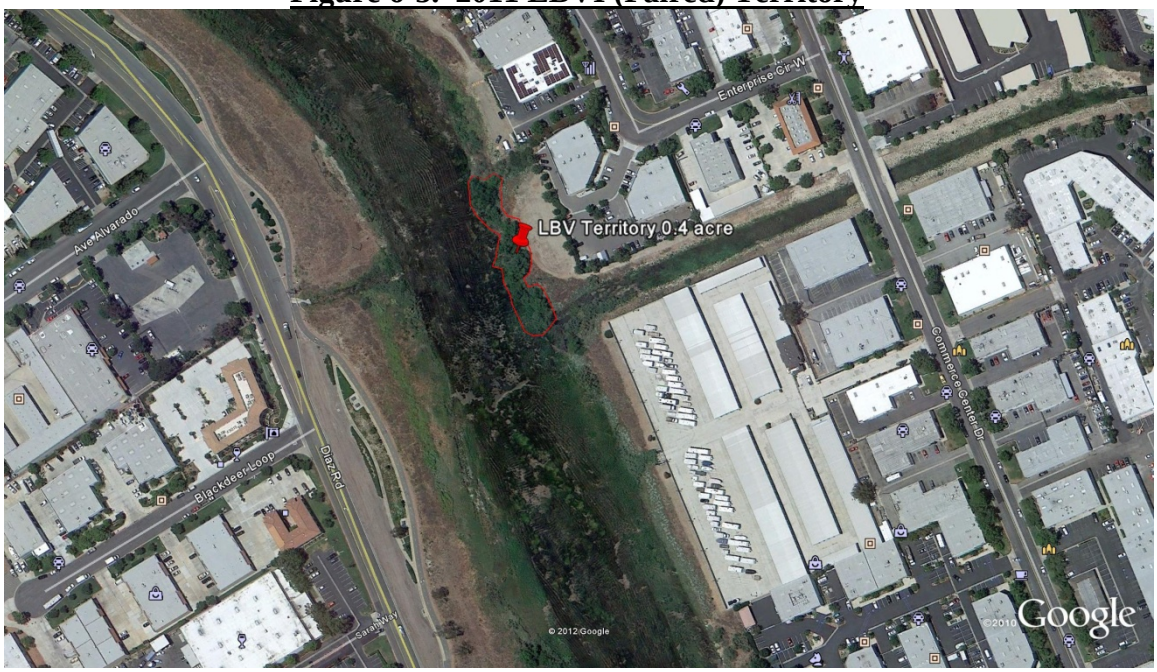


Figure 6-6: Suitable LBVI Habitat within the Phase II project area (2013 survey) Map 1

Figure 6-7: Suitable LBVI Habitat within the Phase II project area (2013 survey) Map 2

***Other* Surveys**

The USACE conducted protocol level surveys for several sensitive wildlife species between April and July 2000, during development of the EIS/EIR. Protocol surveys were conducted for various special status wildlife species including three sensitive bird species: the Federally threatened ~~coastal California gnatcatcher (~~CAGN~~) (*Polioptila californica californica*)~~; Federally endangered ~~least Bell's vireo (~~LBVI~~) (*Vireo bellii pusillus*)~~; and Federally endangered ~~southwestern willow flycatcher (SWWF~~SWFL~~) (*Empidonax traillii extimus*~~); two amphibians: the Federally endangered arroyo southwestern toad (*Bufo microscaphus californicus*); and the Federally threatened California red-legged frog (*Rana aurora draytoni*); one invertebrate: the Federally endangered Quino checkerspot butterfly (*Euphydryas editha quino*); and one reptile: the southwestern pond turtle (*Clemmys marmorata orona*), a California species of special concern.

With the exception of the southwestern pond turtle, none of these species were observed within the entire Murrieta Creek project area, including Phase II, between April and July 2000. In the Phase II area, one southwestern pond turtle was observed just downstream of the Main Street bridge.

Yellow-breasted chat (*Icteria virens*), a state species of special concern, and southwestern pond turtle were observed utilizing the Phase I project area during a reconnaissance survey conducted by Aspen biologists in May 2003. Also, in July 2003, the USFWS notified the Corps that a CAGN had been observed foraging within the Phase I project area during their on-site meeting. Yellow-breasted chat was later observed in Phase II during LBVI protocol surveys in 2011.

While CAGN has not been observed in the Phase II project area, due to the adjacency of Phase I to Phase II and the close proximity to critical habitat in the downstream portions of the Phase II area, CAGN may use the Phase II site for foraging.

As part of the Biological Monitoring Program for the MSHCP, surveys were conducted to monitor the distribution and status of the covered species within the Conservation Area, which included Murrieta Creek for certain species. The most recent MSHCP survey results are summarized herein to further clarify the covered species that were likely to occur or contained suitable habitat within the Phase II Project area. In summary, the Arroyo chub (*Gila orcutti*) was not detected during the MSHCP surveys in the Project area and suitable habitat would not likely be present. According to the MSHCP survey results, the absence of this species in the previously occupied lower reach of Murrieta Creek was likely due to the degraded habitat conditions, insufficient water flow, and the presence of invasive species. The MSHCP biological monitoring in 2011 also included focused trapping surveys for the southwestern pond turtle in lower Murrieta Creek, outside of the Project area. The results yielded a total of 12 live pond turtle captures. Pond turtles have also been documented in Phase I prior to construction and Phase II areas near Main Street Bridge in the past; however suitable habitat in the Phase II Project area is low due to insufficient water flow and depth and the presence of invasive species.

As previously described, the Corps also updated protocol surveys for the LBVI between April and July 2013 and detected 4 individuals within the Project area. As described below, the Corps

also conducted burrowing owl (*Athene cunicularia*, BUOW) surveys for the Phase I, II, and III project areas in 2013 to determine if burrowing owl now occupy the Project area. The surveys consisted of three phases: Phase I, Habitat Assessment, Phase II, Burrow Survey, and Phase III, Burrowing Owl Surveys, Census, and Mapping. No BUOW was found at the time surveys were conducted. The BUOW survey report is on file at the USACE Los Angeles District Office.

Plants

A list of federally and state-listed plants, along with sensitive plants as listed by the California Native Plant Society (CNPS) are shown in Table 6-3 below. The CNDDB search and supplemental investigations listed 31 special-status plant species within the vicinity of the study area.

Many of these species are not associated with the vegetation communities found within the Murrieta Creek study area or are located in similar habitats but of higher quality, found outside the study area. Futhermore, the periodic and often frequent flooding of Murrieta Creek may limit the potential for many species to occur.

No federally or state listed plant species have moderate to high potential to occur within the Phase II project area. Two CNPS list 1B species have potential to occur with the project area, including chapparal sand-verbena (*Abronia villosa var. aurita*) and smooth tarplant (*Hemizonia pungens* ssp. *laevis*). Smooth tarplant has been known to occur along Murrieta Creek and has been observed during surveys of the creek within the Phase II project area. This species is also listed in the MSHCP for Riverside County. No other species have moderate to high potential to occur within the Phase II project area.

Sensitive plant species, including their status, habitat requirements, and potential to occur within the study areas are presented in Table 6-3.

Table 6-3 Endangered, Threatened, and Sensitive Plant Species with the Potential to Occur in the Vicinity of the Proposed Project					
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Blooming Period**	**Known and Potential Occurrence and Elevational Limits**
Abronia villosa var. Aurita	Chaparral sand-verbena	1B.1	Moderate	Jan-Sep	Chaparral, coastal scrub, desert dunes (sandy); 80-1600 m (262-5249 ft). This species has been documented just upstream of Project areas (CNDDB, 2009).
Allium marvinii	Yucaipa onion	1B.1, NEPS	Low	Apr-May	Chaparral (clay openings); 760-1065 m (2493-3494 ft). Project area elevation lie well below the known range for this species.
Allium munzii	Munz's onion	FE, ST, 1B.1, NEPS	Low	Mar-May	Chaparral, cismontane woodland, coastal scrub, grasslands; 300-1070 m (984-3510 ft). This species has not been documented near Project areas.
Astragalus pachypus var. jaegeri	Jaeger's milk-vetch	1B.1	Low	Dec-Jun	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland (sandy or rocky); 365-915 m (1197-3002 ft). The known elevation range for this species is above that of the Project area.
Atriplex oronate var. notatior	San Jacinto Valley crownscale	FE, 1B.1	Low	Apr-Aug	Playas, valley and foothill grassland, vernal pools (alkaline); 139-500 m (456-1640 ft). This species has not been documented near Project areas.
Atriplex parishii	Parish's brittlescale	1B.1	Low	Jun-Oct	Chenopod scrub, playas, vernal pools; 25-1900 m (82-6233 ft). This species has not been documented near Project areas.
Berberis nevinii	Nevin's barberry	FE, SE, 1B.1	Low	Mar-Apr	Chaparral, cismontane woodland, coastal scrub, riparian scrub / sandy or gravelly); 295-825 m (970-2706 ft). This species has been documented within 5 miles of Project areas (CNDDB, 2009).
Brodiaea filifolia	Thread-leaved brodiaea	FT, SE, 1B.1	Low	Mar-Jun	Chaparral openings, cismontane woodland, coastal scrub, playas, valley and foothill grasslands, and vernal pools/ often clay; 40-1220 m (131-4003 ft). This species has been documented within approximately 6.0 miles of Project areas (CNDDB, 2009).
Calochortus plummerae	Plummer's mariposa lily	1B.2	Low	May-Jul	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grasslands (granitic, rocky); 100-1700 m (328-5577 ft). Closest reported documentation is more than 5 miles from Project areas.
Centromadia pungens ssp. Laevis	Smooth tarplant	1B.1	Present	Apr-Sep	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland (alkaline); 0-480 m (0-1574 ft). This species has been detected in the Project areas and likely be present in the proposed Phase III basin site.
Chorizanthe parryi var. parryi	Parry's spineflower	1B.1	Low	Apr-Jun	Chaparral, coastal scrub (sandy or rocky openings); 40-1705 m (131-5594 ft). This species has been documented within approximately 6 miles of Project areas.

Table 6-3 Endangered, Threatened, and Sensitive Plant Species with the Potential to Occur in the Vicinity of the Proposed Project					
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Blooming Period**	**Known and Potential Occurrence and Elevational Limits**
Chorizanthe polygonoides var. longispina	Long-spined spineflower	1B.2	Low	Apr-Jul	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland (often clay); 30-1530 m (98-5020 ft). This species has been documented within approximately 3 miles of the Project site.
Deinandra mohavensis	Mojave tarplant	SE, 1B.3	Low	Jul-Oct (Jan)	Chaparral, coastal scrub, riparian scrub (mesic); 640-1600 m (2100-5249 ft). Project areas are below the known elevation range of this species.
Dodecahema leptoceras	Slender-horned spineflower	FE, SE, 1B.1, NEPS	Low	Apr-Jun	Chaparral, cismontane woodland, coastal scrub (alluvial fan) / sandy; 200-760 m (660-2493 ft). This species has not been documented near Project areas.
Dudleya multicaulis	Many-stemmed dudleya	1B.2, NEPS	Low	Apr-Jul	Chaparral, coastal scrub, valley and foothill grassland / often clay; 15-790 m (49-2590 ft). This species has not been documented near Project areas.
Dudleya viscida	Sticky dudleya	1B.2	Low	May – Jun	Coastal Scrub, Coastal Bluff Scrub and Chaparral from sea level to 550m (0 – 1800 ft.) in elevation.
Eriastrum densifolium ssp. sanctorum	Santa Ana River woollystar	FE, SE, 1B.1	Low	May-Sep	Chaparral, coastal scrub (alluvial fan) / sandy or gravelly; 91-610 m (298-2001 ft). This species has not been documented near Project areas.
Galium californicum ssp. primum	California bedstraw	1B.2	Low	May-Jul	Chaparral, lower montane coniferous forests; shady areas; 1350-1700 m (4429-5577 ft). The known elevation range for this species is well above that of Project areas.
Harpagonella palmeri	Palmer's grapplinghook	4.2	Low	Mar – May	Chaparral, Coastal Scrub, Valley and Foothill Grassland from 15 – 830 m (50 – 2,725 ft) in elevation.
Horkelia cuneata ssp. puberula	Mesa horkelia	1B.1	Low	Feb-Jul (Sep)	Chaparral, cismontane woodland, coastal scrub (sandy or gravelly); 70-810 m (230-2657 ft).
Lasthenia glabrata ssp. Coulteri	Coulter's goldfields	1B.1	Low	Feb-Jun	Marshes and swamps, playas, vernal pools; up to 1220 m (4003 ft).
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	1B.2	Low	Jan-Jul	Chaparral, coastal scrub; up to 885 m (2903 ft). This species has not been documented near Project areas.
Lilium parryi	Lemon lily	1B.2	Low	Jul-Aug	Lower montane coniferous forests, meadows and seeps, riparian forests; 1220-2745 m (4002-9005 ft). The Project areas are well below the known elevation range for this species.
Mimulus clevelandii	Cleveland's bush monkey flower	4.2	Low	Apr-Jul	Chaparral, lower montane coniferous forest (often in disturbed areas, openings, rocky); 815-2000 m (2,674-6,562 ft). The Project areas are below the known elevation range for this species.

Table 6-3 Endangered, Threatened, and Sensitive Plant Species with the Potential to Occur in the Vicinity of the Proposed Project					
Scientific Name	**Common Name**	**Status**	**Potential for Occurrence**	**Blooming Period**	**Known and Potential Occurrence and Elevational Limits**
Monardella hpoleuca ssp. Lanata	Felt-leaved monardella	1B.2	Low	Jun – Aug	Chaparral and Cismontane Woodland from 300 – 1,575 m (984 – 5,167 ft) in elevation.
Muhlenbergia californica	California muhly	4.3	Low	Jun-Sep	Chaparral, coastal scrub; stream banks, canyons, moist ditches; 100-2000 m (328-6561 ft)
Nama stenocarpum	Mud nama	2.2	Low	Jan-Jul	Marshes and swamps (lake margins, riverbanks); 5-500 m (16-1640 ft)
Navarretia fossalis	Spreading navarretia	FT, 1B.1, NEPS	Low	Apr-Jun	Chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, vernal pools; 30-1300 m (98-4265 ft)
Navarretia prostrate	Prostrate vernal pool navarretia	1B.1	Low	Apr – May	Coastal Scrub, Valley and Foothill Grassland and Vernal Pools from 15 – 700 m (50 – 2,300 ft) in elevation.
Phacelia stellaris	Brand's phacelia	1B.1, NEPS	Low	Mar-Jun	Coastal scrub, dunes; restricted to sandy benches along Santa Ana River in Riverside County (RCIP, 2003); up to 400 m (1312 ft)
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	2.1, NEPS	Low	May-Sep	Meadows and seeps, marshes and swamps, riparian forest, vernal pools / alkaline; 5-435 m (16-1427 ft)

FE –Federally listed Endangered
FT – Federally listed Threatened
SR – California Rare
SE – California-listed Endangered
ST – California-listed Threatened
MSHCP – Murrieta Creek Phase II MSHCP Planning Species
NEPS – Narrow Endemic Plant Species

CNPS 1B – Rare or endangered in California and elsewhere
CNPS 2 – Rare or endangered in California, more common elsewhere
CNPS 3 – More information needed (Review List)
CNPS 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)

6.2 Environmental Effects

General
The significance criteria from the 2000 Final EIS/EIR for the Murrieta Creek Flood Control Project were used to determine whether impacts to biological resources from the Phase II Proposed Action are considered significant. These criteria include:

- Substantial loss of riparian habitat, coastal sage scrub vegetation;
- Substantial loss of individuals of a Federally-listed species or designated critical habitat; and/or
- Substantial impedance to the movement or migration of fish or wildlife.

Impacts on biological resources were evaluated in comparison to those impacts that were originally identified and mitigated for in the 2000 Final EIS/EIR. Any incremental impacts or changes identified herein that are additional to those identified in the previous documents are addressed accordingly.

Direct impacts would occur when sensitive biological resources are altered, disturbed, destroyed, or removed during construction of the proposed project. Direct impacts would result from such activities as removal, grading, or brushing of vegetation, or the mechanical crushing from equipment and vehicles. Other direct impacts could include loss of foraging, nesting, or burrowing habitat for wildlife species, and habitat disturbance that results in unfavorable substrate conditions to allow vegetative regeneration or results in the introduction of exotic invasive species. Noise from construction can also directly affect nesting birds or wildlife movement, depending on the time of year and time of day the construction occurs.

Potential indirect impacts resulting from implementation of the proposed project include increased erosion and sedimentation, changes to hydrology, or long-term degradation of natural vegetation communities. These changes may, in turn, affect vegetation communities and sensitive species.

Both direct and indirect impacts can be classified as either temporary or permanent, depending on the duration of the impact. Temporary impacts may be considered to have reversible effects on biological resources. Permanent impacts are those impacts resulting in the irreversible removal of biological resources, such as the permanent removal of habitat.

Project-related impacts to vegetation, special-status plants, and special-status wildlife have previously been analyzed in the 2000 Final EIS/EIR. The 2000 Final EIS/EIR included a series of mitigation measures that would be implemented to compensate for impacts of the Murrieta Creek Flood Control Project. Construction-related environmental commitments from the 2000 Final SEIS/EIR, and additional commitments developed for this document, will be implemented. A full list of environmental commitments can be found in Chapter 9 of this document.

6.2.1 Construction

6.2.1.1 Original Phase II Plan (No Action Alternative)

Under the No Action alternative, the project would be the same as the approved recommended plan and would result in the construction of previously authorized flood control features that were developed and evaluated in detail in the 2000 EIS/EIR. These features, many of which are also part of the proposed modified project, include channel modification (i.e., widening, and deepening), levee construction, construction of a drop structure, gabions (rather than the currently proposed soil cement), and operation and maintenance for flood risk management. The footprint for the Modified Phase II Plan (approximately 13,000 feet) is slightly greater than that of the No Action Alternative (2000 EIS/EIR approved recommended plan – approximately 12,800 feet), but is within the original overall project area footprint. In addition, the 2000 EIS/EIR plan proposed to construct/replace a Main Street Bridge that would increase the impacts to wetland and riparian habitat as compared to the proposed Modified Phase II Plan. The No Action alternative would also create a smaller unmaintained riparian corridor/terrace that would vary in width between 20-~~60~~ 50 feet, as compared to the currently proposed average width of approximately 70 feet (ranging from ~~20to~~ 35 to 150 feet in width, which would accommodate an additional ~~24.6~~23.67 acres of native vegetation).

Effects to sensitive species from the construction of the Original Phase II Plan would be somewhat similar to that described under Section 6.2.1.2 for the Modified Phase II Plan. For the LBVI, effects would be similar to the Modified Phase II Plan. As identified above, the width of riparian corridor under the Original Phase II Plan would be less than that of the Modified Phase II Plan, and therefore less riparian habitat would be established. For aquatic species and habitat impacts, the Original Phase II Plan includes a terrace or bench feature within the riparian corridor. As a result, aquatic habitat within the unmaintained riparian corridor may be less likely to form immediately after construction, but could form during long term operation and maintenance phase of the project.

With or without the project, the RCFC&WCD would continue their ongoing annual channel maintenance, although ~~like~~ similar to the Modified Phase II ~~plan~~Plan, the riparian terrace would not be subject to mowing or excavation.

For comparison to the detailed modifications, Table 3-1 in Chapter 3 of this SEA/SEIR provides a comparison matrix of the features and parameters of the Modified Phase II Plan and original Phase II Plan detailed in the 2000 EIS/EIR.

In conclusion, the environmental impacts of the No Action alternative (construction of the original plan) would be similar in many respects to those described for the currently proposed project, although benefits resulting from a narrower riparian terrace would be less.

Impacts of a “No Construction” alternative were addressed as the No Action alternative in the 2000 EIS/EIR.

6.2.1.2 Modified Phase II Plan (Preferred Alternative)

Impacts to biological resources relative to construction of the Murrieta Creek Flood Control Project have been extensively analyzed in the 2000 Final EIS/EIR. Impacts to biological resources are expected from removal of vegetation, construction noise, and water turbidity. Environmental commitments and mitigation measures proposed to lessen the impact of potential effects are outlined in Section 20.0 of this SEA/SEIR.

VEGETATION AND HABITAT

Implementation of the proposed Modified Phase II Plan (recommended plan) would result in ~~both~~ temporary, periodic and permanent effects to native and non-native vegetation within the proposed Phase II project area of the Murrieta Creek Flood Control Project. ~~Table 6-4 below provides details on the specific habitat within the channel, and right of way (ROW), and temporary construction easement (TCE) areas, excluding any buildings and the existing recreational trail on the west side of the creek, that would be disturbed as a result of implementation of the proposed Phase II project.~~ Direct impacts to native and non-native plant communities would occur as a result of the removal of vegetation during construction activities. These ground-disturbing construction activities include clearing and grading for construction preparation, and establishing a batch plant, staging area, equipment storage area, a temporary disposal site, access roads and ramps, and side drain and drainage connections. There would also be direct impacts to areas within the project right-of-way (ROW) and temporary construction easement (TCE) areas outside of the creek channel, excluding any buildings and the existing recreational trail on the west side of the creek.

Table 6-4 outlines the acreages of impacts to the various vegetation types by project feature and impact type. Table 6-5 presents the project features and acreage with associated vegetation types to be established. Implementation of the proposed project would disturb a total of approximately 122.42 acres of "habitat" (including native and non-native vegetated areas, open water, bare ground, and disturbed/developed areas) within the proposed Phase II of the Murrieta Creek Flood Control Project (including channel, ROW, and TCE areas), of which 69.12 acres would be temporarily disturbed, 41.19 would be periodically disturbed, and 12.11 acres would be permanently disturbed. Temporary and permanent impacts will be mitigated on-site through removal of non-native vegetation, restoring native habitat in its place, increasing the amount of vegetation on the channel slopes, and decreasing the area subject to routine maintenance. Overall, approximately 47.57 acres of non-native habitat will be removed and replaced with native vegetation. Compared to the Original Phase II Plan, impacts to vegetation from the Modified Phase II Plan would be similar to the Original Phase II Plan in both temporary and permanent impacts to native habitats. The Modified Phase II Plan would result in less periodic impacts from regular annual vegetation maintenance in the maintained areas.

Potential indirect impacts to native vegetation communities could include alterations in existing topography and hydrologic regimes, the accumulation of fugitive dust, disruption of native seed banks due to ground disturbance, and the potential colonization of non-native, invasive plant species. These impacts would be the same as the Original Phase II Plan.

The most substantial change (benefit) compared to existing conditions is in terms of ~~future~~ routine maintenance. Under the current, authorized and permitted July 1999 Murrieta Creek Channel Maintenance Plan (CMP), RCFC&WCD may annually mow up to approximately 62.4 acres of wetland, riparian and other habitat types growing within the channel invert~~, and remove sediment when certain trigger points are met~~. Less frequent mowing (every 2 to 4 years) ~~and sediment removal may~~ occurs within an estimated additional 8.4 acres of ~~a~~the CMP "vegetated corridor." With the ~~proposed Modified~~ Phase II ~~Plan~~Project, the habitat functions would increase, since the routinely mowed ~~maintenance~~ area is reduced to approximately 41.19 acres within the channel invert. Approximately ~~24.615~~23.67 acres of riparian habitat will be restored within a ~~vegetated corridor (~~riparian/low flow ~~corridor~~zone~~)~~ that will no longer be subject to mowing or sediment removal, approximately ~~and , over~~ 20.46 acres of channel side slopes will be covered with soil and the bank slope will be planted with upland coastal sage scrub species. Approximately 24.17 acres of native landscaping will be established in the right-of-way on the top of the channel banks adjacent to the maintenance roads and trails.

In comparison to the Original Phase II Plan, the Modified Phase II Plan would result in an increase of about 13 acres in the riparian/low-flow corridor. Under the Modified Phase II Plan, the terrace or bench feature would be removed from the riparian/low-flow corridor to allow for a flat channel invert and provide the opportunity for aquatic habitat to establish within this unmaintained portion of the channel. Due to the Modified Phase II Plan maximizing the width of the riparian/low-flow corridor width while maintaining flow conveyance requirements, the area of the regularly maintained area is decreased.

CHANNEL INVERT: The proposed Phase II project would widen and deepen the existing channel. Routine maintenance (mowing) will continue to occur in this area. As mentioned above, the area of the regularly maintained area is decreased under the Modified Phase II Plan. This activity, along with occasional flood flows, will keep any vegetated communities within the maintenance area ~~keeps the marsh, open water and low-growing riparian habitats~~ in an early successional state. Most of this area will not be permanently affected by the proposed construction, and approximately ~~24.15~~23.67 ~~6~~ acres along the eastern side of the channel will be removed from the channel maintenance area and planted as an unmaintained riparian/low-flow zone ~~terrace~~ (see Unmaintained Riparian/Low-Flow Corridor~~CORRIDORTERRACE~~ below). The channel invert ~~may~~ would be temporarily affected by construction and vegetation~~; all temporarily impacted areas will be re-seeded and/or~~ would be allowed to naturally recover between maintenance actions, with active non-native removal continuing for the life of the project~~a minimum of 5 years post-construction~~.

Table 6-4 Modified Phase II Plan Impacts to Vegetation Types by Project Feature and Impact Type

Project Feature	Cottonwood Willow Riparian	Riparian Scrub	Mulefat Scrub	Freshwater Marsh	Open Water/ Open Channel	CSS	Ornamental/ Exotic/ Non-native/ Disturbed	Unvegetated	Developed	Total
Permanent Impact										
Maintenance Roads	0.15	0.86	0.59	0.2	0.03	0.53	7.31	0.03	0.53	10.23
Soil Cement Slope	0.03	0.36	0.56	0	0.02	0.22	0.48	0.02	0.01	1.7
Grade Control Structures	0.04	0.06	0	0.03	0.04	0	0.01	0	0	0.18
Subtotal	*0.22*	*1.28*	*1.15*	*0.23*	*0.09*	*0.75*	*7.8*	*0.05*	*0.54*	*12.11*
Periodic Impact										
Maintained Area	0.13	6.62	2.34	17.82	10.61	0.05	3.37	0.13	0.12	41.19
Subtotal	*0.13*	*6.62*	*2.34*	*17.82*	*10.61*	*0.05*	*3.37*	*0.13*	*0.12*	*41.19*
Temporary Impact										
ROW and TCE	0.17	0.55	0.49	0.09	0	0.96	19.83	0	1.25	23.34
Side Drains	0	0.21	0	0	0	0	0.62	0	0	0.83
Grade Control Structures	0	0.27	0	0.07	0	0	0	0	0	0.34
Riparian/Low Flow Corridor	0.09	2.9	0.67	14.85	1.74	0	3.7	0.09	0.11	24.15
Vegetated Slope	0.4	2.32	0.94	3.29	0.37	0.4	12.25	0	0.49	20.46
Subtotal	*0.66*	*6.25*	*2.1*	*18.3*	*2.11*	*1.36*	*36.4*	*0.09*	*1.85*	*69.12*
Grand Total	**1.01**	**14.15**	**5.59**	**36.35**	**12.81**	**2.16**	**47.57**	**0.27**	**2.51**	**122.42**

ROW and TCE: Right-of-way and Temporary Construction Easement; areas within the ROW and TCE not identified within a project feature that may be temporarily disturbed due to construction activities.

Table 6-5 Modified Phase II Plan Acreage of Project Features and Associated Vegetation Types

With-Project Features and Vegetation Types	Acres
Riparian/Low Flow Corridor - Riparian, Scrub, FWM, Open Water/Channel	23.67
Vegetated Slope - Upland CSS	20.46
Maintained Channel - Periodically disturbed FWM, Open Water/Channel	41.19
Soil Cement Slopes - Unvegetated	1.7
Maintenance Roads - Unvegetated	10.23
Grade Control Structures - Unvegetated	0.52
Other (Side Drains & Temporarily Disturbed Areas within ROW - Landscaped	24.17

UNMAINTAINED RIPARIAN/LOW-FLOW CORRIDOR ~~TERRACE:~~ A ~~n elevated~~ portion of the channel invert ~~(floodplain terrace)~~ on the east ~~bank~~ side will be regraded and re-planted with riparian and riparian scrub habitats (approximately 23.67 acres). Existing conditions in this area include a mix of native, non-native and disturbed habitats. The final ~~terrace~~ riparian/low-flow corridor elevation will be ~~either~~ at ~~or slightly lower than the existing elevation in this area, and approximately 2' higher than the rest of~~ the channel invert elevation, thus providing the opportunity for aquatic habitat to establish in this area. This riparian/low-flow corridor~~terrace~~ will not be mowed or excavated due to routine channel maintenance, although non-native habitat removal will occur as needed for the life of the project.

SOIL CEMENT SLOPES, ~~AND~~ MAINTENANCE ROAD, AND GRADE CONTROL STRUCTURES: Through Old Town Temecula, from downstream of Rancho California Road to 1st Street, an approximately 3,900 foot reach of the channel bank would be protected with soil cement. Along with a maintenance road that would continue along the entire project length, access roads and ramps, these features will permanently eliminate 11.93~~82~~ acres of vegetation (primarily non-native) that currently exists on and above those banks. To compensate, native vegetation would be established on the channel banks~~terrace~~ and on buried riprap slopes, in place of existing non-native or disturbed habitats. ~~A~~ One temporary and 3 permanent grade control structures would be constructed as part of the Modified Phase II Plan, compared to one permanent drop structure including in the Original Phase II Plan. The additional temporary grade control structure and 2 permanent grade control structure are necessary to address grade

elevation changes to meet engineering design requirements essential to the function of the flood risk management project. ~~.~~ The temporary structure (approximately 0.34 acres) would be located at the upstream end of the Phase II area and would be removed during construction of Phase III at a later date. The permanent structures (1 located upstream of Rancho California Road Bridge and 1 located at each of the confluence of Long Canyon and Empire Creeks with Murrieta Creek) would impact approximately 0.18 acres.

RIPRAP (VEGETATED) SLOPES: The remainder of the channel banks within the Phase II project area would be protected with riprap on the bottom 8 feet of the slope. The riprap would be covered with soil and the entire bank slope would be planted with upland coastal sage scrub species (approximately 20.46 acres). Existing slope conditions are a mix of native and non-native habitats.

~~Direct impacts to native and non-native plant communities would occur as a result of the removal of vegetation during bank and terrace construction activities. These ground-disturbing construction activities include clearing and grading for construction preparation, and establishing a batch plant, staging area, equipment storage area, and ROW outside of the channel. Approximately 23.34 acres of habitat (primarily non-native) will be impacted within the ROW and TCE areas. This These area will be restored with native landscaped vegetation. Implementation of the proposed project would disturb a total of approximately 121122.42 acres of habitat within the proposed Phase II of the Murrieta Creek Flood Control Project (including channel, and ROW, and TCE areas), of which 109.469.12 acres would be temporarily disturbedy, 41.19 would be periodically disturbed, and 12.11 acres would be permanently disturbed. Temporary and permanent impacts will be mitigated on-site through removal of non-native vegetation, restoring native habitat in its place, increasing the amount of vegetation on the channel slopes, and decreasing the area subject to routine maintenance.~~

~~Potential indirect impacts to native vegetation communities could include alterations in existing topography and hydrologic regimes, the accumulation of fugitive dust, disruption of native seed banks due to ground disturbance, and the colonization of non-native, invasive plant species.~~

Temporary Impacts to Vegetation

The Modified Phase II Plan would have the potential to result in the temporary disturbance to approximately ~~109.4~~69.12 acres of vegetation and unvegetated areas, similar to the Original Phase II Plan. Temporary disturbance to vegetation communities, as shown in Table 6-4 and described above, would result from construction of the unmaintained ~~widened and deepened channel and bank slopes~~ riparian/low flow corridor~~,~~ and vegetated slopes, ~~and side drain connections,~~ as well as disturbance within the ROW, TCE, and staging and temporary stockpile areas. The approximate 69.12 acres of temporary impacts does not include initial construction impacts to the area identified as Channel Invert. Impacts to the Channel Invert area is described below under Regular Periodic Impacts to Vegetation.

Temporary impacts to ~~marshland~~ the vegetation communities from the proposed project would be minimized by implementation of a re-vegetation plan as well as natural recruitment that is likely to occur with the cessation of construction. This natural passive and active restoration will

be supported by a non-native vegetation removal program that will continue for at least 5 years following construction. ~~Jurisdictional habitats including 0.88 acres of freshwater marsh, 44.52 acres of open channel, 21.56 acres of riparian and riparian scrub habitats would be temporarily disturbed during the proposed project. In addition, project activities may remove/grade 1.4 acres of disturbed Riversidian coastal sage scrub, and 41.01 acres of ornamental/non-native/exotic and unvegetated lands.~~ Channel modification, followed by revegetation of the unmaintained riparian/low flow corridor~~/terrace~~, would have the beneficial effects of reducing the acreage of disturbed and non-native/exotic habitats and increasing the acreage of undisturbed aquatic and riparian vegetation communities.

~~The marshland and open channel area that currently exists in the Phase II project area is subject to regular maintenance and mowing as described in the FMP. Wetland vegetation in most of the channel invert is mowed on an annual basis and sediment is excavated when necessary from the channel bottom to maintain the flood capacity of the creek. As indicated in the original EIS/EIR, these on-going actions limit the functionality of the habitat and limit the long-term establishment of a complex marshland and riparian habitat. Temporary impacts to marshland communities from the proposed project would be minimized by implementation of a re-vegetation plan as well as natural recruitment that is likely to occur with the cessation of construction. This natural passive and active restoration will be supported by a non-native vegetation removal program that will continue for at least 5 years following construction. Within the channel cross-section, the approximately 120-foot wide low-flow channel and invert will continue to be subject to periodic maintenance, whereas the unmaintained, on average 70-foot wide riparian/low-flow corridor terrace and side slopes will not be subject to mowing or excavation.~~

Although construction activities will result in the removal of some southern willow scrub and cottonwood-willow riparian forest habitat, the development and enhancement of the riparian/low flow ~~terrace~~ corridor (including removal of existing non-native vegetation) will result in a net increase of high quality riparian ~~and~~ wetland, and aquatic habitat over time. In addition, the increased width of the unmaintained riparian/low-flow corridor~~terrace~~ will provide for an increase in structural diversity and habitat value compared to existing conditions.

Construction activities will also result in the temporary removal of disturbed Riversidian coastal sage scrub (CSS) on the banks and outer slopes of the channel. With the implementation of the proposed revegetation plan, the amount of CSS will increase dramatically (from 2.16 to 20.46 acres), and impacts will be reduced to less than significant levels.

Temporary impacts will also occur to disturbed upland areas and non-native grasslands. Disturbed areas dominated by invasive non-native species, vacant fields and non-native grassland are not regionally unique and do not qualify as sensitive habitat. As mentioned, the proposed riparian/low flow corridor ~~terrace~~ and vegetated slopes will provide an increase in habitat value over the existing disturbed areas.

Regular Periodic Impacts to Vegetation

The creek channel along with the vegetation types~~marshland and open channel area~~ that ~~currently~~ exists in the Phase II project area is currently subject to regular maintenance and

mowing as described in the CMP. Vegetation within most of the channel invert is mowed on an annual basis and sediment is excavated when necessary from the channel bottom to maintain the flood capacity of the creek. As indicated in the original EIS/EIR, these on-going actions limit the functionality of the habitat and limit the long-term establishment of a complex marshland and riparian habitat. Within the channel cross-section, the approximately 120-foot wide Channel Invert will continue to be subject to periodic maintenance, whereas the unmaintained, on average 70-foot wide riparian/low-flow corridor and side slopes will not be subject to mowing or excavation. In comparison to the Original Phase II Plan, the Modified Phase II Plan would result in a decrease area subject to regularly occurring vegetation and sediment management associated with long term operation and maintenance of the project.

Permanent Impacts to Vegetation

The Original Phase II Plan would have resulted in the permanent loss of 0.5 acre of cismontane alkali marsh that would be permanently removed as a result of the channel construction. In addition, construction of the Original Phase II Plan would have impacted more coastal sage scrub habitat than the Modified Phase II Plan. Permanent losses to these habitats were identified in the EIS/EIR and a mitigation plan that was developed to reduce impacts to less than significant levels. Channel and bank construction as proposed in the Modified Phase II Plan would not result in a permanent net loss of sensitive habitat, although it may result in a type conversion from marsh or open channel habitats to later successional stages such as riparian habitat, due to the proposed reduction in maintenance. Permanent losses will be avoided by incorporation of project design measures including the development of an unmaintained riparian/low flow corridor ~~terrace~~ and implementation of the revegetation plan. Restoration efforts within the Modified Phase II Plan would result in a net benefit to populations of Riversidian coastal sage scrub, jurisdictional wetlands and riparian ~~forests~~and aquatic habitats. Overall, permanent impacts to vegetation under the Modified Phase II Plan would be similar to the Original Phase II Plan.

~~Table 6-4 Native Habitat Disturbed and Created by Proposed Project (includes 23.14 acres of ROW outside of channel banks)~~

~~Habitat Description~~	~~Acres Temporarily Disturbed by Project Construction~~	~~Acres Permanently Impacted by Project Construction~~	~~Acres Actively Restored or Created by Project~~	~~Net Gain/Loss*~~
~~Mulefat scrub~~	~~4.47~~	~~1.14~~	~~24.62 (no longer subject to mowing or sediment removal)~~	~~+0.42~~
~~Riparian scrub~~	~~16.28~~	~~1.3~~		
~~Cottonwood willow riparian~~	~~0.81~~	~~0.20~~		
~~Subtotal Riparian Habitat~~	~~21.56~~	~~2.64~~		
~~Freshwater Marsh/Wetland~~	~~0.88~~	~~0.03~~	~~41.11 (in Channel Invert)**~~	~~-4.61***~~
~~Open Water/Open Channel~~	~~44.52~~	~~0.29~~		
~~Subtotal Open channel/Wetland~~	~~45.4~~	~~0.32~~		
~~Coastal sage scrub (CSS)~~	~~1.4~~	~~0.75~~	~~20.40 (on vegetated slopes)~~	~~+18.25~~
~~Subtotal CSS~~	~~1.4~~	~~0.75~~		

			In addition to in-channel restoration cited above, 23.14 acres of native landscaping will be established in the ROW, and 12.09 acres of unvegetated area will remain.	
Ornamental/exotic/ nonnative/disturbed	38.8	7.63		
Unvegetated/Developed	2.21	0.64		
Subtotal Nonnative and Barren/Developed	41.01	8.27****		

* Additional acres of habitat created by the project is applied as mitigation for temporary and permanent impacts
** The 41.11 acres of early successional riparian, wetland, open water/channel would continue to be regularly maintained (mowed) in the channel invert to maintain design flow conveyance as part of long term operation and maintenance of the project.
*** The "loss" of wetland/open water area is primarily a type conversion to riparian and CSS habitats, as this acreage would no longer be within the routine maintenance area and will be able to develop into later successional habitat types.
**** The 8.27 acres disturbed by soil cement slopes and maintenance/access roads are mitigated through habitat restored on the vegetated slopes (19.20 acres excess from coastal sage scrub restored/created)

Special-Status Plant Species

Smooth Tarplant

Some smooth tarplant (CNPS List 1B) that ~~may~~ occur within the Pproject area may be disturbed by heavy equipment and vehicles accessing portions of the creek banks or removed during grading of the creek channel. The soils along the channel slopes and on the creek bank are expected to ~~be~~ provide a seed source for the smooth tarplant. Populations of smooth tarplant present in other reaches of the creek, upstream and downstream of the Phase II project area would not be disturbed as a result of Phase II construction. The Phase II Project area has been subject to past ground disturbance, and smooth tarplant has returned without any restoration measures. Thus, potential impacts to smooth tarplant are less than significant.

MSHCP Smooth Tarplant Species Objectives*

The MSHCP includes the smooth tarplant species objectives listed below. Based on the discussion below, the Phase II project will have a less than significant impact on the MSHCP Smooth Tarplant Species Objectives.

Objective 1

"Include within the MSHCP Conservation Area at least 6,900 acres of suitable habitat (grassland and playas and vernal pools within the San Jacinto River, Mystic Lake and Salt Creek portions of the MSHCP Conservation Area)."

Objective 1 does not apply because the Project is not within any of the above identified smooth tarplant conservation areas.

Objective 2

"Include within the MSHCP Conservation Area at least 27 of the known occurrences of this species at Antelope Valley; Temescal Canyon; Lake Elsinore; Murrieta Creek; French Valley; Lakeview Mountains; Lake Skinner; Diamond Valley Lake; Sycamore Canyon Park; Alberhill Creek; Lake Mathews; the Santa Ana River; and the core

locations at the San Jacinto Wildlife Area, the middle segment of the San Jacinto River and upper Salt Creek."

Some smooth tarplants have been found within disturbed areas along the existing maintained Murrieta Creek channel. As described above, there could be disturbance by heavy equipment and vehicles accessing portions of the creek banks or removed during grading of the creek channel. The soils along the channel slopes and on the creek bank are expected to provide a seed source for the smooth tarplant. Populations of smooth tarplant present in other reaches of the creek, upstream and downstream of the Phase II project area would not be disturbed as a result of Phase II construction. The Phase II Project area has been subject to past ground disturbance, and smooth tarplant has returned without any restoration measures. The Phase II project will provide an opportunity for RCFC&WCD to enter into a post-construction cooperative agreement with the Regional Conservation Agency (RCA) to address species monitoring and to assist the RCA with meeting the MSHCP species management and monitoring objectives, where feasible. Based on the information above, the Project will have a less than significant impact on Objective 2.

Objective 3
"Surveys for the smooth tarplant will be conducted as part of the project review process for public and private projects within the Criteria Area where suitable habitat is present (see *Criteria Area Species Survey Area Map*, *Figure 6-2* of the *MSHCP, Volume I*). Smooth tarplant located as a result of survey efforts shall be conserved in accordance with procedures described within *Section 6.3.2* of the *MSHCP, Volume I*."

MSHCP Section 6.3.2 Additional Survey Needs and Procedures includes smooth tarplant, but does not require smooth tarplant surveys in the Project area. Thus, the Project will have a less than significant impact on Objective 3.

* http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume2/vol2-secb_plants.pdf

Other Sensitive Plants
Other sensitive plant species, including the chapparal sand-verbena, has the potential to occur within the study area. However, this species has not been found during past reconnaissance vegetation surveys. If present, impacts would be similar as described above for the smooth tarplant for the Modified Phase II Plan as well as the Original Phase II Plan. Impacts are not considered significant.

Jurisdictional Habitats

Waters of the U.S.
Direct effects to jurisdictional waters of the United States would occur from the proposed Phase II project, the use of temporary work areas, temporary excavation of the active channel, and vegetation clearing and grubbing. Table 6-6 below outlines the acreage of impacts to waters of the U.S. and wetlands by vegetation and impact type. Implementation of the proposed project

would temporarily impact approximately ~~66.96~~ 10.37 acres of non-wetland waters of the U.S. and 20.41 acres of wetlands. Areas temporarily impacted would be re-vegetated. The proposed project would periodically impact approximately 14.95 acres of non-wetland waters of the U.S. and 21.64 acres of wetlands. The periodic impact would result from the annual mowing of the channel invert to maintain the flow conveyance capacity of the channel. This maintenance requirement is similar to that currently on-going within the channel by the RCFC&WCD, and would result in less area impacted compared to the existing maintenance activities (about 29.61 acres). The proposed project would also result in impacts to approximately 0.93 acres of non-wetland waters of the U.S. and 0.38 acres of wetlands. ~~of native riparian and marsh vegetation and open channel.~~

Concrete and riprap to be discharged for the construction of 3 permanent control structures would permanently impact approximately 0.3 acres of waters of U.S. In addition, earthen and non-earthen fill associated with the consumption of five access ramps would be discharged into the channel. The acreage of impacts associated with the maintenance roads and access ramps is approximately 1 acre. Therefore, the discharge of non-earthen fill material would permanently impact approximately 1.3 acres of waters of U.S., which is about an acre more than the Original Phase II Plan. The amount of earthen fill discharged under the Modified Phase II Plan compared to the Original Phase II Plan would decrease due to the removal of the terrace or bench feature from the Modified Phase II Plan.

The increase of impacts is attributable to the addition of 5 access ramps under the Modified Phase II Plan in conjunction with the maintenance roads also identified for under the Original Phase II Plan. Access ramps are standard design features of designed flood risk management channels and are required to provide access into the channel for completing inspections and regular maintenance activities required for long term operation and maintenance of the project. Access ramps would have been required under the Original Phase II Plan even though it was not specifically identified in the 2000 EIS/EIR.

Based on the above, the implementation of changes in the Modified Phase II Plan would not result in additional impacts compared to the Original Phase II Plan. The Modified Phase II Plan would result in an increase of approximately 13 acres of riparian and aquatic habitat compared to the Original Phase II Plan. Additionally, the Modified Phase II Plan would result in less regular vegetation maintenance compared to the Original Phase II Plan. The Modified Phase II Plan would also include the removal of the Via Montezuma dip crossing and does not include the bridge replacement at Main Street. Overall, the Modified Phase II Plan would be less damaging compared to the Original Phase II Plan.

~~Waters of the~~ State Streambed/banks

Direct effects to ~~jurisdictional waters of the~~ State Section 1600 Streambed/banks would occur from the proposed Phase II project, the use of temporary work areas, temporary excavation of the active channel, and vegetation clearing and grubbing. Implementation of the proposed project would impact approximately 55.75~~108~~ acres temporarily, 41.19 acres periodically, and 9.58 acres permanently. See Table 6-6 below an outline of the acreage of impacts to ~~waters of the State by~~streambed/banks by vegetation and impact type.

MSHCP Section 6.1.2 Riparian and Riverine Habitat

Section 6.1.2 of the MSHCP provides measures for the "protection of Species Associated with Riparian/Riverine Areas and Vernal Pools". The MSHCP states that riparian habitat in Proposed Constrained Linkage 13 (i.e. Murrieta Creek) is important to riparian bird species such as LBV, yellow warbler, and yellow-breasted chat. According to the MSHCP, maintenance of existing floodplain processes and water quality along the creek are important to Western Pond Turtles and Arroyo Chub. The MSHCP Smooth Tarplant species objectives include Murrieta Creek on the list of possible smooth tarplant conservation areas. As clarified herein, the Phase II Project will have a less than a significant impact on the MSHCP objectives related to the conservation of species associated with Section 6.1.2 riparian/riverine areas.

To minimize and compensate for the effects of the proposed project on jurisdictional ~~waters~~ areas and MSHCP Section 6.1.2 Riparian and Riverine habitat, the Corps would implement ~~mitigation measures~~ environmental commitment **B21**, which requires the restoration of unmaintained disturbed areas at the conclusion of construction. To avoid and minimize potential construction impacts the Corps will implement the MSHCP Section 7.5.3 Construction Guidelines or equivalent measures. ~~To restore lost functions, t~~The Corps ~~would~~will restore degraded vegetation communities present in the project area, including 24.15 acres of riparian habitat within the riparian/low-flow corridor and 20.46 acres of coastal sage scrub along the vegetated slopes. As discussed above, the Modified Phase II Plan also reduces the existing periodic maintenance mowing implemented by RCFC&WCD by approximately 29.61 acres. Adherence to the identified ~~mitigation measures~~environmental commitments would reduce impacts to less than significant levels. ~~of native riparian and marsh vegetation and open channel, of which approximately 51 acres are permanent and 57 acres are temporary.~~

Table 6-6 Impacts to Waters of the U.S., Wetlands, and State Streambed/banks by Project Feature and Impact Type

Project Feature	Non-Wetland WOUS	Wetlands*	WS
	Acres		
Permanent Impact			
Maintenance Roads	0.85	0.18	7.76
Soil Cement Slope	0.07	0.04	1.64
Grade Control Structures	0.01	0.16	0.18
Subtotal	0.93	0.38	9.58
Periodic Impact			
Maintained Area	14.95	21.64	41.19
Subtotal	14.95	21.64	41.19
Temporary Impact			
ROW and TCE	0.32	0.02	11.64
Side Drains	0.41	0	0.78
Grade Control Structures	0	0.34	0.34
Riparian/Low Flow Corridor	5.05	15.86	24.15
Vegetated Slope	4.59	4.19	18.84
Subtotal	10.37	20.41	55.75
Grand Total	26.25	42.43	106.52

WOUS: Waters of the U.S.
WS: Waters of the State.
*Wetlands within WOUS.

~~***Mitigation Measures***~~
~~To minimize and compensate for the effects of the proposed project on jurisdictional waters, the Corps would implement mitigation measures **B1** which requires the restoration of disturbed areas at the conclusion of construction. To restore lost functions, the Corps would restore degraded vegetation communities present in the project area, including 41.11 acres of marsh and open channel habitats, and establish 24.62 acres of riparian terrace corridor habitat and 20.40 acres of coastal sage scrub within the proposed project limits. Adherence to the identified mitigation measures would reduce impacts to less than significant levels.~~

WILDLIFE

The primary impacts of the proposed project on wildlife species are the disruption of habitat and the temporary displacement of wildlife. Other elements of the proposed project that could potentially affect wildlife and wildlife habitat, include construction-related noise disturbance, disruption of movement, and potential wildlife mortality (for any individuals that do not or cannot evacuate the construction zone).

Short-term effects of construction on wildlife resources would result from wildlife avoidance of the immediate construction zone. Noise and other disturbances caused by heavy equipment and construction crews may cause wildlife to move away from the construction zone.

Vegetation clearing and soil excavation could result in the mortality of individual small reptiles/mammals. Species with limited mobility or that occupy burrows within the construction zones could be crushed during clearing and grading activities (Trombulak and Frissell 2000).

Riparian vegetation provides necessary foraging, shelter, and nesting habitat for many bird species (Rottenborn, 1999; Bolger et al., 1997). The project area contains suitable foraging and nesting habitat for both resident and migratory birds. Ground-disturbing activities have the potential to disturb vegetation utilized by wildlife, including nesting birds. Construction noise could also disrupt breeding birds by interfering with their ability to hear vocalizations when seeking mates, establishing territories, or warning of predators. Excessive noise and human presence could also cause some individuals to abandon their nests.

With the exception of a few non-native birds, such as European starling, any active nest is fully protected against take pursuant to the Migratory Bird Treaty Act (MBTA) and relevant U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) codes. Therefore, minimization measures related to seasonal exclusion (i.e., vegetation clearing outside of the nesting season), pre and post-construction surveys, and/or the presence of a qualified biological monitor were included to avoid or minimize impacts. Details of minimization and mitigation techniques are described in Chapter 9 of this SEA.

Special-Status Wildlife Species

A detailed description of the sensitive wildlife species with potential to occur in the project area can be found in Section 3.5 of the 2000 EIS/EIR. Four federally or state listed threatened or endangered wildlife species have moderate to high potential to occur or are present within the Phase II project area. These include least Bell's vireo (*Vireo bellii pusillus*) (Federally Endangered, State Endangered), coastal California gnatcatcher (*Polioptila californica californica*) (Federally Threatened), southwestern willow flycatcher (*Empidonax traillii extimus*) (Federally Endangered, State Endangered), and Swainson's hawk (*Buteo swainsoni*) (State Threatened). In addition, several birds protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code (CFGC) have the potential to nest on-site or in close proximity.

Of these species, the least Bell's vireo (LBVI) has been observed in the Project area. The coastal California gnatcatcher (CAGN) has been observed foraging downstream of the Phase I ~~P~~project area, and critical habitat occurs west of the Phase I ~~P~~project area ranging from 0.15 to 1.15 miles away.

FEDERALLY LISTED SPECIES

Least Bell's vireo

Suitable least Bell's vireo (LBVI) habitat occurs within the Phase II Project area. Protocol surveys in 2011 documented a total of four LBVI (one pair [nesting was not ascertained] and ~~two~~ 2 individuals) in ~~three~~ 3 different locations (see Figure 6-4). The 2013 protocol surveys

documented ~~four~~ 4 LBVI individuals audibly detected at ~~four~~4 locations within the Project area. See Figures 6-6 and 6-7. The 2013 survey results were not significantly different from the previous survey results included in the November 2012 Draft SEA/EIR.

Direct Effects: Construction activities would result in temporary, direct loss of 1.56 acres of riparian habitat that was occupied by LBVI detected in 2011 and 2013. As discussed above, overall, approximately ~~21.6~~18.1 acres, including the occupied 0.4 acres, of riparian habitat would be temporarily and periodically disturbed by the proposed project. A majority of this riparian habitat, excluding the occupied 0.4 acres is subject to regular maintenance (i.e., mowing) by the RCFC&WCD per the CMP. The project would also result in approximately 2.65 acres of permanent impacts to riparian habitat. Construction of the flood control channel improvements would result in the displacement of LBVI, as the available habitat would be removed. Timing of vegetation removal activities outside the breeding season would prevent direct impacts to active nests, loss of eggs, and impacts to reproductive rates. Effects to LBVI and its habitat would be the same as the Original Phase II Plan.

Indirect Effects: Construction of activities may result in indirect effects to LBVI, including increased levels of noise, accumulation of dust, and the introduction of non-native invasive plant species. Increased noise levels may impact vocalizations and potential active nests in any adjacent habitat, which may temporarily depress breeding in the immediate vicinity of the project. Displacement of birds from the project area may also result in increased competition as they seek mates and resources in adjacent territories along the Murrieta Creek outside of the Phase II project area and in the surrounding region. Effects to LBVI and its habitat would be the same as the Original Phase II Plan.

Analysis of Effects: Protocol level surveys were conducted for LBVI with positive results in the Phase II project area. LBVI was detected in the project area during surveys in 2008, 2010, and 2011, and 2013. During the 2013 surveys, ~~four~~ 4 LBVI individuals were audibly detected at ~~four~~4 locations within the Project area. A 150-ft buffer was established for each of the ~~four~~ 4 territories to show the approximate limit of the habitat that the LBVI were using. During the 2011 surveys, ~~four~~ 4 LBVI (~~one~~1 pair and ~~two~~2 individuals) were audibly detected at ~~three~~ 3 locations (see Figure 6-4). Nesting was not ascertained, however ~~two~~ 2 territories were established based on consistent presence of LBVI during the protocol surveys (LBVI #1 (pair), LBVI #3 (individual) in Figure 6-4). The LBVI #1 territory was approximately 0.4 acre and the LBVI #3 territory was approximately 1.16 acres, totaling 1.56 acres of occupied habitat. Brown-headed cowbirds (BHCO, *Molothrus ater*) were also consistently present in the Phase II project area during protocol surveys.

~~Recent p~~Past protocol surveys in 2008 and 2010 observed two nesting pairs each year. In 2008, one pair was detected with a fledgling, while the other pair was observed to be parasitized by BHCO. In 2010, one pair was detected with a fledgling, while the other was not. Only one location was observed to be used during multiple survey years, LBVI #1, where an LBVI pair was detected during 2008 and 2011 surveys.

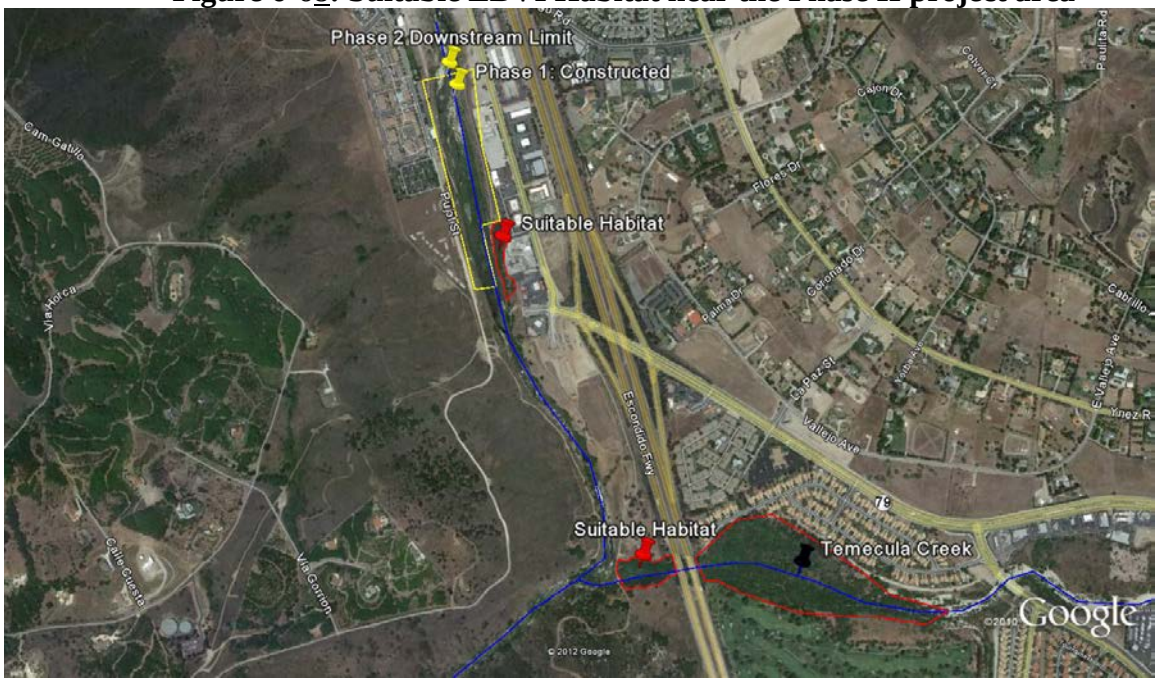
Figure 6-6: Suitable LBVI Habitat within the Phase II project area (2013 survey) Map 1

Figure 6-7: Suitable LBVI Habitat within the Phase II project area (2013 survey) Map 2

Construction activities associated with the proposed project would directly and indirectly affect LBVI, nest sites, and occupied habitat in the Phase II project area. This disturbance would be caused primarily by removal of vegetation in the project area, as well as construction and drilling equipment, pile driving, and haul trucks and other vehicles that would be frequently driving through and around the project area. Due to the length of the Phase II project area and the duration of construction, only the segments of channel that would have active construction would be cleared of vegetation. This will minimize effects to the riparian habitat by essentially phasing the vegetation removal as construction progresses. The increased level of noise and activity may displace some individuals, if present in areas upstream or downstream of the Phase II project area, and may prevent nesting, or attempted nests may be abandoned. However, potential for this to occur is low as construction activities would be limited to the Phase II project area, and localized to the specific segment that active construction is taking place. Construction activities will be temporary and this project would not jeopardize the species as a whole or even the entire regional population.

Removal of the vegetation would occur outside the breeding season, which would avoid direct impacts to nesting birds. Qualified biological monitors would be on site to monitor construction activities and ensure all avoidance, minimization, and other environmental commitments are being implemented to minimize impacts to biological resources. It is anticipated that by the time channel improvements is constructed at the upper end of the Phase II project area, additional suitable habitat would be available on the Phase I mitigation's riparian corridor~~terrace~~, which is currently in its 3 year of monitoring and maintenance. Additional suitable habitat is also present just downstream of the Phase I site and further downstream near the confluence with Temecula Creek, where LBVI have been detected during recent protocol surveys (Figure 6-~~6~~8).

Figure 6-~~6~~8: Suitable LBVI Habitat near the Phase II project area



Furthermore, the proposed project would mitigate impacts to riparian and other native habitats by restoring an approximately 24.15~~6~~ acres unmaintained riparian/low flow corridor ~~terrace~~ within the channel that would provide higher quality habitat after construction. This terrace would be planted, weeded, and maintained after construction to allow for establishment of native riparian habitat. Based on established mitigation at the Phase I site, it is expected that suitable LBVI habitat would be available in Phase II within 3 to 5 years after construction.

The level of regular maintenance mowing in the Phase II project area would also be reduced with implementation of the proposed Modified Phase II Plan. Currently, 62.4 acres of the Phase II area are mowed annually, with an additional 8.4 acres mowed every 2 to 4 years. With the Modified Phase II Plan, approximately 41.19~~11~~ acres would be mowed, a reduction of about 29.61~~21.29~~ acres. This reduced mowing over existing conditions would allow for more establishments of riparian habitat and potential LBVI habitat.

Coordination: The Corps ~~is coordinating~~ coordinated with the USWFS and CDFW~~CDFG~~ to ensure that the proposed mitigation measures and environmental commitments discussed above and in Section 20.0 of this SEA/SEIR will adequately avoid and/or minimize project-related effects to LBVI. The Corps ~~is formally consulting~~ has completed formal consultation with the USFWS under Section 7 of the Endangered Species Act (ESA) to ensure that any adverse effects do not jeopardize the species. The USFWS Biological Opinion is included as Appendix H The Section 7 process was also coordinated with CDFW in regard to ~~RCFC&WCD coordinate with the CDFG for compliance with~~ the California Endangered Species Act (CESA). CDFW has determined that CESA does not apply to construction of the proposed project (which will be conducted or overseen by the federal government), and that project operation and maintenance would not affect State-listed species. RCFC&WCD operations and maintenance activities will be conducted consistent with Section 7.3.7 of the Western Riverside County Multiple Species Habitat Conservation Plan, and covered pursuant to an MOU or agreement with the CDFW. Mowing of the existing channel invert is authorized by CDFW and a Phase II Section 1602 Streambed Alteration Notification has been submitted to CDFW.

MSHCP LBVI Conservation

The LBVI is addressed in three components of the MSHCP: Proposed Constrained Linkage 13, the MSHCP LBVI Species Objectives, and Section 6.1.2 requirements. The project will not conflict with LBVI conservation within the Proposed Constrained Linkage 13 as described herein. The Project area is significantly constrained by existing development and does not have 100-meters of adjacent undeveloped landscape described in the MSHCP LBVI species conservation objectives. As described below, the Project will have a less than significant impact on MSHCP LBVI conservation.

> MSHCP LBVI Proposed Constrained Linkage 13 Conservation: Murrieta Creek is expected to provide LBVI conservation within a MSHCP proposed constrained linkage between Core Areas. Portions of the Phase II Project area are already known to be occupied by small numbers of LBVI, and would be expected to continue to occupy the previously described Phase II native habitat features. The Phase II habitat features are expected to provide long-term LBVI suitable habitat within Proposed Constrained

Linkage 13. Thus, the Phase II Project would have a less than significant impact on LBVI conservation within Proposed Constrained Linkage 13.

MSHCP LBVI Species Objectives*: The MSHCP Species Accounts includes four species-specific objectives for LBVI based upon the best available scientific information at the time of MSHCP preparation. The MSHCP also includes Management, Monitoring and the Adaptive Management Program that will be used to adjust the species specific conservation objectives, if appropriate. The Adaptive Management Program will also be used to identify alternative strategies for meeting the MSHCP's general biological goals and objectives and, if necessary, adjusting future conservation strategies. The MSHCP includes the following four LBV species objectives:

Objective 1
"Include within the MSHCP Conservation Area at least 9,430 acres of suitable habitat including riparian forest, woodland and scrub habitat within the Riverside Lowlands and San Jacinto Foothills Bioregions."

MSHCP LBVI Objective 1 is a regional conservation objective based on conserving at least 9,430 acres of suitable riparian habitat within two large MSHCP bioregions. The Project area provides a relatively small acreage of riparian habitat within the Riverside Lowlands Bioregion. Since the Phase II Project Features will increase the acreage and quality of riparian habitat, the Phase II Project will have a less than significant impact on LBVI Objective 1.

Objective 2
"Include within the MSHCP Conservation Area at least 8 Core Areas and interconnecting linkages. Core areas could include the following areas: 1) the Prado Basin/Santa Ana River (9,670 acres); 2) Temescal Wash including Alberhill Creek (includes Subunit 3 of the Temescal Canyon Area Plan plus Proposed Linkage 2 and Proposed Constrained Linage 6; 4,290 acres); 3) Murrieta Creek (Subunit 1 of the Southwest Area Plan; 2,060 acres); 4) Temecula Creek (Subunit 2 of the Southwest Area Plan; 850 acres); 5) Lake Skinner/Diamond Valley Lake area (including Rawson Canyon) (Existing Core C, Proposed Extension of Existing Cores 5, 6, 7; 29,060 acres); 6) Vail Lake (Subunit 3 of the Southwest Area Plan; 12,320 acres; 7) Wilson Valley (Subunit 2 of the REMAP Area Plan; 33,540 acres) and 8) San Timoteo Canyon (Subunit 3 of The Pass Area Plan; 2,290 acres). Each Core Area will include at least 100 meters of undeveloped landscape adjacent to the riparian woodland and scrub habitat where it occurs within the Criteria Area."

Murrieta Creek is identified as Subunit 1 of the MSHCP Southwest Area Plan. LBVI Species Objective 2 requires 100-meters of undeveloped landscape adjacent for each LBVI Core Area. There simply is not 100-meters of undeveloped landscape adjacent to the riparian habitat along the Phase II reach of Murrieta Creek. Thus, the Phase II Project area is not a LBVI Core Area, but may provide an interconnecting linkage. This reach of Murrieta Creek was also described as MSHCP Proposed Constrained Linkage 13. As described herein, the Phase II native habitat features are expected to provide suitable

LBVI habitat. Therefore, the Phase II Project will have a less than significant impact on MSHCP LBVI Objective 2.

Objective 3
"Include within the MSHCP Conservation Area additional areas within the Criteria Area identified as important to the least Bell's vireo. This Objective shall be met through implementation of the Riparian/Riverine Areas and Vernal Pools Policy presented in *Section 6.1.2* of the *MSHCP, Volume I*. Wetland mapping assembled as part of that policy shall be reviewed as part of the project review process and if riparian scrub and/or woodland is identified on the wetland maps and the habitat will not be avoided as part of the project, a focused survey for least Bell's vireo shall be conducted by a qualified biologist in accordance with accepted protocol. If survey results are positive, 90 percent of the occupied portions of the property that provide for long-term conservation value for the vireo shall be conserved in a manner consistent with conservation of the vireo. This will involve including 100 meters of undeveloped landscape adjacent to the habitat conserved."

Objective 3 states that areas conserved through the Section 6.1.2 policy will include 100-meters of undeveloped landscape adjacent to the habitat conserved. The existing occupied LBVI habitat does not have 100-meters of undeveloped adjacent landscape. Therefore, Objective 3 requirements do not apply to the Phase II Project area.

Objective 4
"Within the MSHCP Conservation Area, maintain (once every 3 years) the continued use of, and successful reproduction at 75 percent of the known vireo occupied habitat (including any nesting locations identified in the MSHCP Conservation Area in the future). Successful reproduction is defined as a nest which fledged at least one known young."

Protocol level surveys were conducted for LBVI with positive results in the Phase II project area. LBVI was detected in the project area during surveys in 2008, 2010, and 2011, and 2013. During the 2013 surveys, 4 LBVI individuals were audibly detected at 4 locations within the Project area. During the 2011 surveys, 4 LBVI (1 pair and 2 individuals) were audibly detected at 3 locations (see Figure 6-4). Nesting was not ascertained, however 2 territories were established based on consistent presence of LBVI during the protocol surveys (LBVI #1 (pair), LBVI #3 (individual) in Figure 6-4). As described herein, the Phase II Project will provide an increase of suitable riparian habitat. Therefore, the Phase II Project will have a less than significant impact on MSHCP LBV Objective 4.

*(http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume2/vol2-secb_birds.pdf)

Coastal California Gnatcatcher

Suitable habitat for the CAGN does not occur within the Phase II project area, however critical habitat exists east of the project area in the coastal sage scrub on the Santa Rosa Plateau, ranging from 0.15 to 1.15 miles away. CAGN have not been identified within the Phase II project area, though they have been incidentally observed foraging in Phase I and further downstream in recent years, likely a factor of the closer proximity of the Phase I area to suitable habitat.

The proposed project is not expected to affect the CAGN due to the lack of suitable habitat in the Phase II project area and its negative detection of CAGN within the Phase II project limits. Approximately 20.4640 acres of coastal sage scrub habitat would be restored on the channel side slopes, which would benefit the CAGN by providing more suitable habitat in the Phase II project area.

The project will have no effect on the CAGN, and ESA consultation is not required for this species. The MSHCP does not have any CAGN conservation measures that apply to the Phase II project area.

Southwestern Willow Flycatcher

Habitat for ~~SWWF~~ SWFL is marginal within the Phase II project area as dense riparian habitat is minimal and isolated. The constrained nature of the limited habitat makes it unlikely that ~~SWWF~~ SWFL would occupy this portion of Murrieta Creek. Protocol surveys were performed in 2008 and no ~~SWWF~~ SWFL were identified.

Migrating ~~SWWF~~ SWFL may use the project area for stopovers and foraging, however removal of vegetation due construction of the proposed project is not expected to impact ~~SWWF~~ SWFL due to the availability of habitat in Phase I and in other areas along Murrieta and Temecula Creeks. Implementation of the proposed project would restore approximately 24.1562 acres of higher quality riparian habitat on the unmaintained riparian/low flow corridor~~terrace~~, which may potentially provide suitable ~~SWWF~~ SWFL habitat in the Phase II project area.

The project will have no effect on the ~~SWWF~~ SWFL, and ESA consultation is not required for this species. As described below, the Phase II project will have a less than significant impact on the MSHCP SWFL conservation.

MSHCP SWFL Conservation

As described above, habitat for SWFL is marginal, and the constrained nature of the limited habitat makes it unlikely that SWFL would occupy this portion of Murrieta Creek. Protocol surveys were performed in 2008 and no SWFL were identified. The MSHCP biological monitoring program data also indicates that Murrieta Creek is not occupied by SWFL. Migrating SWFL may use the project area for stopovers and foraging. Implementation of the proposed project would restore approximately 24.15 acres of higher quality riparian habitat on the unmaintained riparian/low flow zone. The SWFL is addressed in three components of the MSHCP: Proposed Constrained Linkage 13, the MSHCP SWFL Species Objectives, and Section 6.1.2 requirements. The project will have a less than significant impact on SWFL conservation

as described herein. The Phase II Project area is significantly constrained by existing development and does not have 100-meters of adjacent undeveloped landscape described in the MSHCP SWFL species conservation objectives.

MSHCP SWFL Proposed Constrained Linkage 13 Conservation: Murrieta Creek is expected to provide SWFL conservation within a MSHCP proposed constrained linkage between Core Areas. The Phase II riparian habitat features are expected to increase the quantity and quality of riparian habitat within Proposed Constrained Linkage 13. Thus, the Phase II Project would have a less than significant impact on SWFL conservation within Proposed Constrained Linkage 13.

MSHCP SWFL Species Objectives*: The MSHCP Species Accounts includes four species-specific objectives for SWFL based upon the best available scientific information at the time of MSHCP preparation. The MSHCP also includes Management, Monitoring and the Adaptive Management Program that will be used to adjust the species specific conservation objectives if appropriate. The Adaptive Management Program will also be used to identify alternative strategies for meeting the MSHCP's general biological goals and objectives and, if necessary, adjusting future conservation strategies. The MSHCP includes the following four SWFL species objectives:

Objective 1
"Include within the MSHCP Conservation Area at least 10,580 acres of suitable Habitat for the southwestern willow flycatcher including montane riparian forest, riparian scrub, arundo/riparian forest, riparian forest, southern cottonwood/willow riparian, southern sycamore/alder riparian woodland, and southern willow scrub."

MSHCP SWFL Objective 1 is a regional conservation objective based on conserving at least 10,580 acres of suitable riparian habitat within the MSHCP plan area. The Project area provides a relatively small acreage of marginal riparian habitat within the MSHCP plan area. Since the Phase II project will increase the acreage and quality of riparian habitat, there will be a less than significant impact on SWFL Objective 1.

Objective 2
"Include within the MSHCP Conservation Area at least 6 Core Areas and interconnecting linkages. Core areas shall include the following areas: 1) Prado Basin/Santa Ana River, including Chino Creek, the Santa Ana River both up- and downstream of the Prado Dam, and the seven 2001 territories (9,670 acres); 2) Temescal Wash including Alberhill Creek (estimated as Subunit 3 plus Proposed Constrained Linkage 6 and Proposed Linkage 2; 4,290 acres); 3) Murrieta Creek (Proposed Constrained Linkage 13; 1,400 acres); 4) Temecula Creek (Proposed Constrained Linkages 14 and 24; 830 acres); 5) San Timoteo Canyon (Proposed Linkages 5, 12 and Proposed Linkage 22; 2,140 acres); 6) Vail Lake (Subunit 3 of Southwest Area Plan; 12,320 acres). Each Core Area will include at least 100 meters of undeveloped landscape adjacent to the riparian woodland and scrub Habitat and contain unfragmented Habitat and landscape linkages to other Core Areas."

Murrieta Creek is identified as Proposed Constrained Linkage 13 in the Objective 2, and does not meet the criteria for a Core Area, since there is not 100-meters of adjacent undeveloped landscape described above for a Core Area. Since the Phase II Project will increase the quality of riparian habitat suitable for a linkage, there will be a less than significant impact on SWFL Objective 2.

Objective 3
"Include within the MSHCP Conservation Area additional areas within the Criteria Area identified as important to the southwestern willow flycatcher. This Objective shall be met through implementation of the Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools Policy presented in *Section 6.1.2* of the *MSHCP, Volume I.* Wetland mapping assembled as part of that policy shall be reviewed as part of the project review process and if suitable southwestern willow flycatcher Habitat, defined as cottonwood or willow riparian Habitat adjacent to flowing water or saturated soils, is identified on the wetland maps and cannot be avoided, a focused survey for southwestern willow flycatcher shall be conducted by a qualified biologist in accordance with accepted protocol. If survey results are positive, 100 percent of the occupied portions of the property that provide for long-term conservation value for the flycatcher shall be conserved in a manner consistent with conservation of the flycatcher. This will involve including 100 meters of undeveloped landscape adjacent to the Habitat conserved. The survey requirements within this objective will be waived upon demonstrating that at least two Core Areas contain at least 10 successful flycatcher breeding pairs and at least four additional Core Areas each support breeding populations of at least 5 pairs of flycatchers."

Based on past SWFL protocol surveys, the project is area is not known to be occupied. The Phase II project area does not have 100-meters of undeveloped adjacent landscape described in Objective 3. Therefore, SWFL Objective 3 requirements do not apply to the Phase II Project area.

Objective 4
Within the MSHCP Conservation Area, maintain (once every 3 years) the continued use of, and successful reproduction at 75 percent of the known southwestern willow flycatcher occupied Core Areas (including any nesting locations identified in the MSHCP Conservation Area in the future). Successful reproduction is defined as a nest which fledged at least one known young.

As described above, the Murrieta Creek Phase II project area is not known to be occupied by SWFL, and it does not meet the criteria for a Core Area. Therefore, SWFL Objective 4 does not apply to the Phase II project area.

*(http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume2/vol2-secb_birds.pdf)

California Red-Legged Frog

The red-legged frog is listed as threatened under the ESA. Focused red-legged frog surveys were performed in a portion of the Phase II project area in 2000. No red-legged frogs were detected.

While suitable breeding habitat for red-legged frog occurs within the project area, the closest known occurrence of the species is in streams draining from the Santa Rosa Plateau. These streams are frequently scoured during large flood events, which remove suitable habitat that connects the streams to Murrieta Creek. Suitable habitat may develop in these areas with the prolonged absence of such scouring flows. However connectivity from the Phase II project area to the Santa Rosa Plateau is currently lacking due to the lack of base flow to support aquatic species in sections of Murrieta Creek. Surrounding development also inhibits expansion into the Phase II project area. Furthermore, the upstream ~~portions of the study~~ areas currently support predator species such as bullfrogs, which would further inhibit expansion of red-legged frog. Therefore, the project area is not known to be occupied, and potential for red-legged frog in the Phase II project area is, therefore, considered low.

~~Implementation of the proposed project would temporarily remove potential red-legged frog habitat, however mitigation activities would restore habitat along the unmaintained riparian terrace and upland slopes. Marshland areas in the channel bottom are expected to re-establish after construction. Annual mowing of the channel may impact potential red-legged frog breeding habitat by removing marsh vegetation during fall/winter months and disturbing the channel topography, which would not be different than current maintenance activities performed by the RCFC&WCD. The presence of flowing water in the channel bottom would not be impacted by mowing activities. However, d~~Due to the lack of the red-legged frog's occurrence in the Phase II project area, the proposed project would not significantly affect the red-legged frog or its known habitat. The MSHCP does not have any red-legged frog survey requirements or conservation objectives identified that apply to the Phase II project area. ~~To prevent potential effects to ensure that the project area is still unoccupied, the red-legged frog, the Corps will conduct pre-construction surveys during the red-legged frog survey season would be conducted in areas of suitable habitat. If red-legged frogs are found, the Corps will relocate the species in accordance with approved protocols prior to construction.~~

STATE LISTED AND SENSTIVE SPECIES

Swainson's Hawk

The natural foraging habitat of Swainson's Hawks is relatively open stands of grass dominated vegetation and relatively sparse shrublands, with trees that are widely scattered or found in bands along riparian corridors. Nest trees are typically located on the edges between woodland and either grass or shrubland habitats or in isolated trees or clumps of trees in open terrain. The Swainson's hawk is not an obligate riparian species; it's occurrence in riparian habitats is variable and largely dependant on the availability and distribution of suitable nesting trees and their proximity to foraging habitats.

Currently, the majority of known Swainson's hawk territories are located in the Central Valley and Great Basin regions. The species has been extirpated in coastal southern California. Only the Central Valley and Modoc Plateau still support more than a few isolated pairs. Therefore, it is not expected that Swainson's hawk would occupy the Phase II project area.

In California, migrating flocks of up to 100 Swainson's hawks may be observed away from the major mountain ranges during the spring and fall. The Swainson's hawk may use the project area as a migratory corridor and for foraging, however large open grass/shrub land areas are minimal. While implementation of the proposed project may remove foraging habitat, additional habitat is available along Murrieta Creek in the Phase III basin as well as downstream of Phase I. The MSHCP does not have any Swainson's hawk survey requirements or conservation objectives identified that apply to the Phase II project area. The proposed project would not significantly impact the Swainson's hawk.

Cooper's Hawk

The Cooper's Hawk (*Accipiter cooperii*) occurs in various types of mixed deciduous forests and open woodlands, including small woodlots, riparian woodlands in dry country, open and pinyon woodlands, and forested mountainous regions and also now nests in many cities. It is a breeding resident throughout most of the wooded portion of the state and is seldom found in areas without dense tree stands, or patchy woodland habitat. Breeding takes place in March through August, with peak activity between May through July. Nesting and foraging usually occur near open water or riparian vegetation.

Cooper's hawk has been observed within the Project area as well as within the proposed Phase III basin site. Phase II construction would temporarily impact the occupied habitat due to vegetation removal, construction-related noise, and traffic. However, due to the length of the Phase II project area and the duration of construction, only the segments of channel that would have active construction would be cleared of vegetation. This will minimize effects to the habitat by essentially phasing the vegetation removal as construction progresses. With availability of suitable, adjacent habitat, the proposed project would not impact the species.

MSHCP Cooper's Hawk Conservation

Cooper's hawk is known to occupy portions of the Phase II Project area. The Cooper's hawk is addressed in three components of the MSHCP: Proposed Constrained Linkage 13, the MSHCP Cooper's hawk Species Objectives, and Section 6.1.2 requirements. As described below, the project will have a less than significant impact on MSHCP Cooper's hawk conservation.

> MSHCP Cooper's Hawk Proposed Constrained Linkage 13 Conservation: Cooper's hawk is included in the list of planning species for Proposed Constrained Linkage 13. Portions of the Phase II Project area are already known to be occupied by Cooper's hawk, and would be expected to continue to occupy the Phase II riparian habitat features described herein. The Phase II riparian habitat features are expected to provide long-term Cooper's hawk suitable habitat within Proposed Constrained Linkage 13. Thus, the Phase II Project would have a less than significant impact on Cooper's hawk conservation within Proposed Constrained Linkage 13.

MSHCP Cooper's hawk Species Objectives*: The MSHCP Species Accounts includes two species-specific objectives for Cooper's hawk based upon the best available scientific information at the time of MSHCP preparation. The MSHCP also includes Management, Monitoring and the Adaptive Management Program that will be used to adjust the species specific conservation objectives if appropriate. The Adaptive Management Program will also be used to identify alternative strategies for meeting the MSHCP's general biological goals and objectives and, if necessary, adjusting future conservation strategies. The MSHCP includes the following Cooper's hawk species objectives:

Objective 1
"Include within the MSHCP Conservation Area at least 54,580 acres of suitable habitat including riparian scrub, forest, and woodland, oak woodland and forest, and montane coniferous forest."

Murrieta Creek is known to be occupied and the Phase II project will provide an unmaintained riparian/low-flow zone that could potentially contribute toward the requirements of Objective 1. Phase II is not currently within the MSHCP Conservation Area, but the Phase II habitat features could be more easily managed through a cooperative agreement with the RCA. Therefore, the Phase II project will have a less than significant impact on Objective 1.

Objective 2
"Include within the MSHCP Conservation Area at least 10 Core Areas at (1) the Prado Basin/Santa Ana River (9,670 acres), (2) San Timoteo Canyon (Subunit 3 of The Pass Area Plan; 2,290 acres), (3) Temescal Wash (Subunit 3 of Temescal Canyon Area Plan; 4,010 acres), (4) Wasson Canyon (Subunit 5 of Elsinore Area Plan; 2,320 acres), (5) Temecula Creek (Subunit 2 of Southwest Area Plan; 850 acres), (6) Murrieta Creek (Subunit 1 of Southwest Area Plan; 2,060 acres), (7) Vail Lake (Subunit 3 of Southwest Area Plan; 12,320 acres), (8) Wilson Valley (Subunit 2 of REMAP Area Plan; 33,540), (9) San Bernardino National Forest (Existing Core K;149,750 acres), (10) Cleveland National Forest (Existing Core B; 71,490 acres)."

Murrieta Creek is known to be occupied by Cooper's hawk and the Phase II project will provide an unmaintained riparian/low-flow zone that could potentially contribute toward the requirements of Objective 2. Phase II is not currently within the MSHCP Conservation Area, but the Phase II habitat features could be more easily managed through a cooperative agreement with the RCA. Therefore, the Phase II project will have a less than significant impact on MSHCP Cooper's Hawk Objective 2.

*(http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume2/vol2-secb_birds.pdf)

Western Spade Foot

Western spadefoot is state-listed species of concern. Populations of *Spea hammondii* are localized, but widespread. It ranges throughout the central valley of California as well as the coast south of San Jose and some parts of the desert. The western spadefoot prefers grassland, scrub and chaparral locally but can occur in oak woodlands. Grasslands with shallow temporary pools are optimal habitats for the western spadefoot.

This species is known to occur in the watershed and has been documented in Warm Springs Creek (CNDDB, 2009). Based on the 2008-2011 vernal surveys, adults and tadpoles spadefoot had been detected the basin next to Murrieta Creek on the Murrieta/Temecula border and the Winchester 700A property in Murrieta as part of the Multiple Species Habitat Conservation Plan (MSHCP) Biological Monitoring Program. ~~However,~~ No survey data is available within the Project area; however suitable habitat is present in the Phase II and III area, near the "swales" and remnant ponds that appear and form from time to time. Implementation of the Phase II project would temporarily remove suitable spadefoot habitat, however mitigation activities would restore habitat along the unmaintained riparian/low-flow corridor and upland coastal sage scrub slopes.

Western Spadefoot MSHCP Conservation

Background
The western spadefoot (spadefoot) is not a federal or state listed endangered/threatened species, but it is a California Species of Concern and a MSHCP covered species. Two components of the MSHCP cover the spadefoot: Species Objectives and the Section 6.1.2 policy. The MSHCP does not include the spadefoot in the description of Proposed Constrained Linkage 13.

MSHCP Spadefoot Species Objectives
Based on the information below, the Project will have a less than significant impact on MSHCP spadefoot conservation.

The MSHCP includes the following spadefoot Species Objectives*:

> Objective 1
> "Include within the MSHCP Conservation Area approximately 6,749 acres of primary habitat for the western spadefoot. Suitable primary habitat is limited to playas and vernal pools below 1,500 meters within chaparral, sage scrub, grassland, and alluvial scrub habitats.
>
> As described previously, the Project area does not include the suitable primary spadefoot habitat features (i.e. playas and vernal pools). Therefore, Objective 1 does not apply to the Phase II Project area.
>
> Objective 2
> "Include within the MSHCP Conservation Area at least six Core Areas at the Santa Rosa Plateau (8,360 acres), San Jacinto River (7,680 acres), Salt Creek (320 acres), Skunk

Hollow (approx. 10 acres), and Hemet (approx. 100 acres) areas. Conserve additional breeding habitat in the form of isolated pools, road ruts, or creeks at Lake Skinner-Diamond Valley Lake, Lake Mathews-Estelle Mountain, San Jacinto Wildlife Area-Lake Perris, the Badlands, Potrero Valley, the Banning Bench, Sage/Vail Lake, San Jacinto Mountains, and Anza Valley."

The Project area is not listed Objective 2; therefore it does not apply.

Objective 3
"Include within the MSHCP Conservation Area at least 377,183 acres of suitable secondary habitat adjacent to protected primary habitat. Suitable secondary habitat includes chaparral, grasslands, sage scrub, and alluvial scrub habitats below 1,500 meters. These habitats will be preserved throughout the Plan Area in large blocks representing all portions of the Plan Area. The majority of habitat conservation will occur in large core blocks throughout the Plan Area, including Santa Rosa Plateau, Lake Skinner-Diamond Valley Lake, Lake Mathews-Estelle Mountain, San Jacinto Wildlife Area- Lake Perris, the Badlands, Potrero Valley, the Banning Bench, Sage/Vail Lake, San Jacinto Mountains, and Anza Valley. These areas are anticipated to fulfill the remaining life history requirements of the species including aestivating, dispersing, and foraging habitat."

The Project area is not listed Objective 3. The Phase II project area does not contain suitable protected primary spadefoot habitat that would require protection of suitable secondary habitat. Therefore, Objective 3 does not apply to the Project.

Objective 4
"Within the MSHCP Conservation Area, maintain successful reproduction at a minimum of 75 percent of the conserved breeding locations as measured by the presence/absence of tadpoles, egg masses, or juvenile toads once every 8 years."

Spadefoot Objective 4 does not apply to the Project, since a MSHCP conserved spadefoot breeding location does not exist in the Project area.

*(http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume2/vol2-secB_amphibians.pdf)

Section 6.1.2 Conservation
Section 6.1.2 does not require focused surveys for spadefoot, and the Phase II project area does not have primary or secondary spadefoot habitat. Therefore, the Project will have a less than significant impact on MSHCP Section 6.1.2 conservation.

San Diego Black-tailed Jackrabbit

The black-tailed jackrabbits occupy mixed shrub-grassland terrains. Their breeding depends on the location; it typically peaks in spring, but may continue all year round in warm climates. The

black-tailed jackrabbit occupies plant communities with a mixture of shrubs, grasses, and forbs. Shrubland-herb mosaics are preferred over pure stands of shrubs or herbs.

This species has been detected in the Project area and frequently observed in the proposed Phase III basin site upstream of Phase II. While implementation of the Phase II Project may temporarily remove foraging habitat, additional habitat is available along other sections of Murrieta Creek. Thus, the proposed project would not significantly impact the San Diego black-tailed jackrabbit.

MSHCP San Diego black-tailed jackrabbit (jackrabbit) Conservation

The jackrabbit is not on any State or Federal list of endangered or threatened species, but is a California Species of Concern. The jackrabbit is a MSHCP covered species. The jackrabbit is not a planning species for Subunit 1 Murrieta Creek of the MSHCP Southwest Area Plan or for Proposed Constrained linkage 13, and it is not addressed in the MSHCP's Section 6.1.2 requirements. Thus, only the MSHCP Species Objectives address the jackrabbit. The MSHCP states:

> "The San Diego black-tailed jackrabbit occurs throughout the Plan Area in open habitats, primarily including grasslands, Riversidean sage scrub, Riversidean alluvial fan sage scrub, Great Basin sagebrush, desert scrub, and juniper and oak woodlands. Although widespread in the Plan Area, the jackrabbit can be characterized as ranging from relatively uncommon to locally common. Identifying Core Areas is difficult because this species exhibits natural fluctuations in population sizes and distributions in relation to reproduction and shifting distributions and densities of food resources. With a large enough MSHCP Conservation Area however, specific management regimes will not be necessary for this species because it occurs in a variety of habitats ranging from undisturbed to highly disturbed. "

MSHCP Jackrabbit Species Objectives

The MSHCP Jackrabbit Species Objectives include Murrieta Creek in the list of linkages between core areas. Following construction of the Project, the project area will continue to provide a linkage. Based on the analysis below, the Project will have a less than significant impact the MSHCP jackrabbit conservation.

The MSHCP includes the following jackrabbit Species Objectives*:

Objective 1

"Include within the MSHCP Conservation Area 142,116 acres (44 percent) of suitable habitat in the Plan Area comprised of grassland, coastal sage scrub, Riversidean alluvial fan sage scrub, desert scrub, juniper woodland and scrub, and playas and vernal pools. Conservation in the primary core habitat areas includes Existing Core A (10,740 acres), Existing Core C (15,610 acres), Existing Core D (2,510 acres), Existing Core G (4,490 acres), Existing Core H (17,470 acres), Existing Core F (8,360 acres), Existing Core J (24,370 acres), Proposed Extension of Existing Core 2 (8,100 acres), Proposed Extension of Existing Core 6 (1,180

acres), Proposed Extension of Existing Core 7 (3,220 acres), Proposed Core 1 (7,470 acres), Proposed Core 2 (5,050 acres), Proposed Core 3 (24,920 acres), Proposed Core 4 (11,890 acres), Proposed Core 5 (3,220 acres), Proposed Core 6 (4,290 acres), Proposed Core 7 (50,000 acres), Non-contiguous Habitat Block 2 (1,230 acres), and Noncontiguous Habitat Block 5 (7,150 acres)."

Murrieta Creek is not included in the list of MSHCP jackrabbit primary core habitat areas. Therefore, MSHCP Objective 1 does not apply to the Project.

Objective 2
"Include within the MSHCP Conservation Area approximately 27,700 acres of habitat linkages between Core Areas, including contiguous uplands from Estelle Mountain to Wildomar, Temescal Wash, Gavilan Hills, San Jacinto River from the National Forest to Canyon Lake, Santa Ana River, Murrieta Creek, Temecula Creek, Tucalota Creek, Wilson Creek, Tule Creek, San Timoteo Creek, and San Gorgonio Wash."

As previously described, the jackrabbit is present within the Project area and nearby areas. Murrieta Creek is listed as a MSHCP jackrabbit linkage between Core Areas. The Project area will remain an open channel with native habitat features following construction. Therefore, the Project will have a less than significant impact on Objective 2.

*(http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume2/vol2-secb_Mammals.pdf)

Section 6.1.2 Jackrabbit Conservation
The jackrabbit is not listed in Section 6.1.2. Therefore, the Project will not conflict with any MSHCP Section 6.1.2 jackrabbit conservation.

Burrowing Owl

Potential for burrowing owl in the Phase II project area is moderate, and onsite suitable habitat is limited. The area surrounding the project area is largely developed, however a minimal area of open non-native grassland that may support burrowing owl occurs along the Creek upstream of Rancho California Road. To confirm the current species status, the Corps conducted burrowing owl "BUOW" habitat assessments/surveys for the Murrieta Creek Phase I, II, and III project areas in 2013. The updated habitat assessment/survey consisted of three phases: Phase I, Habitat Assessment, Phase II, Burrow Survey, and Phase III, Burrowing Owl Surveys, Census, and Mapping. Results of the Phase I habitat assessment concluded that the study area and portions of the 150-m buffer zone exhibited suitable BUOW habitat. Phase II burrow survey identified suitable BUOW burrows within the study area and portions of the 150-m buffer zone. However, no BUOW or sign of BUOW was observed during the Phase I habitat assessment or the Phase II burrow surveys. Since the proposed Murrieta Creek Phase III basin site contained burrows that could be used by BUOW, the Corps biologists conducted a four-day focused BUOW census and mapping survey. The study area was unoccupied. However, suitable habitat

does occur within the Phase III study area. A burrow and dead owl were observed in the upstream Phase III area during LBVI surveys in 2010, approximately 1 mile upstream of the Phase II project area.

~~If present, implementation of the proposed project may impact burrowing owl habitat.~~Based on the survey results above, burrowing owls do not occupy the Phase II Project area. A 30-day ~~Protocol~~ pre-construction survey~~s would~~ will be performed ~~prior to construction~~ to confirm ~~determine the presence or absence of~~ that burrowing owl are still absent in the Phase II project area. If burrowing owls are found, they will be relocated outside of the nesting season in accordance with accepted protocols. With implementation of pre-construction surveys and the availability of suitable, adjacent habitat, the proposed project would have less than significant impacts to the burrowing owl. The 2013 survey report is on file at the USACE, Los Angeles District Office.

Burrowing Owl MSHCP Conservation

Background
The burrowing owl is not a federal or state listed endangered/threatened species, but it is a federal/state species of special concern and a MSHCP covered species. Two components of the MSHCP cover the burrowing owl: Species Objectives and Section 6.3.2 requirements. The MSHCP does not include the burrowing owl in the description of Proposed Constrained Linkage 13.

MSHCP Burrowing Owl Species Objectives
Based on the information below, the Project will have a less than significant impact on MSHCP burrowing owl conservation.

The MSHCP includes the following burrowing owl Species Objectives*:

> Objective 1
> "Include within the MSHCP Conservation Area at least 27,470 acres of suitable primary habitat for the burrowing owl including grasslands."
>
> Objective 1 is a regional conservation objective to be met within the MSHCP plan boundary. Based on the burrowing owls survey results described above, the Phase II project area does not support burrowing owls or provide suitable primary habitat (i.e. grasslands). Therefore, Objective 1 does not apply to the Phase II Project area.
>
> Objective 2
> "Include within the MSHCP Conservation Area at least 5 Core Areas and interconnecting linkages. Core areas may include the following: (1) Lake Skinner/Diamond Valley Lake area (Existing Core C plus Proposed Extension of Existing Cores 5, 6, 7; 29,060 acres); (2) playa west of Hemet (Proposed Noncontiguous Habitat Block 7; 1,250 acres); (3) San Jacinto Wildlife Area/Mystic Lake area including Lake Perris area (Existing Core H; 17,470 acres); (4) Lake Mathews (Existing Core C plus Proposed Extension of Existing

Cores 2; 23,710 acres); and (5) along the Santa Ana River (9,670 acres). The Core Areas should support a combined total breeding population of approximately 120 burrowing owls with no fewer than five pairs in any one Core area."

The Project area is not listed Objective 2; therefore it does not apply.

Objective 3
"Include within the MSHCP Conservation Area at least 22,120 acres of suitable secondary habitat for the burrowing owl including playas and vernal pools, and agriculture outside of the Core Areas identified above. Areas where additional suitable habitat could be conserved include west of the Jurupa Mountains, near Temescal Wash (*i.e.*, vicinity of Alberhill), near Temecula Creek, within the Lakeview Mountains, Banning, the Badlands, Gavilan Hills, and Quail Valley."

The Phase II roject area does not include the described secondary habitat features and is not listed in Objective 2 or 3. Therefore, Objective 3 does not apply to the Project.

Objective 4
"Include within the MSHCP Conservation Area the known nesting locations of the burrowing owl at Lake Perris, Mystic Lake/San Jacinto Wildlife area, Lake Skinner area, the area around Diamond Valley Lake, playa west of Hemet, Lakeview Mountains, Lake Mathews/Estelle Mountain Reserve and Sycamore Canyon Regional Park."

The Project area is not listed in Objective 4. Therefore, Objective 4 does not apply to the Project.

Objective 5
"Surveys for burrowing owl will be conducted as part of the project review process for public and private projects within the burrowing owl survey area where suitable habitat is present (see *Burrowing Owl Survey Area Map*, *Figure 6-4* of the *MSHCP*, *Volume I*). The locations of this species determined as a result of survey efforts shall be conserved in accordance with procedures described within *Section 6.3.2*, *MSHCP*, *Volume I* and the guidance provided below:
Burrowing owl surveys shall be conducted utilizing accepted protocols as follows. If burrowing owls are detected on the project site then the action(s) taken will be as follows: If the site is within the Criteria Area, then at least 90 percent of the area with long-term conservation value will be included in the MSHCP Conservation Area. Otherwise:

1) If the site contains, or is part of an area supporting less than 35 acres of suitable habitat or the survey reveals that the site and the surrounding area supports fewer than 3 pairs of burrowing owls, then the on-site burrowing owls will be passively or actively relocated following accepted protocols.

2) If the site (including adjacent areas) supports three or more pairs of burrowing owls, supports greater than 35 acres of suitable habitat and is non-contiguous with MSHCP Conservation Area lands, at least 90 percent of the area with long-term conservation

value and burrowing owl pairs will be conserved onsite. The survey and conservation requirements stated in this objective will be eliminated when it is demonstrated that Objectives 1 – 4 have been met."

The Project area is within the MSHCP Burrowing Owl Area, and the required burrowing owl habitat assessments/surveys were completed as described above. Based on the survey results described above, burrowing owls were not detected within the Project area. Therefore, Objective 5 does not apply to the Project.

Objective 6
"Pre-construction presence/absence surveys for burrowing owl within the survey area where suitable habitat is present will be conducted for all Covered Activities through the life of the permit. Surveys will be conducted within 30 days prior to disturbance. Take of active nests will be avoided. Passive relocation (use of one way doors and collapse of burrows) will occur when owls are present outside the nesting season."

As described herein, the Project construction is not a MSHCP Covered Activity. Nonetheless, a 30-day pre-construction survey will be completed in areas with suitable habitat. Take of active nests will be avoided as described above.

Objective 7
"Translocation sites for the burrowing owl will be created in the MSHCP Conservation Area for the establishment of new colonies. Translocation sites will be identified, taking into consideration unoccupied habitat areas, presence of burrowing mammals to provide suitable burrow sites, existing colonies and effects to other Covered Species. Reserve Managers will consult with the Wildlife Agencies regarding site selection prior to translocation site development."

The Project area is under RCFC&WCD ownership and has not been identified as a translocation site. Therefore, Objective 7 does not apply to the Project.

*(http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume2/vol2-secb_birds.pdf)

Section 6.1.2 Burrowing Owl Conservation
The burrowing owl is not listed in Section 6.1.2. Therefore, the Project will not conflict with any MSHCP Section 6.1.2 conservation.

Southwestern Pond Turtle

Suitable habitat for the southwestern pond turtle currently occurs near the previously constructed Phase I project area. Surveys for pond turtles were conducted between April and July 2000. One individual was observed at the southern end of the Phase I project area and one individual was observed within the Phase II project area downstream of the Main Street bridge. The MSHCP biological monitoring program included more recent focused trapping surveys, based on visual assessment of presence of suitable habitat, for the southwestern pond turtle in lower Murrieta Creek in September and October 2011 as well as in November 2011 (non-core area of Warm

Springs Creek in Murrieta). The results yielded a total of 13 live pond turtle captures in lower Murrieta Creek downstream of the Phase I area and none captured in Warm Springs Creek.

To ~~minimize~~ ensure that impacts to the southwestern pond turtle are less than significant, the Corps would implement ~~mitigation measure~~ environmental commitment **B-7~~5~~,** which requires trapping in all suitable pools and relocation by a qualified biologist prior to any construction related activity.~~;~~ and ~~mitigation measure~~ environmental commitment **B-6A~~3B~~**, which requires pre-construction training to identify such species during construction. ~~Adherence to identified mitigation measures would reduce impacts to less than significant levels.~~

MSHCP Southwestern Pond Turtle Conservation

The southwestern pond turtle is not a federal or state listed endangered/threatened species, but it is a California Species of Concern and a MSHCP covered species. Three components of the MSHCP cover the southwestern pond turtle: Constrained Linkage 13, Species Objectives and Section 6.1.2 requirements. As described previously, the Service's MSHCP Biological Opinion describes the expected impacts related to the federal Murrieta Creek Flood Control project.

MSHCP Southwestern Pond Turtle Species Objectives
The MSHCP includes the following Southwestern Pond Turtle Species Objectives:

> Objective 1
> "Include within the MSHCP Conservation Area at least 18,289 acres of suitable primary pond turtle habitat (open water, meadows and marshes, and riparian scrub, woodland and forest). Conservation areas will include slow moving permanent or intermittent rivers and streams, small ponds, wetlands, arroyos, vernal pools, small lakes, abandoned gravel pits, permanent stock ponds, sewage treatment lagoons, reservoirs, areas with submerged rocks and roots, emergent basking sites, partially submerged logs, emergent (matted) vegetation, rocks and mudbanks."
>
> As part of the Biological Monitoring Program for the MSHCP, surveys were conducted to monitor the distribution and status of the covered species within the Conservation Area, which included Murrieta Creek for certain species. The 2009 MSHCP biological monitoring report* states that Murrieta Creek did not contain suitable habitat and was not surveyed based on the absence of water at the time the visual habitat assessments were conducted. The 2011 MSHCP biological monitoring survey included focused trapping surveys for the southwestern pond turtle in lower Murrieta Creek, outside of the Project area. The results yielded a total of 13 live pond turtle captures. Suitable habitat in the Phase II Project area is minimal primarily due to insufficient water flow and depth. The USFWS MSHCP Biological Opinion also stated that southwestern pond turtles were not expected to persist in Murrieta Creek. Based on the existing conditions and latest surveys, the Phase II Project area is not expected to provide occupied pond turtle habitat. Therefore, the Project will have a less than significant impact on Objective 1.
>
> * http://www.wrc-rca.org/AnnualReport_2009/AppendixA/RCA_2009_AR_TR_Monitor_Pond_Turtle.pdf

http://www.wrc-rca.org/AnnualReport_2011/AppendixA/RCA_2011_AR_TR_Monitor_Western_Pond_Turtle.pdf

Objective 2
"Include within the MSHCP Conservation Area at least eight Core Areas, including but not limited to, Cajalco Creek (7,849 acres), San Mateo Creek (18,375 acres), Santa Ana River (34,598 acres), Chino Creek (2,446 acres), Temecula Creek (17,784 acres), Murrieta Creek (23,084 acres), Santa Rosa Plateau (17,187 acres), and San Jacinto River (70,294 acres). Please note that the acreages include all habitats within the 2 kilometer buffer area and river/creek system."

As described previously, the existing conditions, latest MSHCP biological monitoring, and the USFWS MSHCP Biological Opinion, the MSHCP Murrieta Creek Core Area is not within the Phase II Project area. The Phase II Project area is also surrounded by existing development, and cannot provide the habitat buffer area described above. The latest MSHCP biological monitoring survey data shows that lower Murrieta Creek outside of the Project area is the MSHCP Murrieta Creek Core Area. The Environmental Commitments described herein will reduce potential impacts to the downstream areas to a less than significant level. Therefore, the Project will have a less than impact on Objective 2.

Objective 3
"Include within the MSHCP Conservation Area 59,999 acres of upland habitat including grasslands, oak woodlands, chaparral, seasonal flood plains, coastal sage scrub, and other habitats within about 2 km of water bodies within the MSHCP Conservation Area lands adjacent to the riparian woodland."

As described previously, the Phase II project features include 24.2 acres of Unmaintained Riparian/Low-Flow Zone and 20.5 acres of Vegetated Slopes (i.e. Coastal Sage Scrub). Therefore, the Project will have a less than significant impact on Objective 3.

Objective 4
"Include within the MSHCP Conservation Area riparian/wetland and overland dispersal habitat along the Santa Margarita River, Temecula Creek, Murrieta Creek, San Jacinto River, Temescal Wash, Santa Ana River, San Timoteo Canyan Creek, Sycamore Canyon Creek, Kolb Creek, Wilson Creek, Cottonwood Creek, Tule Creek, San Gorgonio Wash, Bautista Creek, Poppet Creek, portions of Diamond Valley Lake, Vail Lake, Lake Elsinore, Lake Mathews, Lake Perris, portions of Canyon Lake, and numerous creeks, pools, and other water bodies on Forest Service lands."

Areas adjacent to the Phase II Project area have already been developed and providing overland dispersal outside of the existing channel is not feasible. The Phase II Unmaintained Riparian/Low-Flow Zone and Vegetated Slopes may provide dispersal

habitat within the channel. Therefore, the Project will have a less than significant impact on Objective 4.

Objective 5
"Within the MSHCP Conservation Area, maintain continued use at a minimum of 75 percent of the conserved Core Areas as measured once every 3 years."

As previously described, Murrieta Creek areas downstream of the Phase II Project have been shown to be occupied by the MSHCP Biological Monitoring Program surveys. With the implementation of the Environmental Commitments to avoid/minimize potential downstream impacts, the Project will have a less than significant impact on Objective 5.

Section 6.1.2 Southwestern Pond Turtle Conservation
Section 6.1.2 does not require focused surveys for the Southwestern Pond Turtle. The Phase II Project includes Unmaintained Riparian/Low-Flow Zone and Vegetated Slopes features within Murrieta Creek. Therefore, the Project will have a less than significant impact on the Section 6.1.2 conservation of riparian/riverine areas.

*(http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume2/vol2-secB_amphibians.pdf)

Arroyo Chub

In conjunction with the proposed Murrieta Creek project, Arroyo chub were surveyed downstream of Murrieta Creek Phase I project area in ~~1999~~ 1998 and were found in 7 of the 23 defined aquatic habitat types surveyed between the Santa Margarita River and the USGS Murrieta Creek stream gage. It appears that the 1998 survey did not include Murrieta Creek areas upstream of the USGS stream gage due to the lack of suitable habitat. In addition, the perennial discharges into Murrieta Creek upstream of the Phase II Project from the Santa Rosa Water Reclamation Facility no longer occur. More recent survey results (i.e. 2010-2011) from the MSHCP biological monitoring program included arroyo chub surveys on Cole Creek and lower Murrieta Creek. Visual and ~~electrofishng~~ electrofishing methods were employed during the two surveys. Arroyo chub was detected during the 2011 Cole Creek survey. However, the Phase II Project area is downstream of and separated from Cole Creek by miles of channel that lack base flows to provide a connection to arroyo chub in Cole Creek. The 2011 MSHCP biological monitoring surveys also included lower Murrieta Creek located downstream of both the Murrieta Creek Phase I and Phase II areas. The 2010 MSHCP surveys included points within the Murrieta Creek Phase I and Phase II areas. The MSHCP 2010-2011 surveys did not detect any arroyo chub in ~~the upper~~ lower Murrieta Creek or ~~in the 2010 survey as well as~~ within the Phase II ~~I and IA~~ Project area ~~during the 2011 surveys.~~ Based on the information above Phase II and lower Murrieta Creek is not known to be currently occupied by ~~located between the two survey areas, it's unlikely that~~ arroyo chub ~~would be found within the Phase II Project area.~~

Nonetheless, ~~potential suitable habitat may~~ open water and freshwater marsh areas exist~~s~~ in the Phase II area. ~~and there is high potential for arroyo chub to occur. Implementation~~ Construction of the proposed project would temporarily remove ~~potential arroyo chub habitat~~ open water/marsh areas, however open water and marsh areas similar to the existing conditions are expected to re-establish after construction. ~~Annual mowing of the channel bottom may impact potential arroyo chub habitat by removing vegetation and disturbing the channel topography.~~ The presence of flowing water in the channel bottom would not be impacted ~~by mowing activities~~ and the project features include 24.2 acres of Unmaintained Riparian/Low-Flow Zone along with other features to help direct low-flows into the unmaintained zone. Based on the recent negative survey data and the proposed project features, the Project is expected to have a less than significant impact on arroyo chub.

MSHCP Arroyo Chub Conservation

Background
The arroyo chub is not a federal or state listed endangered/threatened species, but it is a California Species of Concern and a MSHCP covered species. Three components of the MSHCP cover the arroyo chub: Constrained Linkage 13, Species Objectives and Section 6.1.2 requirements. Based on the previous information, some open water and marsh areas exist in the Project area. However, the most recent MSHCP biological monitoring data* from 2010 and 2011 shows that Murrieta Creek is not currently occupied. The previously described Project Features are expected to improve the aquatic habitat within Murrieta Creek, and to have a less than significant impact on MSHCP arroyo chub conservation.

* (http://www.wrc-rca.org/AnnualReport_2010/AppendixA/RCA_2010_AR_TR_Monitor_Arroyo_Chub.pdf & http://www.wrc-rca.org/AnnualReport_2011/AppendixA/RCA_2011_AR_TR_Monitor_Arroyo_Chub.pdf)

Proposed Constrained Linkage 13 Conservation
The MSHCP states:

"Maintenance of existing floodplain processes and water quality along the creek is also important to western pond turtle arroyo chub in this area."

There is a previously constructed and currently maintained channel within the Project area. As described herein, the Phase II Project includes habitat features and Environmental Commitments to ensure that potential impacts to floodplain processes and water quality within Proposed Constrained Linkage 13 remain less than significant.

MSHCP Arroyo Chub Species Objectives
The MSHCP includes the following Arroyo Chub Species Objectives*:

Objective 1

"Include within the MSHCP Conservation Area, 4,580 acres of habitat that provides potential spawning and foraging opportunities for the arroyo chub in the Santa Ana and Santa Margarita watersheds."

The Phase II Project area includes a previously constructed and currently maintained channel within the Santa Margarita watershed. There is no longer a source of perennial flow within the Project area. Recent MSHCP arroyo chub surveys have shown that Murrieta Creek is not currently occupied. Nonetheless, the Project will include a 24.2 acre Unmaintained Riparian-Low-Flow Zone, features to direct low-flows toward the unmaintained zone, and an existing drop structure below First Street will be removed. Thus, open water and marshes, are expected to persist within the project area. Therefore, the Project will have a less than significant impact on Objective 1.

Objective 2
"Include within the MSHCP Conservation Area, the suitable Core Areas for the arroyo chub in the Santa Ana watershed. Conserve the natural river bottom and banks, including the adjacent upland habitat where available to provide shade and suitable microclimate conditions (*e.g.*, alluvial terraces, riparian vegetation) of the Santa Ana River from the Orange County and Riverside County line to the upstream boundary of the Plan Area."

Objective 2 is specific to the Santa Ana watershed and does not apply to the Project area.

Objective 3
"Include within the MSHCP Conservation Area, the suitable Core Areas and available adjacent habitat for the arroyo chub in the Santa Margarita watershed. Conserve the natural river and or creek bottom and banks up to an elevation of 400 meters in the reach of the Santa Margarita River in the Plan Area, and in De Luz Creek and its tributary downstream to the County line, in upper Sandia Creek downstream to the County line, in Murrieta Creek from Winchester Road to near its confluence with the Santa Margarita River, in Cole Creek between its confluence with Murrieta Creek and the boundary of Conservancy property and in Temecula Creek from Long (Smith) Canyon just below the falls near the County line downstream to a concrete drop structure at Highway 79 (upstream of Vail Lake)."

In summary, the Arroyo chub (*Gila orcutti*) was not detected during the MSHCP surveys in the Project area and suitable habitat would not likely be present. According to the MSHCP survey results, the absence of this species in the previously occupied lower reach of Murrieta Creek was likely due to the degraded habitat conditions, insufficient water flow, and the presence of invasive species. The Phase II Project is located upstream of the USGS Murrieta Creek stream gage and upstream of lower Murrieta Creek that was shown to be occupied in the 1998 arroyo chub survey, and upstream of what was identified as MSHCP arroyo chub Core Area. The MSHCP Arroyo Chub conservation analysis states "For the purpose of the conservation analysis, potential habitat for the arroyo chub within western Riverside County was identified as open water channels and emergent vegetation areas or lower gradient stream sections within the Santa Ana

watershed and Santa Margarita watershed and specific tributaries to the main drainage. Additional vegetation types adjacent to the streams were included as buffer habitats essential to maintaining the ecological integrity of the freshwater systems. Additional habitats included riparian forest/woodland/scrub habitats, oak woodland and forest, Riversidean alluvial fan sage scrub, grassland, coastal sage scrub and agricultural lands." Since the perennial discharges into Murrieta Creek upstream of the Phase II Project from the Santa Rosa Water Reclamation Facility no longer occur, perennial low flows, open water and marsh areas within the Phase II Project area have been reduced. With implementation of the Phase II Project, approximately 24.15 acres of riparian habitat will be restored within an unmaintained riparian/low flow zone that will no longer be subject to mowing or sediment removal and over 20 acres of coastal sage scrub will be established on the banks. The Phase II channel design incorporates a flat channel bottom or invert, with the intent of allowing the low flow to flow through the unmaintained riparian/low flow zone. A small temporary berm would be initially constructed within the channel invert/maintained area adjacent to the unmaintained riparian/low flow zone that would be aligned parallel with the channel to aide in training low flows through the unmaintained riparian/low flow zone. The Phase II design now includes a notch in the temporary grade control structure at the upstream end of the Phase II project area and another notch in the permanent grade control structure above Rancho California Road Bridge to "encourage" flows toward the left side of channel and the unmaintained riparian/low flow zone. In addition, three drainages (Santa Gertrudis, Long Canyon, and Empire Creeks) drain into Murrieta Creek on the left or east side of the channel, which could help creek flows continue within the unmaintained zone section of the channel. These features will increase the potential to create aquatic habitat that would not be disturbed by regular maintenance activities. However, this design would not preclude flows from meandering into the regularly maintained section of the channel. Should the low flow or thalweg flow through the regularly maintained areas of the channel, no measures are proposed to physically redirect flows through the unmaintained riparian/low flow zone. However, during sediment removal operations in the maintained area, when needed, a small "sugar" berm would be re-formed locally at the sediment removal area to "encourage" flows towards the unmaintained riparian/low flow zone. This essentially would entail sediment being pushed up to form a small berm within the sediment removal area, adjacent to the unmaintained riparian/low flow zone that would be aligned parallel with the channel. Thus, open water, marshes, coastal sage scrub and riparian scrub areas are expected to persist within the project area. Based on the above features, the Project will have a less than significant impact on Objective 3.

Objective 4
"Within the MSHCP Conservation Area, the Reserve Managers responsible for the areas identified in the Santa Margarita watershed will assess the range of chub movement in the watershed and the need for connectivity and identify measures to restore connectivity to be implemented as feasible."

The construction of the Phase II Project will include the removal of an existing drop structure below First Street and the removal of the Via Montezuma Road Crossing, which should improve aquatic species connectivity. A temporary drop structure will be

reconstructed at a location upstream of Winchester Road. However, this temporary structure will be located upstream of the Murrieta Creek reach identified for arroyo chub conservation in Objective 3. Although MSHCP Reserve Managers do not manage the Project area at this time, completion of the Phase II construction will provide habitat features that could be incorporated into a cooperative species management agreement between the RCFC&WCD and the RCA. Based on the Phase II project features, the Project will have a less than significant impact on Objective 4.

Objective 5
"Within the MSHP Conservation Area, the Reserve Managers responsible for the areas identified in Objectives 2 and 3 will assess threats to the chub from degraded habitat (*e.g.*, reduced water quality, loss of habitat, presence of non-native predators and vegetation); identify areas of the watershed that are necessary to successful spawning of the chub, identify areas for creation of stream meanders, pool riffle complexes and reestablishment of native riparian vegetation as appropriate and feasible and identify and implement management measures to address threats and protect critical areas."

The Phase II Project area is not within the MSHCP arroyo chub Core Area, but it is within a portion of Murrieta Creek downstream of Winchester Road this is identified for arroyo chub conservation in Objective 3. Even though the Project area is not subject to RCA management at this time, completion of the Project construction will provide the previously described habitat features that could be more easily managed by the RCA's Reserve Managers through a cooperative agreement with the RCFC&WCD to achieve the Objective 5 goals. Therefore, the Project will have a less than significant impact on Objective 5.

* http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume2/vol2-secb_fish.pdf

Section 6.1.2 Riparian/Riverine Conservation
Section 6.1.2 does not require focused surveys for arroyo chub, but is listed as a species expected to benefit from Section 6.1.2. As described herein, the Project is expected to improve native habitats and their long-term management within the mapped riverine/riparian areas associated with the Project. Therefore, the Project will have a less than significant impact on Section 6.1.2 arroyo chub conservation.

Wildlife Movement Corridor

Wildlife populations depend on mobility across the landscape for foraging, breeding, and rearing young (Beier and Loe 1992). The proposed project will temporarily affect the entire width of the existing channel during construction, but it is anticipated that adequate cover will remain throughout the construction process for wildlife moving up and downstream. In addition, construction and routine maintenance activities will be constrained to daylight hours, whereas many wildlife species (especially larger predators) move from dusk to dawn. The project will establish a~~n approximately 70-foot wide~~ riparian/low-flow corridor ranging between 35 to 150 feet in width ~~terrace~~ along the ~~entire~~ eastern side of the channel. This unmaintained vegetated

corridor ~~will likely~~ is expected to attain a more natural condition than is currently allowed by the ~~channel maintenance plan~~ CMP and the extent of non-natives present. It will provide high quality riparian vegetation as envisioned for "Constrained Linkage 13" in the MSHCP, and a greater opportunity for species such as the western pond turtle (which occurs downstream) to move into the Phase II area. The Phase II project design includes construction of ~~a~~ one temporary and 3 permanent grade control or stabilizer structures at upstream of Winchester Road, confluence of Long Canyon and Empire Creeks as a transition to the invert elevation of the lowered Murrieta Creek, and upstream of Rancho California Road, respectively. The temporary structure upstream of Winchester Road (located at the upstream end of the Phase II area) would be removed during construction of Phase III at a later date. The structures near Winchester Road Bridge and Rancho California Road Bridge would include a one-foot notch at the surface on the east side of the channel to "encourage" flows to the left side of the channel. The elevation difference between the existing grade of Long Canyon and Empire Creeks with the proposed channel elevation of Murrieta Creek would be such that fish and other aquatic species may be prohibited or limited in movement. Long Canyon and Empire Creeks, however, are maintained earthen channels that transition into underground storm drains. In addition, habitat within Long Canyon and Empire Creeks are very limited to non-existent in certain areas, and not likely to support any sensitive fish or aquatic species.

The MSHCP states that riparian habitat in Proposed Constrained Linkage 13 (i.e. Murrieta Creek) is important to riparian bird species such as LBV, yellow warbler, and yellow-breasted chat. According to the MSHCP, maintenance of existing floodplain processes and water quality along the creek are important to southwestern pond turtles and arroyo chub. As described herein, the Phase II project features will ensure that potential impacts to riparian and aquatic species within Proposed Constrained Linkage 13 remain less than significant.

The USFWS comment letter states that the channel incision that is proposed by the Project would isolate the ecological function footprint from the adjacent upland biological communities in cell 7166 and severely limit the upland connectivity described in the MSHCP for Constrained Linkage 13. The Project area currently consists of an existing incised channel with existing development adjacent to most of the Project right of way. Thus, the isolation between the Project footprint and upland communities is not a result of the Project and a linkage between the two areas was not described in the MSHCP. As shown on the MSHCP Schematic Cores and Linkages Map (MSHCP Figure 3-2), Proposed Linkage 10 is an upland linkage to the east of Proposed Constrained Linkage 13. These linkages are separate and only connect outside of the Project area near the lower Murrieta Creek/ Temecula Creek confluence. The MSHCP description of Proposed Constrained Linkage 13 states "This Constrained Linkage connects Existing Core F (Santa Rosa Plateau Ecological Reserve) in the north to Proposed Linkage 10 in the south. This Linkage is constrained along most of its length by existing urban Development and agricultural use and planned land use surrounding the Linkage consists of city (Murrieta and Temecula)". Thus, there is no upland connectivity or conservation of adjacent upland communities planned for Constrained Linkage 13 within Criteria Cell #7166 and the Project will not significantly impact Constrained Linkage 13.Therefore, i~~I~~mpacts to wildlife movement corridors~~, therefore,~~ are not considered significant.

REVIEW OF PHASE I IMPACTS AND HABITAT STATUS

During implementation of Phase I of the Murrieta Creek Flood Control Project (2003 SEA/EIR addendum), several jurisdictional habitats including 6.9 acres of freshwater marsh, 0.5 acre of open channel, 0.34 acre of mulefat scrub, and 2.8 acres of southern willow riparian/cottonwood forest habitat were temporarily disturbed. Temporary impacts to freshwater marsh, open channel, mulefat scrub, and southern willow riparian/cottonwood forest were proposed to be mitigated on a 1:1 basis. Other communities that were disturbed by the Phase I project included 0.45 acre of Riversidian coastal sage scrub, 0.6 acre of highly disturbed non-native grassland, and 7.4 acres of disturbed upland habitat dominated by weedy invasive species. Temporary impacts that resulted from project construction to Riversidian coastal sage scrub were proposed to be mitigated on a 1:1 basis as well. Disturbed non-native grasslands and disturbed ruderal habitat were proposed to be replaced and enhanced on a 1:1 basis with upland coastal sage scrub habitat created along the channel sideslopes.

According to the 2003 Phase I SEA, channel widening followed by revegetation with suitable native vegetation was expected to reduce the acreage of disturbed habitat and increase the acreage of wetland, upland, and riparian vegetation. By implementing restoration activities, the project was expected to mitigate the temporary disturbance to cottonwood-willow forests, and was expected to create an additional 2 acres of riparian forest and 0.16 acre of mulefat scrub. Marshland was to be increased by 1.78 acres, and temporary impacts to the disturbed Riversidian coastal sage scrub would be completely mitigated. Disturbed habitat was enhanced to provide an estimated 10 acres of improved upland/coastal sage scrub habitat. Some sections of disturbed and barren habitat were replaced with landscaping and bicycle/walking trails, which were not considered part of the revegetation plan. Table 6-7~~5~~ describes the number of acres that were planned to be restored by implementation of the Phase I project revegetation plan.

Table 6-7~~5~~ Phase I Type and Size of Habitats Disturbed and Restored by Revegetation Plan

Description of Impact	Habitat Description	Acres Disturbed by Project	Acres Restored or Created by Project	Additional Acres of Habitat Created By Project
Temporary	Marsh	6.9	8.68	+1.78
	Open Channel	0.5	0.5	+0.0
	Willow riparian cottonwood forest	2.8	4.8	+2.0
	Mulefat scrub	0.34	.5	+0.16
	Disturbed coastal sage scrub	0.45	10 acres of upland/coastal sage scrub habitat will be developed	0.0
Permanent	Disturbed non native-grassland	0.6		+1.55
	Disturbed	7.4		
	Barren or developed	3.89		

Source 2003 SEA/EIR Addendum

The Corps ~~will conduct a vegetation survey in~~is reviewing the Phase I project area ~~prior to construction of Phase II~~, to verify that the anticipated acreages of native habitats that were established. If the restored/created habitats do not equal or exceed the required mitigation acreages, then the Corps and RCFCD&WCD would coordinate with resource agencies to develop a plan to fully compensate for any discrepancy.

6.2.2 Future Channel Maintenance

Operation and maintenance of the project area would consist of periodic inspections and repairs to channel sideslopes, drop structures, and maintenance roads. In addition, the on-going channel maintenance program of vegetation management (mowing) and sediment removal (as needed) would be continued to preserve the flood flow capacity. The extent of maintenance varies within the channel, although an annually maintained corridor is a feature throughout the entire project area. Routine maintenance activities would not affect the ~~vegetated corridor/terrace~~riparian/low flow corridor, although occasional repair of eroded sideslopes may cause temporary disturbance.

Maintenance activities will include regular mowing of the channel invert, debris and sediment removal (as needed), repairs of degraded and eroded areas, and maintenance of the vegetated slopes, riparian ~~terrace~~habitat, and landscaped sites, including weeding of invasive exotic species. If vegetation is removed or damaged by heavy flows within the unmaintained corridor, revegetation will be allowed to occur via natural recruitment. Natural recruitment is an effective means of restoration through re-growth of remnant vegetative material and germination from the native seed bank. Implementation of the Modified Phase II Plan would result in an overall decrease in footprint required for regular maintenance to be performed by the RCFC&WCD for long-term operation and maintenance of the Phase II area, and therefore reduced potential impacts to terrestrial and aquatic species.

Emergency ~~or other erosion repairs conducted on the bank, sideslopes, or unmaintained riparian corridor~~ repairs may be required in situations such as flood waters escaping the channel, failure of channel lining, failure of channel stabilizers or structures, or obstruction of the channel or its laterals by sediment or debris and is typically conducted during and/or immediately after storm events on an as-needed basis. Repairs would be conducted from the top of the bank to the maximum extent practicable. In cases where access from the top of the bank is not feasible, access to the damaged structure (e.g., side drain outlet, or channel lining) would be obtained from the invert. An approximate 15 feet width of vegetation clearance through the unmaintained Riparian/Low-Flow Corridor would be maintained annually for equipment access to the side drain outlets. Equipment used could include a bobcat, dump truck and/or excavator. The repair activities would result in a temporary disturbance of habitat on the unmaintained riparian/low flow corridor; however, at the completion of repair activities, the area of disturbance would be stabilized and re-seeded with a native seed mix. Impacts associated with the maintenance and operation of the project would be minimized by the implementation of maintenance specific measures (best management practices) and the timing of maintenance activities. During sediment removal operations in the maintained area, a small temporary "sugar" berm would be re-formed locally at the sediment removal area to encourage any low flow towards the riparian/low-flow corridor. Habitat management activities of the unmaintained riparian/low-flow corridor and channel side slopes would also be part of the long term operation and maintenance

as described in the project description. Regularly occurring future maintenance will occur outside of rainy and sensitive species nesting seasons.

Operation and maintenance activities will be conducted in accordance with ~~the~~ any applicable regulatory permit conditions that ~~are~~may be issued for ~~the construction and~~ maintenance of the Phase II Project. The regular mowing of Murrieta Creek currently within the Phase II area by RCFC&WCD has been performed consistent with the jurisdictional determination made by the Corps Regulatory Division in a letter dated August 15, 1996. Thus, a 404 permit is not needed for this activity performed in accordance with the Corps Regulatory Division's jurisdictional determination. The RCFC&WCD intents to maintain the channel invert of the Phase II project consistent with that determination, the OMRR&R Manual prepared by the Corps, and any necessary permits to perform maintenance. Sediment management within Phase II would likely be required periodically within the maintained channel invert areas (generally every 5-12 years, and more frequently within the soil cement protection section of Phase II). Sediment management would likely be localized to specific areas within the overall Phase II area. Sediment management and other potential maintenance activities under the jurisdiction of Section 404 could be covered by a Nationwide Permit, Regional General Permit, or an individual permit, as appropriate. The RCFC&WCD and Corps Planning Division will continue to coordinate with the Corps Regulatory Division for appropriate permitting under Section 404 for operation and maintenance by the RCFC&WCD.

~~In addition, t~~The RCFC&WCD will implement best management practices to limit activities within flowing water, including limiting work to periods of low flow, not conducting work during rain events, and redirecting or fluming the live channel in order to conduct repairs to the bank or sideslopes. In case of emergency maintenance, RCFC&WCD will comply with emergency permit authorizations from the regulatory agencies and the applicable measures from those authorizations will be implemented to minimize the potential for project related impacts.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measure~~ environmental commitments below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of mitigation measures below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

6.3 Environmental Commitments

The following environmental commitments have been incorporated into the plan to avoid and minimize project-related effects to ensure that potential impacts remain less than significant. These measures would be followed during construction and future operation and maintenance, as applicable.

B-1 A 23.67-acre portion of the channel invert along the toe of the east bank will be planted with riparian and riparian scrub vegetation to create the Riparian/Low Flow Corridor project feature (Figures 3-1a to 3-1e). This unmaintained zone will not be subject to future mowing or sediment removal activities.

B-2 The Corps will submit a draft Phase II revegetation plan for the slopes and the unmaintained riparian zone to the USFWS and California Department of Fish and Wildlife (CDFW) for review and approval at least 60 days prior to planting of any seeds or container plants within the Project area. If the Project is constructed in stages, the revegetation will be accomplished at the conclusion of each respective stage. The revegetation plan will address the following:

a. Total acreage of habitat to be restored
b. The size and quantity of species to be planted
c. Appropriate seed mixes and schedules of planting
d. Revegetation success criteria
e. 5-year maintenance and monitoring program to ensure that native plant cover is achieved, that non-native species do not out-compete the native species, and that the restoration of ecological function within the creek is successful.

B-~~2~~3 Disturbance or removal of vegetation shall not exceed the limits authorized for construction and operation and maintenance. Temporarily disturbed areas shall be restored to their original condition or better and will be described in the revegetation plan (see commitment 2 above). Restoration shall include the revegetation of stripped or exposed areas with native species.

B-~~3~~4 To minimize construction and operation and maintenance impacts to nesting birds, vegetation removal will be scheduled to occur between August 15 and March 15 (outside of the avian nesting season).

B-5 If the project is completed in stages as described in the project description, prior to and during construction of the Base segment or Option 1, the Corps would require a qualified biologist to survey any potential vireo habitat immediately adjacent to the Base segment or Option 1 during the breeding season. In the event that vireos are detected within 500 feet of the Base segment, or Option 1, the Corps will require the construction contractor to provide a restricted buffer of 500 feet from the active construction area to the nearest edge of the vireo territory, to avoid any potential affects to vireo during the breeding season.

B-6 A Corps biologist (or environmental monitor) shall monitor construction activities to ensure compliance with environmental commitments, which include:

B-~~A~~6A Prior to construction activities, a qualified biologist shall conduct pre-construction training for all construction crew members. The training shall focus on required ~~mitigation measures~~ environmental commitments and conditions of regulatory agency permits and approvals. The training shall also include a summary of sensitive species and

habitats potentially present within and adjacent to the proposed project site, including potential for vernal pools adjacent to the staging area at Jefferson Avenue and native southern willow scrub habitat and potential use of this habitat by least Bell's vireo.

B-~~3~~6B Immediately prior to construction activities and throughout any portion of the construction period that takes place during the bird breeding season, a qualified biologist shall inspect the construction site and adjacent areas (using non-protocol surveys) to determine if any special-status species are nesting within 500 feet of the construction site. If active nests are found, the Corps biologist will coordinate with the U~~.S. Fish and Wildlife Service (~~USFWS~~)~~ and/or the ~~California Department of Fish and Game~~ Wildlife ~~(CDFG~~ CDFW~~)~~ to determine appropriate avoidance or minimization measures.

B-7 To prevent impacts to southwestern pond turtles, trapping will be conducted in all suitable pools prior to any construction related activity (brush clearance, ground disturbance, construction). Trapping will be conducted by a qualified biologist and consist of at least three trapping events. Southwestern pond turtles will be transported to sections of Murrieta Creek where suitable habitat has been located outside the construction area. Trapping will be coordinated with the ~~CDFG~~ CDFW and USFWS to determine the appropriate methods and suitable relocation areas.

B-8 To prevent impacts to burrowing owl ~~and red-legged frog~~, pre-construction surveys would be conducted for those species in suitable habitat. If burrowing owls are found, owls would be relocated outside of the nesting season in accordance with acceptable protocols.

B-~~7~~9 With the exception of emergency repairs; all mowing, sediment removal, and scheduled maintenance activities involving heavy equipment or human presence in riparian habitat will be conducted between August 15 and March 15 (outside of the bird nesting season). Some ~~emergency~~ repairs may require maintenance work to occur for extended periods of time. If non-emergency repair work is to be conducted during the nesting season (i.e,. vireo), the work area will be surveyed for active bird nests. If active nests are identified in the work area the nests and appropriate buffer (to be determined by the qualified biologist in coordination with the USFWS) will be avoided until the end of the nesting season. The appropriate buffer area will be indentified based on the the type of activity/repair work. A qualified biological monitor will be present during all non-emergency repair ~~brush clearing~~ activities within the unmaintained riparian/low flow corridor between March 15 and August 15.

B-10~~8~~ Appropriate coordination/consultation will occur with resource agencies (USFWS, CDFW and Corps regulatory as appropriate) when emergency ~~prior to conducting~~ maintenance activities are required during the nesting season~~, and any necessary permits will be obtained.~~ Resource agency representatives will be notified as early as possible and emergency coordination/consultation conducted and any necessary permits or approvals obtained prior to action taken. Under situations of imminent threat to life or property, obtaining permits and approvals prior to taking of an emergency action may not be possible. Under such circumstances, notification would be made to resource agency

representatives of decision to proceed and emergency coordination/consultation would be performed after the emergency action. Contents of the notification will include: 1) point of contact information (name, address, email address, telephone number; 2) location of proposed project; 3) brief description of imminent threat to life or property and proposed project's purpose and need; 4) description of methods anticipated to be used to rectify the situation; and 5) brief description of the project area's existing condition and anticipated environmental impacts resulting from the proposed work.

B-11~~9~~ With the exception of scheduled invasive plant removal or temporary impacts from ~~any necessary~~emergency repair work, vegetation will not be removed from the unmaintained riparian/low flow corridor ~~or channel sideslopes~~ as part of the scheduled maintenance plan. Large trees and shrubs above 3-4 feet on the vegetated slopes that would affect the flow conveyance capacity of the channel and integrity of the side slope protection would be trimmed or removed. All other shrubs on the side slopes would be maintained by cutting to maintain a maximum height of 3-4 feet.

B-11A~~10~~ If vegetation is removed from the unmaintained riparian corridor or sideslopes as a result of emergency repairs, the site will be stabilized and revegetated with a native seed mix, cuttings and/or select container plantings to ensure the timely replacement of riparian trees removed as a result of the repair work. Revegetation plantings will be of sufficient quantity to ensure the rapid establishment of vegetation. Replacement plantings of riparian trees will not be required if the vegetation was removed as a result of natural scouring.

B-12 The Corps will include a provision in the OMRR&R manual indicating that: If the District fails to perform the required vegetation maintenance for 2 consecutive years, prior to its resumption of maintenance, the District will conduct a vireo survey in the deferred-maintenance area and provide a report to the Corps and the USFWS indicating whether the deferred maintenance area is being used by vireos. This report will be used to assist the Corps in determining whether the resumption of maintenance would cause an effect to vireo not considered in the BO and reinitiation of consultation is required.

6.4 Western Riverside County Multiple Species Habitat Conservation Plan (WRC-MSHCP)

The Final EIS/EIR for the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project was completed in September 2000. The Corps of Engineers approved the project on November 2001. The RCFC&WCD Board certified the Final EIS/EIR in January 2003 and authorized RCFC&WCD to proceed with the project. Murrieta Creek Phase II is a component of the above previously approved project. This SEA/SEIR assesses the impacts associated with modifications to the Phase II plan that was described in the September 2000 Final EIS/EIR. On June 17, 2003, the Riverside County Board of Supervisors adopted the Western Riverside County Multiple Species Habitat Conservation Plan (WRC-MSHCP). The WRC-MSHCP is a comprehensive, multi-jurisdictional plan that has as its goal the creation of a 500,000-acre conservation area that protects and manages habitat for 146 covered species. As

the Corps of Engineers is not a participating agency to the WRC-MSHCP it is exempt from WRC-MSHCP policies. However, the Corps will consult with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Federal Endangered Species Act and be subject to separate take coverage for LBVI. The Section 7 incidental take statement will also be used to obtain a State consistency determination under Section 2080.1 of the California Endangered Species Act (CESA).

Appendix G provides an analysis to determine whether the Modified Phase II Plan would result in impacts to the assembly of the Conservation Area identified in Section 3 of the WRC-MSHCP. Guidance on assembly of the WRC-MSHCP Conservation Area is provided on three geographic levels: Cores and Linkages, Area Plan Subunits, and Cells. Each geographic level has its own criteria and species survey requirements. For example, each Area Plan Subunit has its own list of Planning Species and Biological issues and Considerations that are important to Reserve Assembly. Each Cell has criteria that identifies applicable Cores and Linkages and describes the focus of desired conservation in that particular Cell or Cell Group.

Based on the analysis in Appendix G, the Modified Phase II Plan will not conflict with the conservation goals of the WRC-MSHCP. The Modified Phase II Plan will contribute to the WRC-MSHCP's overall goal of improving the conservation status of covered species by maintaining the hydrology and connectivity and enhancing the natural habitat for covered species. Moreover, the Regional Conservation Authority has expressed interest in collaborating with local sponsors to develop a long-term conservation management strategy and, subject to future talks, might manage the conservation area themselves.

Comment letters to the Draft SEA/EIR stated that the RCFC&WCD needs to fulfill their obligations as a Permitee of the MSHCP and ensure that Phase II is consistent with all applicable policies of the MSHCP. As described above, the Murrieta Creek flood control project was approved prior to the adoption of the MSHCP. As shown herein, Phase II will have a less than significant impact on MSHCP conservation. The information below further clarifies MSHCP compliance requirements.

With concurrence from the Regional Conservation Agency and the California Department of Fish and Wildlife, Murrieta Creek Phase II was found not to be subject to the MSHCP JPR and DBESP process for two main reasons:

1. Within the Criteria Area, only flood control facilities (improvements and new construction) that are undertaken by a Permittee are Covered Activities. (MSHCP Vol. 2, Section 7.3.7). The RCFC&WCD is a Permittee, but is not undertaking the project.
2. Murrieta Creek Phase II is a Federal flood control facility improvement to be constructed through a contract administered by the Department of the Army. The Project Cooperation Agreement makes clear that, although the RCFC&WCD's comments will be considered in good faith, the contents of solicitations, award of contracts, execution of contract modifications, issuance of change orders, resolution of contract claims, and performance of all Work on the Project, shall be exclusively within the control of the Department of the Army. In short, the Department of the Army is undertaking the project. The

Department of the Army is not a Permittee, nor a Participating Special Entity, nor a Third Party seeking Take Authorization as contemplated in the Implementing Agreement.

These reasons are supported by numerous other instances in the public record that demonstrate that Murrieta Creek has never been considered a covered activity.

3. The USFWS's June 22, 2004 Biological Opinion (http://www.wrc-rca.org/Permit_Docs/WRMSHCP_USFW_Biological_Opinion_06-22-2004.pdf) for the MSHCP describes Murrieta Creek as follows:
   In 2003, a Federal flood control project (i.e., Murrieta Creek Flood Control Project) was approved to channelize most of Murrieta Creek. The project will be phased, with the first phase occurring just upstream of the confluence of Temecula Creek and Murrieta Creek. (pp. 990-991).
4. The USFWS's Biological Opinion for the MSHCP does not refer to the Murrieta Creek Flood Control Project as a Covered Activity. Moreover, the Biological Opinion discusses and anticipates prospective losses to conserved species by the Murrieta Creek Flood Control Project.
5. Table 7-14 of Potential Flood Control Facilities in MSHCP Section 7.3.7 does not include the Murrieta Creek Project.

Maintenance

The MSHCP states that the maintenance of existing flood control facilities within the MSHCP Criteria Area that is subject to an MOU or agreement with the California Department of Fish and Wildlife (Department) would be covered pursuant to those MOUs or agreements (MSHCP Section 7.3.7). The maintenance of the existing Murrieta Creek channel is subject to an existing agreement/MOU between the RCFC&WCD and the Department. The RCFC&WCD has submitted a Section 1602 notification, which includes the operation and maintenance of the Murrieta Creek Phase II Project, to the Department. Therefore, the Project maintenance will be consistent with the MSHCP expectation that flood control maintenance will be subject to an MOU or agreement with the Department.

Based on the above information, the Phase II will not conflict the MSHCP.

http://www.wrc-rca.org/Permit_Docs/MSHCP_Docs/volume1/Vol1-Sec7.pdf

Legend

- Right of Way
- Arundo
- Coastal Sage Scrub
- Cottonwood/Willow Riparian
- Developed
- Developed/Ornamental
- Disturbed
- Disturbed Coastal Sage Scrub
- Disturbed Cottonwood/Willow Riparian
- Disturbed MFS
- Disturbed Southern Willow Scrub
- Emergent Hazardia Squarrosa
- Emergent SWS
- Freshwater Marsh
- Freshwater Marsh/Mowed Channel
- Mixed Tree
- Mowed Channel
- Mule Fat Scrub
- Non-native Grasses/Ruderal
- Open Channel
- Open Water
- Ornamental
- Rock
- Restored Coastal Sage Scrub
- Riparian Scour Zone
- Ruderal
- Ruderal/Tamarisk
- Southern Willow Scrub
- Stone
- Tamarisk

N

0 100 200 400 Feet

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
Copyright:© 2012 Esri, DeLorme, NAVTEQ, TomTom

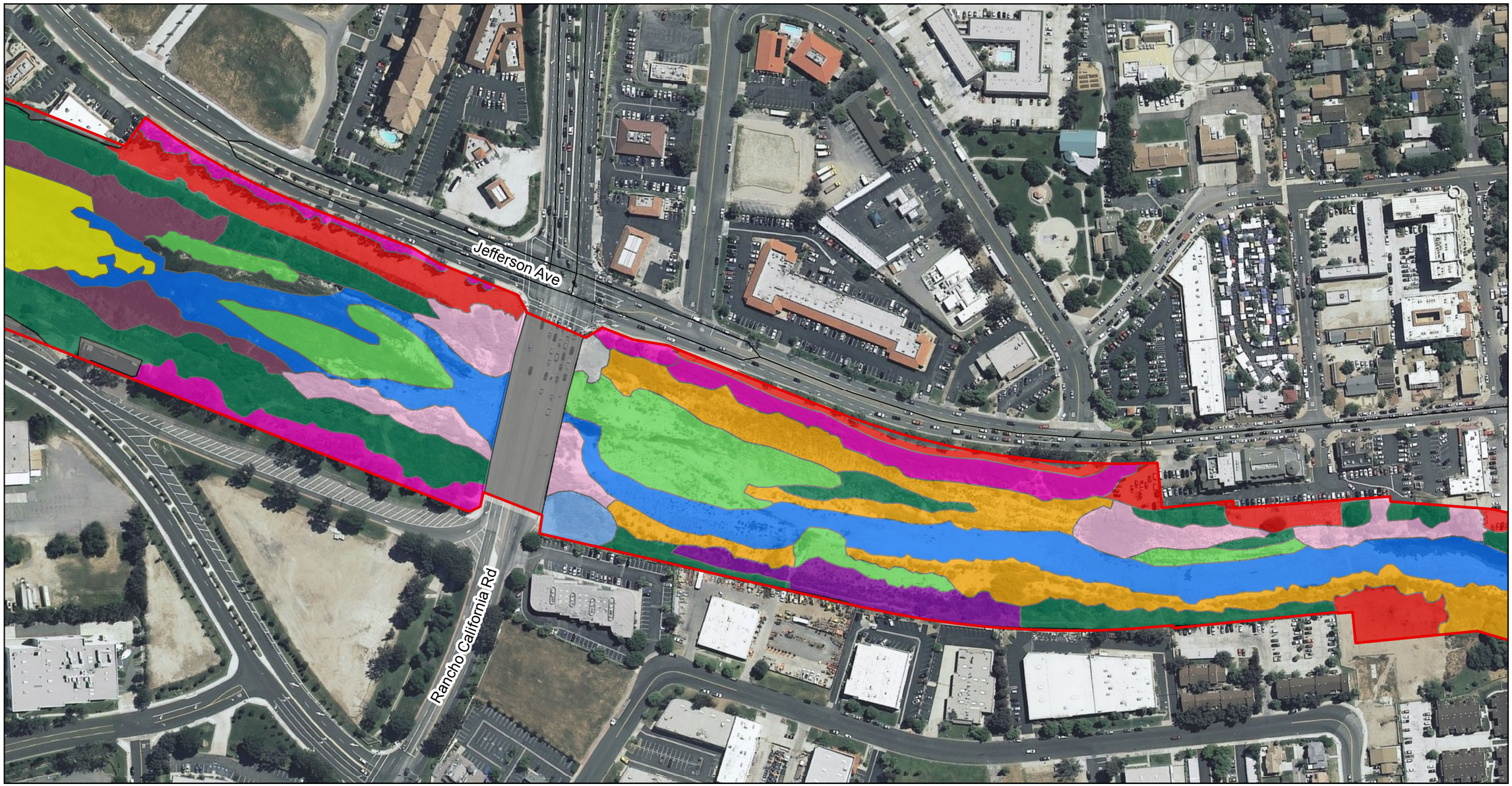
Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: November 28, 2012

Figure 6-3a Vegetation Maps

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Draft Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT



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State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: November 27, 2012

Figure 6-3b Vegetation Maps

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Draft Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

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Sources:

Imagery Background:
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Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: November 27, 2012

0 100 200 400 Feet

Figure 6-3c Vegetation Maps

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Draft Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

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Coordinate System:
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Datum: NAD 1983

Map Created: November 27, 2012

0 100 200 400 Feet

Figure 6-3d Vegetation Maps

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Draft Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

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Sources:

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Datum: NAD 1983

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0 100 200 400 Feet

Figure 6-3e Vegetation Maps

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
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U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

7.0 CULTURAL RESOURCES

7.1 Affected Environment

A summary of the history and prehistory of the region can be found in the 2000 Final EIS/EIR. This included a discussion of a complete cultural resources survey of all phases conducted in 1992 by Jones and Stokes, Inc.

The Corps archeology staff conducted an updated field survey in 2007 which included all portions of Phase 2. As a result of this survey, and all of the previous investigations, no historical or prehistoric sites were observed. The NAHC commented in a response in 2006 and 2012. No response was received from any Tribes listed on the NAHC list at that time. For this updated document the Pechanga expressed an interest in further consultation and comment in a letter dated November 5, 2012.

In addition to the updated field survey, a geoarchaeological investigation was conducted on behalf of the Corps by Statistical Research, Inc. (SRI) in 2006. This report was provided to the Pechanga in a letter dated June 7, 2007. This study evaluated the potential for subsurface remains along all reaches of the project. The SRI investigation examined the results from previous geotechnical trenching done for this project. In addition, they looked at archival data, aerial photographs, topographic maps, parcel maps, soil and geological maps, and archeological records. SRI determined that for all of Phase 2 there has been previous disturbance to a depth of up to 12 feet from various factors such as cultivation and development (page 51). Generally, SRI evaluated the actual APE to be mostly low to very low with some small isolated areas described as moderate to high. For Phase 2, monitoring of construction will occur as it did for Phase 1.

The Corps has determined that no resources eligible for listing on the National Register of Historic Places are present within the APE for Phase 2.

7.2 Environmental Effects

7.2.1 Construction

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would involve excavating and grading approximately 70 acres of Murrieta Creek. Vegetation within the project footprint would be cleared and grubbed. Approximately, 1,100,481 cubic yards of alluvial substrate would be removed from the channel invert to lower the invert elevation by approximately 3 to 8 feet. Construction would also involve creating side slopes between 3:1 and 1:4 over a distance of 12,800 feet. Gabions would be utilized to reinforce the channel banks with 3:1 slopes. A grouted stone drop structure would be constructed approximately 300 feet upstream of Rancho California Road. A 20 to 60 foot wide unmaintained vegetated corridor would be constructed between Rancho California Road downstream to the project terminus. The Main Street bridge would be replaced. Accordingly, concrete would be discharged for the construction of bridge abutment and piers.

There would be extensive grading and excavation activities associated with the Original Phase II Plan. However, based on the updated 2007 field survey as well previous investigations, the Corps has determined that no resources eligible for listing on the National Register of Historic Places are present within the APE for Phase 2. Furthermore, the SRI investigation has determined that the entire Phase II reach has been disturbed to a depth of 12 feet from various factors such as cultivation and development (page 51). The depth of excavation associated with the Original Phase II Plan (approximately 3 to 8 feet below grade) would be shallower than the depth characterizing the SRI report.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would involve excavating and grading and disturbance from equipment and vehicle access to approximately 122.42~~1~~ acres of Murrieta Creek, which have been subject to past construction and maintenance. Vegetation within the excavation footprint would be cleared and grubbed. Approximately, 952,000 cubic yards of alluvial substrate would be removed from the channel invert. The excavation depth would range from 2 feet to 11 feet depending on the location along the creek. The excavated earthen channel would vary in slope to lower the invert elevation to depths ranging from 3 to 8 feet. Construction would also involve creating steeper side slopes when compared to the Original Phase II Plan. The Modified Phase II Plan would change the side slopes over most of the project area from 3:1 (using gabions) to 2:1 (using soil cement). A drop structure/end protection stabilizer structure would be constructed upstream of Rancho California Road to protect the flood control measures constructed in the project area. This structure would also include a 1-foot notch at the surface on the east side of the channel to help direct flows towards the unmaintained area. The existing temporary drop structure at the upstream end of Phase I would be removed, thereby removing a disturbed area and improving the potential for species movement in Murrieta Creek. Drop structures would be constructed at the confluence of both Long Canyon and Empire Creeks as a transition to the invert elevation of the lowered Murrieta Creek. A grade stabilizer would also be constructed upstream of Rancho California Road to increase flow capacity under the bridge and protect against erosion of the channel bottom. A ~~20~~35 to 150~~125~~ foot wide unmaintained vegetated corridor would be constructed between Rancho California Road downstream to the project terminus. The Main Street bridge replacement would not be included in the modified Phase II plan.~~replaced.~~ Accordingly, there would be no discharge of concrete for the construction of bridge piers and abutments.

There would be extensive grading and excavation activities associated with the Modified Phase II Plan. However, based on the updated 2007 field survey as well previous investigations, the Corps has determined that no resources eligible for listing on the National Register of Historic Places are present within the APE for Phase 2. As a result, none would be affected by implementation of construction. Documentation to this effect was prepared and sent to the California State Historic Preservation Officer in accordance with Section 106 of the National Historic preservation act (36 CFR 800). In a letter dated October 16, 2008 the SHPO concurred.

Furthermore, the SRI investigation has determined that the entire Phase II reach has been disturbed to a depth of 12 feet from various factors such as cultivation and development (page 51).

The depth of excavation associated with the Original Phase II Plan (approximately 3 to 8 feet below grade) would be shallower than the depth characterizing the SRI report.

7.1.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Operations and maintenance activities would vary in size, scope, and intensity of impacts to cultural resources. Larger operations such as the removal of sediment and debris from the channel would entail impacts that would be similar to construction-related impacts. Smaller operations such as removal of weeds from the gabion embankment would entail little or no impacts.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the RCFC~~D~~&WCD. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measure~~ environmental commitments below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~ environmental commitments below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

7.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

C-1 A qualified archeologist and a Pechanga Tribe Native American monitor will monitor project ground-disturbing activities. The purpose will be to observe subsurface deposits for buried historic or prehistoric resources. If previously unknown resources are uncovered, construction in the area of the find will be temporarily halted. The find would be then be evaluated for the National Register of Historic Places (NRHP). If it were determined to be eligible for the NRHP, the Corps would consult with the SHPO on treatment of the remains in accordance with 36 CFR 800.13. The construction monitoring by the Pechanga Tribe will be conducted pursuant to the executed December 18, 2012 Master Cultural Resources Treatment and Tribal Monitoring Agreement between the RCFC&WCD and the Pechanga Tribe.

8.0 TRAFFIC

8.1 Affected Environment

The existing circulation system serving the project area is comprised of regional access routes and local streets.

8.1.1 Regional Access

Per the City of Murrieta's general plan, regional access to the Modified Phase II project area is provided primarily by I-15 and I-215 which traverse generally through the western and central portion of the Murrieta, respectively. SR-79, which travels along the eastern border of the City, also provides regional access from the northeast. A summary of the facilities that provide regional access is provided below.

Interstate 15

Also known as the Corona Freeway, the I-15 traverses in a generally north/southdirection, diagonally through the western portion of the City of Murrieta. To the north, I-15 continues through Riverside and San Bernardino Counties and is the link to the I-10 Freeway (San Bernardino Freeway) and State Routes 91 (Riverside Freeway) and 60 (Pomona Freeway), and the greater Los Angeles area. Near the City of Murrieta, daily traffic volumes on I-15 range from approximately 109,000 to 186,000 vehicles per day.

Interstate 215

Also known as the Escondido Freeway, the I-215 traverses in a north/south direction through the central portion of the City of Murrieta. To the north, I-215 continues through Riverside County and connects at its northerly terminus with SR-60 in the Moreno Valley area. Near the City of Murrieta, daily traffic volumes on I-215 range from approximately 83,000 to 91,000 vehicles per day.

State Route 79 (Winchester Road)

Also known as Winchester Road, SR 79 runs in a northeasterly direction from the interchange at the I-15 freeway through the eastern portion of the City of Murrieta toward the City of Hemet. SR-79 generally provides a parallel north/south route to the I-215 freeway, east of the freeway. Existing daily traffic volumes on SR-79 range from approximately 5,536 to 73,741 vehicles per day.

SR 79 also provides local access to the project area. The roadway spans Murrieta Creek with a 4-lane bridge. The 2011 traffic volume within the vicinity of the project area is approximately 73,741 vehicles per day.

8.1.2 Local Access

The project area can be accessed locally via four roads that cross Murrieta Creek.

First Street (Santiago Road)

First Street is an east/west roadway that traverses Murrieta Creek and the I-15. The roadway spans Murrieta Creek with a 4-lane bridge. The 2010 traffic volume within the vicinity of the bridge is approximately 3,775 vehicles per day.

Main Street

Main Street is a quarter-mile long road, diagonally aligned from the southwest to northeast. The roadway spans Murrieta Creek with a 2-lane bridge. Traffic data is not available for Main Street.

Rancho California Road

Rancho California Road is an east-west roadway that traverses Murrieta Creek and the I-15. The roadway spans Murrieta Creek with an 8-lane bridge. The 2011 traffic volume within the vicinity of the project area is approximately 50,884 vehicles per day.

Via Montezuma Road

Via Montezuma Road is an approximately half-mile long road, diagonally aligned from the southwest to northeast. The roadway crosses Murrieta Creek with an at-grade (Arizona) crossing. Accordingly, it is subject to periodic closures during high flow conditions in the creek. The 2011 traffic volume within the vicinity of the project area is approximately 2,928 vehicles per day.

Table 8-1. Average Daily Traffic

Roadway	Average Daily Traffic (2011)
Regional	
Interstate 15	109,000 – 186,000
Interstate 215	83,000 – 91,000
State Route 79 (Winchester Road)	73,741
Local	
First Street (Santiago Road)	3,775
Main Street	Data not available.
Rancho California Road	50,884
Via Montezuma Road	2,928

Source: City of Temecula, 2009-2011 Traffic Count Summary, http://www.cityoftemecula.org/NR/rdonlyres/7909E508-A258-40BF-A377-C4BF26E42637/0/ADT_2011_Sorted.pdf

8.2 Environmental Effects

8.2.1 Construction

Original Phase II Plan (No Action Alternative)

Construction Worker Commute Trips

According to the 2000 Final EIS/EIR (p. 4-144), construction worker commutes for the construction of the Original Phase II Plan would add approximately 85 daily roundtrips to the regional and local roadways.

Construction Truck Traffic

According to the 2000 Final EIS/EIR (p. 4-144), construction worker commutes for the construction of the Original Phase II Plan would add approximately 480 daily roundtrips to the regional and local roadways.

Based on the above, a total of 585 round trips would be added to regional and local roadways for construction of the Original Phase II Plan. The percent increase of 585 trips to the daily traffic volume for both regional and local roadways are shown in Table 8-2. Though the temporary increase in traffic (ranging from 0.3% to 0.8%) on regional roadways would be minimal, the temporary increase in traffic (ranging from 1% to 19%) would be substantial. The increase in traffic would be temporary, and would return to baseline levels upon completion of construction.

Table 8-2. Average Daily Traffic (ADT) and Percent Increase of ADT

Roadway	Average Daily Traffic (2011)	Percent Increase in ADT
Regional		
Interstate 15	109,000 – 186,000	0.5%-0.3%
Interstate 215	83,000 – 91,000	0.7%-0.6%
State Route 79 (Winchester Road)	73,741	0.8%
Local		
First Street (Santiago Road)	3,775	16%
Main Street	Data not available.	
Rancho California Road	50,884	1%
Via Montezuma Road	2,928	19%

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would entail the same traffic impacts as the Original Phase II Plan.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

8.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Operations and maintenance activities would vary in size, scope, and intensity of traffic impacts. Larger operations such as the removal of sediment and debris from the channel would entail traffic impacts that would be similar to construction-related impacts. Smaller operations such as removal of weeds from the gabion embankment would entail little or no impacts.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the RCFC~~D~~&WCD. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

8.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

T-1 A road improvement plan would be prepared during the final design stage of the project, and implemented during the construction phase. The plan would identify road segments, bridges, and culverts that need to be improved and turnout locations that need to be constructed to accommodate project construction, maintenance, and operational activities. The plan would also include measures for identifying any damage to existing roadways caused by construction vehicles. These damages would be repaired following completion of the project.

T-2 A traffic control plan would be prepared during the final design stage of the project, and implemented during the construction phase. The plan would address and outline appropriate vehicular speeds in construction areas; travel routes, detours, bridge closures, or lane/road closures; flagperson requirements; appropriate signage and safety reflectors; coordination with local city agencies/departments and Caltrans for appropriate notification to the public; any utility relocation requirements; the location of staging areas; safety procedures to reduce hazards to motorists, bicyclists and pedestrians; approach to ensuring access to businesses and residences; and emergency information. The traffic control plan would be reviewed by appropriate entities, including the City of Temecula. The final version of the plan would be submitted to all appropriate entities.

9.0 AIR QUALITY

9.1 Affected Environment

9.1.1 Air Quality Standard

The United States Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the local air district, the South Coast Air Quality Management District (SCAQMD), 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 (e.g., Federal) and state of California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) relevant to the Murrieta Creek Phase II project area are summarized below. At the Federal level, the South Coast Air Basin (SCAB) is designated as an extreme nonattainment area for ozone (O3) and a serious nonattainment area for respirable particulate matter less than 10 microns (PM10). The SCAB is also a nonattainment area for particulate matter less than 2.5 micron, (PM2.5). The status for carbon monoxide (CO) was recently upgraded to a "serious maintenance area" from nonattainment (County of Riverside, 2011). The SCAB is in attainment for nitrogen dioxide (NO2) and sulfur dioxide (SO2). At the state level, the SCAB is also designated as an extreme nonattainment area for O3 and a nonattainment area for PM2.5 and PM10. It is in attainment for the state CO, SO2, and NO2. Table 9-1 below summarizes the Federal and state attainment and nonattainment conditions for each of the air pollutants in the SCAB.

Table 9-1. Federal and State Attainment and Nonattainment Conditions

	Attainment Status	
Pollutant	Federal Status	State Status
Ozone (O_3)	Nonattainment	Nonattainment
Inhalable particulate matter (PM_{10})	Nonattainment	Nonattainment
Fine particulate matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Carbon monoxide (CO)	Attainment	Attainment
Nitrogen dioxide (NO_2)	Attainment	Attainment
Sulfur dioxide (SO_2)	Attainment	Attainment

Reference: CARB, 2011. USEPA, 2011

The attainment status in the Phase II project area has not changed since the 2000 EIS/EIR (Corps, 2000), with the exception of the PM2.5 and CO standards. PM2.5 standards were not implemented at the time of the 2000 EIS/EIR, and the attainment status for CO has been changed to nonattainment from attainment since the 2000 EIS/EIR.

Existing Air Quality

The nearest ambient air quality monitoring stations to the Phase II project area are as follows:

- Corona/Norco Station - upwind of the project area
- Rubidoux Station – upwind of the project area
- Magnolia - upwind of the project area

- Perris Valley - upwind of the project area
- Lake Elsinore - upwind of the project area

Table 9-2, Ambient Air Quality Standards for Criteria Pollutants - SCAB, cited below, identifies the national (Federal) and state ambient air quality standards for relevant air pollutants and provides a summary of highest ambient air quality measured at the five monitoring stations between 2007 and 2010 (County of Riverside, 2011). Data from these monitoring stations is considered representative of the Phase II project area for both short and long term ambient air quality depending upon the time of year, climate conditions, and air flow systems.

Table 9-2 Ambient Air Quality Conditions for Criteria Pollutants, SCAB, 2007-2010

Air Pollutant Monitored	Year			
	2007	2008	2009	2010[a]
Ozone (O_3)				
Maximum 1-hour concentration (ppm)	0.139	0.146	0.128	0.122
# of days exceeding state 0.09 ppm 1-hr standard	66	65	53	46
Maximum 8-hour concentration (ppm)	0.116	0.118	0.108	0.107
# of days exceeding national 0.075 ppm 8-hr standard	73	77	67	50
# of days exceeding state 0.07 ppm 8-hour standard	88	94	88	77
Nitrogen Dioxide (NO_2)				
Maximum 1-hour concentration (ppm)	0.07	0.09	0.08	0.062
# of days exceeding state 0.18 ppm 1-hr standard	0	0	0	0
Annual average (ppm)	0.0206	0.0258	0.0200	0.015
# of days exceeding state 0.03 ppm annual average	0	0	0	N/A
# of days exceeding national 0.0534 ppm annual average	0	0	0	N/A
Carbon Monoxide (CO)				
Maximum 1-hour concentration (ppm)	4	7	3	N/A
# of days exceeding national 35.0 ppm 1-hr standard	0	0	0	N/A
# of days exceeding state 20.0 ppm 1-hr standard	0	0	0	N/A
Maximum 8-hour concentration (ppm)	2.9	2.0	2.4	1.94
# of days exceeding national 9.0 ppm 8-hr standard	0	0	0	0
# of days exceeding state 9.0 ppm 8-hr standard	0	0	0	0
Suspended Particulates (PM_{10})				
Maximum 24-hour concentration ($\mu g/m^3$)	142	135	108	89
# of days exceeding national 150 $\mu g/m^3$ 24-hour standard	0	0	0	0
# of days exceeding state 50.0 $\mu g/m^3$ 24-hour standard	41	49	33	23
Annual average concentration ($\mu g/m^3$)	68.5	57.4	53.4	42.3
Suspended Particulates ($PM_{2.5}$)				
Maximum 24-hr concentration ($\mu g/m^3$)	75.7	57.7	49.3	54.2
# of days exceeding national 35 $\mu g/m^3$ 24-hour standard	33	14	16	8
Sulfur Dioxide (SO_2)[a]				
Maximum 24-hr concentration (ppm)	0.002	0.003	0.003	N/A
# of days exceeding state 0.04 ppm 24-hr standard	0	0	0	N/A

Reference(s):

1. Southern California Air Quality Management District (SCAQMD), http://www.aqmd.gov/smog/historicaldata.htm. Accessed September 2012.
2. California Air Resources Board (CARB), http://www.arb.ca.gov/adam/. Accessed September 2012.

Notes: ppm means parts per million; mg/m^3; micrograms per cubic meter.

a. 2010 values were obtained from CARBs iADAM: Air Quality Data Statistics database.

As identified in Table 9-2, the state one-hour standard for ozone was exceeded 230 times during the four-year period. The national eight-hour ozone standard was exceeded 267 times, and the state eight-hour standard was exceeded 347 times during this same period. The State 24-hr standard for PM10 was exceeded 146 times between 2007 and 2010, while the PM2.5 Federal 24-hr standard was exceeded 71 times. There were no exceedances observed for CO, NO2, or SO2 during this four-year period.

9.2 Environmental Effects

9.2.1 Construction

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would involve excavating and grading approximately 70 acres of Murrieta Creek. Vegetation within the excavation footprint would be cleared and grubbed. Approximately, 1,100,481 cubic yards of alluvial substrate would be removed from the channel invert to lower the invert elevation by approximately 3 to 8 feet. The excavated material would be transported to the nearby landfill. There would also be substantial earthwork associated with the excavation and construction of the 270-acre detention basin upstream of Winchester Road. Furthermore, Main Street Bridge would also be replaced. Air quality calculations from the 2000 Final EIS/EIR indicate that emissions of criteria pollutants would surpass the SCAQMD daily construction threshold, but would be in compliance with General Conformity requirements.

Table 9-3. Comparison of Estimated Emissions

Pollutant	Federal de minimis construction thresholds (tons/year)	2000 Final EIS/EIR estimated emissions (tons/year)[1]	SCAQMD construction significance thresholds (lbs/day)	2000 Final EIS/EIR estimated emissions (lbs/day)[2]
Volatile organic compounds (VOC)	10	--	75	67.5
Nitrogen Dioxide (NO2)	10	--	100	679.1
Carbon monoxide (CO)	100	72.94	550	536.2
PM 10	70	64.60	150	508.9

Reference 1: 2000 Final EIS/EIR – Appendix J, Table 5.
Reference 2: 2000 Final EIS/EIR –Table 4.4-6.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would involve excavating and grading and disturbance from equipment and vehicle access to approximately 122.421 acres of Murrieta Creek, which have been subject to past construction and maintenance. Vegetation within the excavation footprint would be cleared and grubbed. Approximately, 952,000 cubic yards of alluvial substrate would be removed from the channel invert. The excavation depth would range from 2 feet to 11 feet depending on the location along the creek. The excavated earthen channel would vary in slope to lower the invert elevation to depths ranging from 3 to 8 feet. Construction would also involve creating steeper side slopes when compared to the Original Phase II Plan. The Modified Phase II Plan would change the side slopes over most of the project area from 3:1 (using gabions) to 2:1 (using soil cement). A grouted stone drop structure would be constructed approximately 300 feet upstream of Rancho California Road. A 3520 to 150125 foot wide unmaintained vegetated corridor would be, starting from the upstream end of the Project to about 700 feet upstream of Rancho California Road, the unmaintained riparian strip would range from 100 to 150 feet in width. The unmaintained riparian low-flow corridor would then narrow to 35 feet in width through the Old Town reach and then gradually widen to 70 feet before connecting with the Phase I channel improvements. constructed between Rancho California Road downstream to the project terminus. The Main Street bridge replacement would not be replacedincluded in the modified Phase II plan. Accordingly, there would be no discharge of concrete for the construction of bridge piers and abutments. The Modified Phase II Plan would exclude the construction of the 270-acre detention basin upstream of Winchester Road.

Emissions were estimated using the California Emission Estimator Model (CalEEMod) Versions 2011.1.1 provided by the SCAQMD (SCAQMD, 2012) and included emission factors for years 2013 and 2014 off-road and on-road vehicle emissions factors since the Modified Phase II Plan project would span two different years, 2013 2014 and 20154, and could take approximately 1822 months to construct. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions. There would be approximately 20 laborers working on the project during construction. The Murrieta Creek Phase II project construction schedule, the proposed Equipment List are located in Appendix D, and the CalEEMod generated air quality calculations and summaries are located in Appendix D of this document. The SCAQMD CEQA Air Quality Handbook Website (SCAQMD, 2012) was also referenced for air emission factors. It should be noted that the Equipment List that was used for the Murrieta Creek Phase II project CalEEMod analysis was the default Equipment list in CalEEMod, which contained a greater number of equipment proposed for Modified Phase II Plan project than the proposed Equipment List cited in Appendix D. It should also be noted that the Winter (lbs/day) emissions results were used from the CalEEMod for the SCAQMD construction and operation comparisons since the Winter emissions had slightly higher emissions for most of the criteria pollutants of concern though the Summer (lb/day) emissions results from CalEEMod were also run and included in Appendix D.

A comparison of the maximum (worse-case scenario) yearly (tons/year) construction emissions and maximum (worse-case scenario) daily construction emissions (lbs/day) of the Modified Phase II Plan proposed project are shown below in Table 9-4 and Table 9-5, respectively.

Table 9-4 Comparison of Federal de minimis construction thresholds (in Tons/Year) and Modified Phase II Plan maximum (worst case scenario) construction estimated emissions (Tons/Year), Years 2013 and 2014

Pollutant	Federal de minimis construction thresholds[1] (tons/year)	2013 estimated emissions[2] (tons/year)	2014 estimated emissions[2] (tons/year)
Volatile organic compounds (VOC)	10	1.16	0.57
Carbon monoxide (CO)	100	5.40	2.74
Nitrogen Dioxide (NO2)	10	9.22	3.82
Sulfur Dioxide (SO2)	100	0.01	0.01
PM 10	70	1.84	0.25
PM 2.5	100	1.18	0.25

Reference 1: 40 CFR 93.153 (USEPA. 2011); and Appendix D of this document.
Reference 2: CalEEMOD, 2012, SCAQMD, 2012; and Appendix D of this document.

As summarized in Table 9-4 above, the estimated construction emissions for the Modified Phase II Plan are below the yearly Federal *de minimis* thresholds established by the U.S. EPA for conformity analyses (U.S. EPA, 2011). Therefore, a conformity determination is not required.

As summarized in Table 9-5 below, The estimated construction emissions for the Modified Phase II Plan are below the SCAQMD construction thresholds (lbs/day) established by the SCAQMD for the SCAB (SCAQMD, 2011).

Based on the above, the estimated annual emissions associated with the construction of the Modified Phase II Plan are less than the General Conformity de minimis thresholds, and the estimated daily emissions are less than the SCAQMD construction significance thresholds. Therefore, the Modified Phase II Plan would have less than significant impact on air quality.

Table 9-5. Comparison of SCAQMD construction thresholds (in lbs/day) and Modified Phase II Plan maximum (worst case scenario) estimated emissions (lbs/day), Years 2013 and 2014

Pollutant	SCAQMD construction significance thresholds [1] (lbs/day)	2013 estimated emissions[2] (lbs/day)	2014 estimated emissions[2] (lbs/day)
Volatile organic compounds (VOC)	75	11.98	5.30
Carbon monoxide (CO)	550	54.22	23.20
Nitrogen Dioxide (NO2)	100	97.62	32.19
Sulfur Dioxide (SO2)	150	0.10	0.04
PM 10	150	22.29	2.97
PM 2.5	55	13.88	2.75

Reference 1: SCAQMD, 2011.; http://www.aqmd.gov/ceqa/handbook/signthres.pdf
Reference 2: CalEEMod, SCAQMD, 2012; and Appendix D of this document.

Localized significant threshold (LST) for SRA No. 26 (Temecula Valley) are summarized below in Table 9-6 for the applicable air pollutants [e.g., CO (construction and operation threshold); NO2 (construction and operation threshold); PM10 (construction threshold); PM2.5 (construction threshold), SCAQMD, 2009] and compared to the Modified Phase II Plan construction estimated emissions (lbs/day). Source Receptor Area (SRA) No. 26 (Temecula Valley), a 5 acre site, and 100 meter receptor distance from boundary of site are the criteria selected for the LST.

As summarized in Table 9-6 below, the estimated construction emissions for the Modified Phase II Plan are below the LST thresholds (lbs/day) established by the SCAQMD for SRA No. 26 (Temecula Valley) (SCAQMD, 2011). Therefore, Modified Phase II Plan impact would be less than significant on air quality.

Table 9-6. Comparison of SCAQMD localized significant thresholds (in lbs/day) and Modified Phase II Plan maximum (worst case scenario) estimated emissions (lbs/day), Years 2013 and 2014

Air Pollutant	SCAQMD Localized Significant Threshold (LST) significance thresholds [1] (lbs/day)	2013 Murrieta Creek Phase II Alternative construction estimated emissions[2] (lbs/day)	2014 Murrieta Creek Phase II Alternative construction estimated emissions[2] (lbs/day)
Volatile organic compounds (VOC)	NA	11.98	5.30
Carbon monoxide (CO)	4,282	54.22	23.20
Nitrogen Dioxide (NO2)	520	97.62	32.19
Sulfur Dioxide (SO2)	NA	0.10	0.04
PM 10	59	22.29	2.97
PM 2.5	16	13.88	2.75

Note: NA denotes "not applicable"
Reference 1: SCAQMD, 2009: http://www.aqmd.gov/ceqa/handbook/LST/appC.pdf.
Reference 2: CalEEMod, SCAQMD, 2012; and Appendix D of this document.

Based on the above, the estimated annual emissions associated with the construction of the Murrieta Creek Phase II Project are less than the General Conformity de minimis thresholds, are less than the estimated SCAQMD SCAB daily significance thresholds (lbs/day) for construction and operation, and are less than the SCAQMD LST significance thresholds for SRA No. 26 (Temecula Valley). Therefore, based on the above, the Murrieta Creek Phase II Project would have less than significant impact on air quality.

In comparison to the Original Phase II Plan where the emissions of criteria pollutants were above the SCAQMD threshold, emissions associated with the Modified Phase II Plan are below the SCAQMD threshold. There are a number of reasons for the reduction in emissions. First, due to the larger channel width allowed by the use of steeper 3:1 slopes in various sections of the Phase II project reach, the volume of substrate to be excavated was reduced from 1,100,481 cubic yards to 952,000 cubic yards. Furthermore, the Original Phase II Plan evaluated air-quality impacts on the assumption that the excavated material would be transported off-site possibly for placement in a landfill. Therefore, there were additional emissions associated with on road trucks used to hold the excavated material off-site. Second, the Original Phase II Plan compressed the

construction schedule into a 15 month window. However, the Modified Phase II Plan extended the construction window over ~~22~~ 18 months. Last, it is likely that CalEEMod, the modeling software used to estimate emissions, incorporated a newer fleet mix into its algorithm.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of mitigation measures from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

9.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Operations and maintenance activities would vary in size, scope, and intensity of air quality impacts. Larger operations such as the removal of sediment and debris from the channel would entail traffic impacts that would be similar to construction-related impacts. Smaller operations such as removal of weeds from the gabion embankment would entail little or no impacts.

In a worst-case scenario, operations and maintenance activities would entail excavation of accumulated debris and sediment from the entire 70-acre area. In such a case, air quality impacts would be similar to those for construction in the year 2013. Accordingly, worst-case air-quality emissions would likely be less than the SCAQMD significant thresholds.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the ~~RCFCDWCD~~RCFC&WCD. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

9.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

AQ-1 Require 6.9 grams per horsepower standard for heavy duty construction equipment on- and off-road.

AQ-2 Require injection timing retard of 2 degrees on all diesel vehicles, where applicable.

AQ-3 Install high-pressure injectors on all vehicles, where feasible.

AQ-4 Use Caterpillar pre-chamber diesel engines or equivalent, and perform proper maintenance and operation.

AQ-5 Electrify equipment, where feasible.

AQ-6 Maintain equipment in tune with manufacturers' specifications, except as otherwise stated above.

AQ-7 Restrict the idling of construction equipment to 10 minutes.

AQ-8 Install catalytic converters on gasoline-powered equipment.

AQ-9 Substitute gasoline-powered for diesel-powered, where feasible.

PM_{10} Emissions

The following PM_{10} reducing construction practices would be implemented throughout the construction period:

AQ-10 The speed limit on all unpaved roads would be 10 MPH.

AQ-11 Gravel roads would be constructed for unpaved access/egress roads, and these roads would be watered hourly.

AQ-12 All handled (i.e. loaded/unloaded) soil would be watered to 25 percent moisture, and active excavation/grading areas would be watered hourly to ensure 15 percent moisture.

AQ-13 Street sweepers would be active at each unpaved road access/egress point for soil export (on- and off-site) and each on-site unpaved road access/egress point or materials import. Three street sweepers would be cleaning the entire soil export paved road route, beginning daily operation in the morning prior to the first haul truck and ending

daily operation after cleaning the roadway after the passage of the last haul truck. The street sweepers will be wet-type "street washers" that will meet the requirements of SCAQMD Rule 1186 for PM_{10} efficient street sweepers.

AQ-14 Soil haul trucks would be covered, would have 18 inches of freeboard and would have soils on the top of the load watered, or shall be sufficiently wet to mitigate emissions.

AQ-15 Inactive storage piles would be covered.

AQ-16 All grading activities would be prohibited during periods of high wine (i.e., winds greater than 30 mph).

AQ-17 Nontoxic chemical soil stabilizers would be applied to inactive construction areas (i.e., disturbed lands within construction areas that are unused for at least 4 consecutive days), or water at least twice daily.

AQ-18 Nontoxic binders (i.e., latex acrylic copolymer) will be applied to exposed areas after cut-and –fill operations and hydroseed the areas if appropriate for the project location.

AQ-19 Wheel washers would be installed for all exiting trucks.

10.0 GREENHOUSE GASES

10.1 Affected Environment

Green House Gasses (GHGs) differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures or change in global climate. This, in turn, has numerous indirect effects on the environment and humans.

Some climate changes that have already been observed include shrinking glaciers, thawing permafrost, later freezing and earlier break-up of ice on rivers and lakes, a lengthened growing season, shifts in plant and animal ranges, and earlier flowering of trees. Longer-term environmental impacts of global warming may include a rise in sea level, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems with potential losses of species, and a significant reduction in the winter snow pack. Some estimates show a 30 to 90 percent reduction in snow pack in the Sierra Nevada mountain range. Current data suggest that in the next 25 years, in every season of the year, the state of California could experience unprecedented heat, longer and more extreme heat waves, greater intensity and frequency of heat waves, and longer dry periods. More specifically, the California Climate Change Center predicts that California could witness the following events:

- Temperature rises between 3 to 10.5ºF
- 6 to 20 inches or more of sea level rise
- 2 to 4 times as many heat-wave days in major urban centers
- 2 to 6 times as many heat-related deaths in major urban centers
- 1 to 1.5 times more critically dry years
- 10 to 55 percent increase in the risk of wildfires

10.2 Environmental Effects

10.2.1 Construction

Original Phase II Plan (No Action Alternative)

Evaluations of the impacts of GHGs were not required at the time of the 2000 Final EIR/EIS. Accordingly, there are no GHG data available for comparison in this SEA/SEIR Addendum.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Alternative would create temporary GHG emission during construction. The proposed project has an expected life of 50 years. GHG emission associated with the Modified Phase II Plan would yield 894 metric tons (MT) per year in 2013, and 428 MT per year in 2014.

There are currently no NEPA numerical thresholds for evaluating whether GHG emissions entail significant impacts. However, the Council on Environmental Quality has established a 25,000 metric tons per year threshold for determining whether additional evaluation of GHGs under

NEPA is warranted. The SCAQMD's 10,000 metric tons per year threshold is utilized under CEQA to determine whether emissions of GHGs are significant.

Table 10-1. Federal and State GHG Emissions Thresholds

		Comparison to State and Federal Thresholds	
Year	GHG Emissions (metric tons/year)	NEPA Evaluation Threshold (metric tons/year)	CEQA Significant Threshold (metric tons/year)
2013	894	25,000	10,000
2014	428	25,000	10,0000

NEPA Impact Determination

No significant impact determination under NEPA is made since there are no federal thresholds for GHGs. However, the implementation of the Modified Phase II Plan would result in emissions below the 25,000 metric tons per year threshold requiring further evaluation of GHG mission.

CEQA Impact Determination

Based on the above, the implementation of the Modified Phase II Plan would result in less than significant impacts.

10.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Evaluations of the impacts of GHGs were not required at the time of the 2000 Final EIR/EIS. Accordingly, there are no GHG data available for comparison in this SEA/SEIR.

Modified Phase II Plan (Preferred Alternative)

Operations and maintenance activities would vary in size, scope, and intensity of air quality impacts. Larger operations such as the removal of sediment and debris from the channel would entail GHG emissions that would be similar to construction-related emissions. Smaller operations such as removal of weeds from the soil-cement riprap ~~gabion~~ embankment would entail little or no impacts.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

No significant impact determination under NEPA is made since there are no federal thresholds for GHGs. However, the implementation of the Modified Phase II Plan would result in emissions below the 25,000 metric tons per year threshold requiring further evaluation of GHG mission.

CEQA Impact Determination

Based on the above the implementation of the Modified Phase II Plan would result in less than significant impacts.

10.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

Measures AQ-1 through AQ-9 as identified under Air Quality are proposed to minimize impacts from green house gases.

11.0 LAND USE

11.1 Affected Environment

The Phase II project reach traverses for the most part through the commercial and industrial portion of the city of Temecula. In general, land use on river left is primarily commercial and industrial from the upstream terminus, approximately 200 feet upstream of the Winchester Road Bridge to the downstream terminus, approximately 1,000 feet downstream of 1st St. On river right, the land use is primarily commercial and industrial from the upstream terminus to Rancho California Road. From Rancho California Road to the downstream terminus, land use on river right is primarily multiunit residential complexes. Land uses adjacent to lands owned by the RCFC&WCD on both river left and right are described in detail below from the upstream terminus to the downstream terminus.

Upstream Terminus (200 feet upstream of Winchester Road) to the Winchester Road Bridge

This reach is approximately 201 linear feet in length. On the river right, there is a large commercial building with large paved parking lot, and a recreational park. On the river left, there is a large commercial building with large paved parking lot, and one unpaved dirt lot.

Winchester Road Bridge to Via Montezuma Bridge

This reach is approximately 3,729 linear feet in length. On the river right, there are 72 commercial/industrial buildings with paved parking lots, and three unpaved lots. On the river left, there are 99 commercial/industrial buildings with paved parking lots, and two unpaved lots.

Via Montezuma Bridge to Rancho California Road Bridge

This reach is approximately 4,178 linear feet in length. On the river right there are 32 commercial/industrial buildings with paved parking lots, and three large-sized unpaved lots. On the river right, there are 38 commercial/industrial buildings with paved parking lots, and nine unpaved lots.

Rancho California Road Bridge to Main Street Bridge

This reach is approximately 2,750 linear feet in length. On the river right, there are 51 commercial/industrial buildings with paved parking lots; 16 residential homes; one large playing field; and six unpaved lots. On the river left, there are 44 commercial/industrial buildings with paved parking lots; 19 unpaved lots; and 29 residential homes.

Main Street Bridge 4 to Santiago Road Bridge

This reach is approximately 1,080 linear feet in length. On the river right, there are 4 commercial/industrial buildings with paved parking lots; 6 unpaved lots; and 47 multiunit residential complexes. On the river left, there are 36 commercial/industrial buildings with paved parking lots, and 28 unpaved lots.

1st Street Bridge to Downstream Terminus (1,000 feet downstream of 1st Street Bridge)

This reach is approximately 1,020 linear feet in length. On the river right, there are 9 multiunit residential homes complexes; 4 unpaved lots; and a city park. On the river left, there are 9 commercial/industrial buildings with paved parking lots, and 5 unpaved lots.

Table 11-1. Overview of Land Use

		Land Uses - River Right				Land Uses - River Left			
Location	Linear Feet (LF)	Commercial/ Industrial Buildings (units)	Multiunit Residential Complexes (units)	Parks (number)	Unpaved Lots (number)	Commercial/ Industrial Buildings (units)	Multiunit Residential Complexes (units)	Parks (number)	Unpaved Lots (number)
Upstream Terminus to Winchester Road Bridge	201 LF	1	0	1 (park)	0	1	0	0	1
Winchester Road Bridge to Via Montezuma Bridge	3,729 LF	72	0	0	3	99	0	0	2
Via Montezuma Bridge to Rancho California Road Bridge	4,178 LF	32	0	0	3	38	0	0	9
Rancho California Road Bridge to Main Street Bridge	2,750 LF	51	16	1 (field)	3	44	29	0	19
Main Street Bridge to 1st Street Bridge	1,080 LF	4	47	0	6	36	0	0	28
1st Street Bridge 5 to Downstream Terminus	1,020 LF	0	9	1 (park)	4	9	0	0	5

11.2 Environmental Effects

11.2.1 Construction

Original Phase II Plan (No Action Alternative)

The Western Riverside Council of Governments (WRCOG) submitted a comment letter on the Draft EIS/EIR regarding the consistency of the project with the Western Riverside Subregional Comprehensive Plan (SRCP) (see Part II of the Final EIS/SEIR for a copy of this comment letter and the corresponding responses). As indicated in this letter, the project is consistent with the Water Resources Element, Open Space and Habitat Conservation Element of the SRCP. In

addition, the project was determined to be in conformance with SRCP policies related to Water Quality and Quality of Life. According to the WRCOG, the project is also consistent with the Southern California Association of Governments (SCAG) Regional Comprehensive Plan and Guide.

Channel Modifications

The project would be constructed on RCFC&WCD-owned lands between 200 feet upstream of Winchester Road and 1000 feet downstream of 1st Street. The proposed flood channel modifications would not change or interfere with the surrounding land uses. No existing structures would be demolished during construction or upon completion of the channel modifications.

Main Street Bridge Replacement

Replacement of the Main Street Bridge would not conflict with existing land uses in the area. The new bridge would be slightly wider and longer than the existing bridge, and it would be compatible with the surrounding uses.

Staging Areas

Construction materials and equipment would be staged and stored at RCFC&WCD-owned undeveloped lots or undeveloped lots lease from private owners for the duration of construction. Temporary storage and staging areas established in the upland may temporarily conflict with planned land uses. However, staging and storage areas would be returned to their pre-project uses upon completion of construction.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would continue to utilize the staging and storage areas identified in the Original Phase II Plan. Accordingly, there would be no changes between the Original Phase II Plan and the Modified Phase II plan.

General Plan and Policies

The project is located within the City of Temecula and therefore would be subject to the general plans and policies of the City of Temecula General Plan. The proposed project would be consistent with the applicable plans and policies of the City of Temecula.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

11.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

As identified in the 2000 Final EIS/EIR and summarized in Section 3.0, future maintenance activities would be regularly conducted within the project area by the RCFC&WCD. All operations and maintenance activities will occur within RCFC&WCD-owned lands, and would not interfere with surrounding land uses.

Operations and maintenance activities would vary in size and scope. Larger operations such as the removal of sediment and debris from the channel may require the use of staging and storage area in the upland. If needed, construction materials and equipment would be staged and stored at RCFC&WCD-owned undeveloped lots or undeveloped lots lease from private owners for the duration of construction. Temporary storage and staging areas established in the upland may temporarily conflict with planned land uses. However, staging and storage areas would be returned to their pre-project uses upon completion of construction.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the RCFC&WCD. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

11.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

No environmental commitments under NEPA or mitigation measures under CEQA are proposed.

12.0 AESTHETICS

12.1 Affected Environment

The Phase II project reach traverses for the most part through the commercial and industrial portion of the city of Temecula. In general, land use on river left is primarily commercial and industrial from the upstream terminus, approximately 200 feet upstream of the Winchester Road Bridge to the downstream terminus, approximately 1,000 feet downstream of 1st St. On river right, the land use is primarily commercial and industrial from the upstream terminus to Rancho California Road. From Rancho California Road to the downstream terminus, land use on river right is primarily multiunit residential complexes. The viewscape of the project reach is described below.

The viewscape within Murrieta Creek is composed of a wide, sandy, and vegetated channel. The embankments are earthen embankment covered with vegetation. There are some areas of the embankment where concrete has been discharged from the top of slope to the channel. Debris is present in the some parts of the channel, particularly near bridges. Numerous tire tracks traverse the creek, indicating the use of vehicles. The normal water flow from the creek is relatively small compared to the entire width of the channel and the water course meanders slightly. In some locations the creek supports vegetation and wildlife.

The viewscape of the uplands adjacent to the project reach is composed of a built urban environment. Shopping centers, manufacturing facilities, parking lots, bridge crossings, and multi-unit residences are the dominant visual elements within the viewscape. The area encompasses Old Town Temecula, an area containing older historic buildings. Accordingly, many restored historic buildings and buildings constructed or renovated to blend in with the old town architectural theme, along with reproductions of period street lamps, sidewalks, and other streetscape help to create a visually amalgamated viewscape.

12.2 Environmental Effects

12.2.1 Construction

Original Phase II Plan (No Action Alternative)

There would be temporary impacts to the viewscape within the channel during construction. During construction, earthmoving equipment would be operating within the channel to widen and deepen the channel to design specifications. Portions of the work area would be devoid of vegetation for the duration of construction. Immediately, upon completion of construction a barren, soft-bottom engineered channel with gabion embankments would be the dominant visual elements within the viewscape. Because the gabions would be filled with rocks, the channel embankments would exhibit a gray hue, instead of earth tones associated with earthen embankments. Over time, vegetation would be reintegrated into the viewscape within the channel upon planting and maturation of vegetation on the vegetated corridor. With the exception of empty lots that would be used to temporarily store and stage equipment, the viewscape of the uplands adjacent to the project reach would remain unchanged.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would entail the same impacts as the Original Phase II Plan with the exception of the following changes. First, the Modified Phase II Plan would incorporate a larger vegetated corridor within the channel invert. Whereas the Original Phase II Plan would construct a vegetated corridor that would range in width from 20 to 60 feet, the range in width of the vegetated corridor in the Modified Phase II Plan would be approximately 35~~20~~ to 150 feet. Therefore, there would be a slight increase in vegetation within the viewscape of the channel. Second, the gabion embankments from the Original Phase II project would be replaced with soil cement embankment in the Modified Phase II Plan. The texture and color of the soil cement embankment would more closely match the existing surrounding and have a less engineered appearance.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

12.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Operations and maintenance activities would vary in size, scope, and intensity. Larger operations such as the removal of sediment and debris from the channel would temporarily impact the viewscape within the channel during construction. Smaller operations such as removal of weeds from the gabion embankment would entail little or no impacts. The vegetated corridor would not be subject to operations and maintenance activities. Therefore, the vegetation elements within the viewscape of the channel would remain unaffected during operations and maintenance activities.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the ~~RCFCDWCD~~RCFC&WCD. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

12.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

No environmental commitments under NEPA or mitigation measures under CEQA are proposed.

13.0 NOISE

13.1 Affected Environment

Existing Noise Levels

The project reach is within the vicinity of Interstate 15. Furthermore, it traverses for the most part through the commercial and industrial portion of the city of Temecula. Accordingly, the noise environment within the project area is dominated by vehicle-generated sound. Interstate 15, Rancho California Road, and Winchester Road are the major roadways contributing to the ambient noise levels. The City of Temecula's general plan projects the ambient noise throughout the project reach to be approximately between 70-75 dBA CNEL. The projected noise levels are within acceptable limits for multi-unit residential units and light industrial uses.

Sensitive Receptors

Noise sensitive uses generally include residential areas, schools, libraries, offices, hospitals, churches, hotels, motels, and outdoor recreational areas where low ambient noise levels are desirable.

The project reach traverses for the most part through the commercial and industrial portion of the city of Temecula. In general, land use on river left is primarily commercial and industrial from the upstream terminus, approximately 200 feet upstream of the Winchester Road Bridge to the downstream terminus, approximately 1,000 feet downstream of 1st St. On river right, the land use is primarily commercial and industrial from the upstream terminus to Rancho California Road. From Rancho California Road to the downstream terminus, land use on river right is primarily multiunit residential complexes. Therefore, most sensitive receptors with the exception of multi-unit residential complexes are absent from the project reach.

City Noise Ordinance

Noise limitations in the city of Temecula are found in the General Plan, adopted in 1993 and updated in 2005, as well as the Temecula Municipal Code. The Temecula noise ordinance limits construction noise whenever it is within 0.25 mile of an occupied residence as follows:

- No construction activity is to be held between the hours of 6:30 p.m. and 7:00 a.m. Monday through Friday.
- Construction is authorized on Saturday between the hours of 7:00 a.m. and 6:30 p.m.
- No construction work is to be done on Sundays and holidays unless authorized by the city.

13.2 Environmental Effects

13.2.1 Construction

Original Phase II Plan (No Action Alternative)

Typical equipment that would be used during construction would include graders, loaders, rollers, bulldozers, trucks, scrapers, pumps, and generators. Construction activities are expected to occur five days per week for 10 hour days, over a 15-month period. Noise levels associated with various types of equipment are shown in Table 13-1 below.

Table 13-1. Equipment Noise Levels

Equipment	Noise Levels at 50 feet (dBA)
Grader	85
Loader	85
Roller	75
Bulldozer	85
Truck	88
Scraper	89

References: FTA, 1995.

Noise levels are atmospherically attenuated by a factor of 6 dB per doubling of the distance. Potential noise levels at various distances are shown in Table 13-2 below.

Table 13-2. Potential Noise Levels At Various Distances

Distance from Construction Activities (ft)	Noise Levels (dBA)
50	80 - 90
100	74 – 84
200	68 – 78
400	66 – 72
800	60 – 66

Reference: USEPA, 1972.

As discussed above, the existing noise environment is dominated by vehicle-generated sound from nearby interstates, major roadways, and land uses. The projected noise levels within the vicinity of the project reach ranges from 70-75 dBA CNEL. Moreover, structures adjacent to the project reach are located approximately 100 to 200 feet away from the earthen embankments. At a distance of 100 feet, construction noise would be reduced to approximately 74-84 dBA per Table 13-2. At a distance of 200 feet, construction noise would be reduced to approximately 68-78 dBA. Structures at these distances would be exposed to noise levels elevated between 5 and 10 dBA above the ambient noise levels. Noise impacts beyond these distances would be minimal.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would entail the same noise impacts as the Original Phase II Plan.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

13.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Operations and maintenance activities would vary in size, scope, and intensity of noise impacts. Larger operations such as the removal of sediment and debris from the channel would entail noise impacts that would not similar to construction-related noise impacts. Smaller operations such as removal of weeds from the soil cement embankment would entail little or no noise impacts.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the ~~RCFCDWCD~~RCFC&WCD. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the

Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

13.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

N-1 Construction or maintenance activities within 0.25 mile of residences or other noise-sensitive uses will be restricted to daytime hours. No construction or maintenance activities will be performed within 0.25 mile of noise sensitive uses on Sundays, on legal holidays, or between the hours of 6:30 p.m. and 7:00 a.m. Monday through Friday and Saturday, as per City of Temecula.

N-2 All construction and maintenance equipment will have sound-control devices that are at least as effective as those devices provided on original equipment. No equipment will have an unmuffled exhaust.

N-3 The contractor will implement appropriate additional noise mitigation measures, including, but not limited to, changing the location of stationary construction and maintenance equipment, shutting off idling equipment, rescheduling construction and maintenance activity, notifying adjacent residents in advance of construction and maintenance work, and installing acoustic barriers around construction and maintenance noise sources.

14.0 HAZARDOUS MATERIALS

14.1 Affected Environment

The project reach traverses for the most part through the commercial and industrial portion of the city of Temecula. In general, land use on river left is primarily commercial and industrial from the upstream terminus, approximately 200 feet upstream of the Winchester Road Bridge to the downstream terminus, approximately 1,000 feet downstream of 1st St. On river right, the land use is primarily commercial and industrial from the upstream terminus to Rancho California Road.

Consistent with the commercial and industrial land uses adjacent to the project reach, the 2000 Final EIS/EIR identified multiple contaminated sites most of which are located on Front Street or Diaz Road, river left (p. 3-121). Six leaking underground storage tanks were identified on properties adjoining the project reach (p. 3-121):

- Unocal Station on Rancho California Road (gasoline)
- Bianchi International on Calle Cortez (gasoline)
- C.L. Pharris Ready-mix Plant (diesel)
- Rancho California Water District on Diaz Road (diesel)
- Delta Discount Gas on Front Street (gasoline?)
- Temecula Fuel Center on Front Street (diesel)
- ARCO Station on Ynez Road (fuel)

Other sources of contamination in the area include:

- Borg Warner facility on Front Street (trichloroethylene)
- Rainbow Canyon Manufacturing (chromium-contaminated groundwater)
- Temecula Bailey Pipe and Supply on Del Rio Road

14.2 Environmental Effects

14.2.1 Construction

Original Phase II Plan (No Action Alternative)

The entire Murrieta Creek Flood Control Project is an ecosystem restoration and flood risk minimization project. The project does not entail the construction of manufacturing facilities or buried underground storage tanks.

The Original Phase II Plan would involve excavating and grading approximately 70 acres of Murrieta Creek. Vegetation within the project footprint would be cleared and grubbed. Approximately, 1,100,481 cubic yards of alluvial substrate would be removed from the channel invert to lower the invert elevation by approximately 3 to 8 feet. The contaminated sites identified above are all located in the uplands outside of ~~RCFCDWCD~~RCFC&WCD-owned lands. Therefore, work within the channel and the embankments would not occur on earth or disturb contaminated sites in the uplands. Although no known hazardous materials waste sites would be affected by this project, the potential exists to encounter previously undocumented

hazardous materials and wastes originating from previous uses of the properties that would be affected by the project. Signs of potential contamination would include buried underground storage tanks or other containers, soil discoloration, and unusual odors. Although contaminated areas may be encountered, there is no documentation indicating that any exist in the study area. Thus, it is likely that any areas of contamination would be minor and would affect relatively small areas. However, if contamination is encountered, ~~mitigation measures~~environmental commitments at Section 13.3 would be implemented to reduce to minimize the impact.

The potential exists for localized spills of petroleum-based products, concrete, paints, or other chemicals during construction. These spills could expose construction workers and the public to hazardous materials either directly, at the site of the spill, or indirectly, by introducing these substances into storm runoff. Implementation of water quality ~~mitigation measures~~environmental commitments at Section 5.3 would minimize potential for the production of petroleum-based products into the channel during construction.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would entail the same potential impacts as the Original Phase II Plan.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

14.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Potential impacts to utilities would vary with respect to the size, scope, and type of operations and maintenance activities undertaken. For example, activities requiring excavation would increase the possibility of unearthing previously unidentified contaminated sites. Discharge of riprap to protect an embankment would entail less risk of unearthing contaminated sites. Smaller operations such as removal of weeds from the soil cement embankment would entail little or no impacts.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the ~~RCFCDWCD~~RCFC&WCD. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to

Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

14.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

HZ-1 If a contaminated area is encountered during construction, construction would cease in the vicinity of the contaminated area. The contaminated areas shall be assessed to determine the extent and type of contamination. If necessary, the contaminated site would be remediated to minimize the potential for exposure of the public and to allow the project to safely be constructed.

15.0 UTILITIES AND PUBLIC SERVICES

15.1 Affected Environment

15.1.1 Water

The Rancho California Water District is the retail supplier of potable water to the City of Temecula serving more than 30,000 customers in the Temecula Valley area (NCT, 2002). Additional water is imported from the Metropolitan Water District of Southern California. Various water supply pipes are located within the larger Murrieta Creek study area. In addition, there are a potable water and chlorination facility on the west side of Murrieta Creek just north of the Rancho California Road bridge. Water and other utility lines are also located under north of Winchester Road, just outside the project limits.

15.1.2 Sewer

Wastewater (sewage) collection and treatment services in the project area are provided by the Eastern Municipal Water District (EMWD). Various sewer lines are located within the larger Murrieta Creek study area evaluated in the 2000 Final EIS/EIR, with some pipelines beneath or adjacent to the creekbed. In the Phase II project area, there are two existing EMWD lines: one 12-inch and one 24-inch VCP gravity sewer crossings. There is a pump station on the west side of Murrieta Creek just north of the Rancho California Street Bridge.

15.1.3 Electricity

Southern California Edison provides electricity to the City of Temecula. There are Edison power lines near Avenida Alvarado and at Main Street.

15.2 Environmental Effects

15.2.1 Construction

Original Phase II Plan (No Action Alternative)

Water

The Original Phase II Plan would involve excavating and grading approximately 70 acres of Murrieta Creek. Approximately, 1,100,481 cubic yards of alluvial substrate would be removed from the channel invert to lower the invert elevation by approximately 3 to 8 feet. The substantial excavation and grading activities could occur within the vicinity of water lines. The Corps and RCFC&WCD would implement all ~~mitigation measures~~environmental commitments listed in Section 14.3 to ensure that there would be no disruption of water supply services during construction.

Sewer

The Original Phase II Plan would involve excavating and grading approximately 70 acres of Murrieta Creek. Approximately, 1,100,481 cubic yards of alluvial substrate would be removed from the channel invert to lower the invert elevation by approximately 3 to 8 feet. The substantial excavation and grading activities could occur within the vicinity of water lines. The

Corps and RCFC&WCD would implement all ~~mitigation measures~~environmental commitments listed in Section 14.3 to ensure that there would be no disruption of water supply services during construction.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would involve excavating and grading approximately 121 acres of Murrieta Creek. Vegetation within the excavation footprint would be cleared and grubbed. Approximately, 952,000 cubic yards of alluvial substrate would be removed from the channel invert to lower the invert elevation to depths ranging from 3 to 8 feet. The changes associated with the Modified Phase II Plan when compared to the Original Phase II Plan are minor. The Modified Phase II Plan would lengthen the project footprint by 200 feet, resulting in a length increase of 1.6%; decrease the volume of excavation by 148,481 cubic yards, resulting in a decrease of approximately 13.5%. The Modified Phase II Plan would entail the same potential impacts as the Original Phase II Plan.

The RCFC&WCD is coordinating with Southern California Edison (SCE) on two powerlines that are in the vicinity of the Phase II project area, to determine if relocations are necessary. The RCFC&WCD would continue coordinating with SCE. The Eastern Municipal Water District (EMWD) has two gravity sewer crossings within the Phase II project area. The Corps and RCFC&WCD will continue coordination with EMWD to ensure the Modified Phase II Plan is designed to protect in place EMWD's existing lines.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

15.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Potential impacts to utilities would vary with respect to the size, scope, and type of operations and maintenance activities undertaken. For example, activities requiring excavation would increase the possibility of unearthing or damaging buried utilities. Discharge of riprap to protect an embankment would entail less risk of damaging utilities. Smaller operations such as removal of weeds from the soil cement embankment would entail little or no impacts.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the ~~RCFCDWCD~~RCFC&WCD. Monitoring and maintenance of the restoration areas would be the

responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, and with the implementation of ~~mitigation measures~~environmental commitments from the 2000 Final EIS/EIR listed below, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

15.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

U-1 During the preliminary design phase of each project component, the utility service providers would be consulted to identify existing and proposed buried facilities in affected roadways and to determine which utilities require relocation and which can be avoided. If relocation is required, the appropriate utility service provider would be consulted to sequence construction activities to avoid or minimize interruptions in service. The Local Sponsor and contractor shall comply with permit conditions and such conditions shall be included in the contract specifications.

U-2 If utility service disruption is necessary, residents and businesses in the project area would be notified a minimum of two to four days prior to service disruption through local newspapers, and direct mailings to affected parties.

U-3 The contractor would be required to excavate around utilities, including hand excavation as necessary, to avoid damage and to minimize interference with safe operation and use. Hand tools must be used to expose the exact location of buried gas or electric utilities.

U-4 Prior to construction during the Plans and Specifications phase, utility locations shall be verified through field surveys.

16.0 RECREATION

16.1 Affected Environment

Existing Recreation Facilities and Opportunities

Most of Murrieta Creek lies within an artificially widened open space channel with vegetated banks and a vegetated or sand-lined bottom. The channel provides a naturalized, permanent buffer between existing and planned development on either side of the creek.

The open space and undeveloped area along the Murrieta Creek corridor provides for passive recreational pursuits. There are currently no official recreational opportunities within the creek bed itself, nor are there any plans to allow for such recreational use within the proposed channel prism. There is designated open space along the creek in the City of Temecula.

There is a small park located adjacent to Murrieta Creek. In the downstream area below 1st Street, Rotary Park is located on the western side of the creek. The park, which is associated with a teen recreation center, has a small lawn area, picnic table, barbeque, and children's play lot. Adjacent to the center is a small arena with a concrete bottom for active recreation uses such as roller hockey. South of this facility is the Temecula Community Center. A second park, Sam Hick's Monument Park, located approximately 300 feet east of the creek, southeast of Rancho California Road in Old Town Temecula, includes a children play area, picnic tables, and restroom facilities.

There are also Class 1 trails along Murrieta Creek in the Phase II area. One segment is located just downstream of Rancho California Road on the east side of the creek. The second paved trail for walking and cycling runs along the west side of the creek adjacent to Diaz Road, from Rancho California Road to Winchester Road.

Planned New Facilities and Improvements to Existing Facilities

As the population within the greater Temecula Valley continues to grow, the demand for recreational facilities will increase. This increase has not been quantified, but should be considered in the context of the regional growth patterns. New recreational facilities are generally necessitated by increased residential population. Most of the planned development adjacent to Murrieta Creek in the City of Temecula is business park/light industrial, which does not generate a need for parks and recreation areas.

Currently, there are no proposed or planned parks or recreation facilities along the Phase II area along the Murrieta Creek corridor, except for planned trails along the creek alignment (Figure 3-1a to 3-1e, Project Features). The City of Temecula Trails and Bikeway Master Plan identifies a proposed soft surface hiking and equestrian trail to connect to the existing trail along the east side of the creek between Winchester Road and Rancho California Road. A combination hard and soft surface east-west trail is also proposed east of the creek upstream of Rancho California Road, which would connect to the proposed north-south trail. A Class 2 bike lane is proposed for a segment of Winchester Road that crosses over the creek and would connect Diaz Road to Jefferson Avenue.

The County of Riverside also has a designated multi-purpose trail along the creek. The Southwest Area Community Plan Recreational Trails and Bike Paths map identifies a regional recreational trail along the entire length of Murrieta Creek. Also shown in that same alignment is a Class I bike path.

General Plan and Policies

Future recreational development and preservation of open space along Murrieta Creek will be guided in part by the general plan policies of those jurisdictions in which the creek is located. General plan policies that may be applicable to future recreational development or open space preservation are listed below.

City of Temecula. The City of Temecula General Plan Open Space/Conservation Element addresses the general need for parks, open space, and trails, without specifically referring to Murrieta Creek. One of the element's goals discusses opportunities for the City of Temecula to implement a recreation trail system concurrent with new development, road improvements, and flood control improvements (Goal 8).

16.2 Environmental Effects

16.2.1 Construction

Original Phase II Plan (No Action Alternative)

There are existing passive recreational resources located on the banks adjacent to Murrieta Creek, including pedestrian trails and bicycling paths, and two recreational parks nearby. The development of project features under the Original Phase II Plan would result in temporary impacts to existing recreational resources. The existing trails located on the west bank of the creek would be protected in place. However, access to trail segments adjacent to the creek would be temporarily restricted in areas that are adjacent to active construction operations. However, in areas where no active construction is present, access to the trails would be maintained. The project would not disrupt any planned recreational resources within the study area.

The Original Phase I Plan would provide long-term positive recreational benefits through the creation of a recreational trail. More specifically, the project would include the creation of a recreational trail along the Phase II project reach. A pedestrian/bicycle trail would be constructed along the maintenance/service road on the eastern side of Murrieta Creek from Rancho California Road to the detention basin. The proposed segment of trail downstream of Rancho California would be integrated with the existing trail. On the west side of the creek, a equestrian trail would be constructed utilizing the maintenance/service road from the upstream end of the project area to just downstream of Old Town Temecula (downstream of 1st Street). The proposed trail system would provide bicycle and pedestrian access consistent with the General Plan goals and policies of the City of Temecula.

Modified Phase II Plan (Preferred Alternative)

Because the Modified Phase II Plan also includes the development of a recreational trail (included in the Original Phase II Plan), the Modified Phase II Plan would also include a beneficial recreational amenity. Temporary impacts to recreational resources would be similar to that described under the Original Phase II Plan. As outlined above, the Modified Phase II Plan would be consistent with the General Plan goals and policies of the City of Temecula. No adverse impacts to existing recreational areas or opportunities would occur.

NEPA Impact Determination

Based on the above, implementation of changes in the Modified Phase II Plan would result in less than significant impacts. No mitigation is proposed.

CEQA Impact Determination

Based on the above, implementation of changes in the Modified Phase II Plan would result in less than significant impacts. No mitigation is proposed.

16.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Potential impacts to recreational resources from future operation and maintenance activities would be limited to temporary restricted access to segments of the trail system, where necessary, for repairs to the maintenance road, maintenance of the channel slope and bottom, or in cases where sediment removal may be required. Impacts would be less than significant.

Modified Phase II Plan (Preferred Alternative)

Potential impacts from future operation and maintenance activities would be similar to the Original Phase II Plan. Impacts would be less than significant.

NEPA Impact Determination

Operation and maintenance of the Modified Phase II Plan would result in less than significant impacts. No mitigation is proposed.

CEQA Impact Determination

Operation and maintenance of the Modified Phase II Plan would result in less than significant impacts. No mitigation is proposed.

16.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

No environmental commitments under NEPA or mitigation measures under CEQA are proposed.

17.0 SOCIOECONOMICS/ENVIRONMENTAL JUSTICE

17.1 Affected Environment

The Phase II project reach is wholly contained within the city of Temecula. With respect to the larger demographics of Riverside County, the city has a lower percentage of non-white minorities with the exception of Asians. The percentage of Blacks, the American Indians/Alaskan Natives, and Hispanics are lower. Therefore, the city of Temecula does not feature a disproportionately large minority population relative to Riverside County.

Table 17-1. Population Demographics

Race/Ethnic Group	City of Temecula	County of Riverside
White	70.8	81
Black	4.1	7
American Indian and Alaska Native	1.1	1.9
Asian	9.8	6.5
Native Hawaiian & Pacific Islanders	0.4	0.4
Persons reporting two or more races	5.9	3.3
Hispanic(2)	24.7	46.1
Non Hispanic white	57.2	39.1
Total Population	100,097	218,9641

With respect to income and poverty, the city has a higher median household income and a low percentage of persons below poverty level.

Table 17-2. Median Household Income

Housing Units	City of Temecula	County of Riverside
Median household income	$77,850	$57,768
Percent of persons below poverty level	8.2%	13.4%

With respect to employment, the city has a lower unemployment rate than Riverside County.

Table 17-3. Employment Rate

Employment	City of Temecula	County of Riverside
Employed	40,846	865,088
Unemployed	4,264	109,090
Percent unemployed	9.5%	12.6%
Total	45,110	974,178

With respect to housing, the city has a lower percentage of vacant housing compared to Riverside County.

Table 17-4. Housing

Housing Units	City of Temecula	County of Riverside
Occupied	29,540	666,906
Vacant	2,988	116,210
Percent Vacant	9%	15%
Total Housing	32,528	783,116

17.2 Environmental Effects

17.2.1 Construction

Original Phase II Plan (No Action Alternative)

The entire Murrieta Creek project including Phase II, would reduce the risk for periodic flooding of the adjacent built environment, and thus would benefit local and regional economy. Detailed analysis of economic benefits associated with the entire Murrieta Creek project is found in the 2000 Final EIS/EIR.

SOCIOECONOMICS

During construction, the Original Phase II Plan would provide limited, short-term, construction-related employment. Construction would require approximately 40 construction laborers. The duration of construction would be approximately 15 months. Construction work would indirectly benefit the local and regional economy through purchases of supplies and services. However, impacts would be de minimis. The work would not require additional housing for construction laborers since the project is readily within commuting distance from Los Angeles, San Bernardino, Orange, and Riverside counties. Therefore, there would be no changes to housing characteristics locally or regionally. Furthermore, the work would not entail the construction of infrastructure or utilities that would result in growth of the surrounding area, nor would the work increase capacity of existing infrastructure that would induce growth. Therefore, there would be de minimis impacts to the socioeconomic profile of the city of Temecula and Riverside County.

ENVIRONMENTAL JUSTICE

With respect to the larger demographics of Riverside County, the city has a lower percentage of non-white minorities with the exception of Asians. The percentage of Blacks, the American Indians/Alaskan Natives, and Hispanics are lower. Therefore, the city of Temecula does not feature a disproportionately large minority population relative to Riverside County. With respect to income and poverty, the city has a higher median household income and a low percentage of persons below poverty level. Therefore, the Original Phase II Plan would not disproportionately affect low-income or minority populations.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would provide limited, short-term, construction-related employment. Construction would require approximately 40 construction laborers. The duration of construction would be approximately ~~22~~ 18 months. The Modified Phase II Plan would entail the same impacts to socioeconomics and environmental justice as the Original Phase II Plan.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

17.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

SOCIOECONOMICS

Potential short term impacts to socioeconomics would vary with respect to the size, scope, and type of operations and maintenance activities undertaken. For example, activities requiring excavation of the entire channel to restore the design depth would indirectly benefit the local and regional economy grew acquisition of supplies and services such as (i.e. equipment rentals, fuel purchases, etc.). The ~~RCFCDWCD~~RCFC&WCD would be responsible for operations and maintenance. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. If these activities are contracted to private entities, then there will be a direct and temporary benefit to construction-related employment. The work would not require additional housing for construction laborers since the project is readily within commuting distance from Los Angeles, San Bernardino, Orange, and Riverside counties. Therefore, there would be no changes to housing characteristics locally or regionally. Furthermore, the work would not entail the construction of infrastructure or utilities that would result in growth of the surrounding area, nor would the work increase capacity of existing infrastructure that would induce growth. Therefore, there would be de minimis impacts to the socioeconomic profile of the city of Temecula and Riverside County.

ENVIRONMENTAL JUSTICE

Potential short-term impacts to the environment would vary with respect to the size, scope, and type of operations and maintenance activities undertaken. However, with respect to the larger demographics of Riverside County, the city has a lower percentage of non-white minorities with the exception of Asians. The percentage of Blacks, the American Indians/Alaskan Natives, and Hispanics are lower. Therefore, the city of Temecula does not feature a disproportionately large minority population relative to Riverside County. With respect to income and poverty, the city has a higher median household income and a low percentage of persons below poverty level. Therefore, the environmental effects associated with operation and maintenance activities would not disproportionately affect low-income or minority populations.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the ~~RCFCDWCD~~RCFC&WCD. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

17.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

No environmental commitments under NEPA or mitigation measures under CEQA are proposed.

18.0 GROWTH-INDUCING IMPACTS

18.1 Affected Environment

The city had a population of 100,097 in 2010. The population is expected to increase by approximately 17% between 2010 and 2015.

The Phase II project reach traverses for the most part through the commercial and industrial portion of the city of Temecula. In general, land use on river left is primarily commercial and industrial from the upstream terminus, approximately 200 feet upstream of the Winchester Road Bridge to the downstream terminus, approximately 1,000 feet downstream of 1st St. On river right, the land use is primarily commercial and industrial from the upstream terminus to Rancho California Road. From Rancho California Road to the downstream terminus, land use on river right is primarily multiunit residential complexes. Land uses adjacent to lands owned by the ~~RCFCDWCD~~RCFC&WCD on both river left and right are described in detail below from the upstream terminus to the downstream terminus.

18.2 Environmental Effects

18.2.1 Construction

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would provide a 100-year flood level protection to the commercial and industrial areas immediately adjacent to the Phase II reach. The project would not increase flood protection in undeveloped areas that would induce growth. The projected 17% increase in population would occur in the eastern portion of the city that is outside of the affected flood plain.

Modified Phase II Plan (Preferred Alternative)

The Original Phase II Plan would provide a 100-year flood level protection to the commercial and industrial areas immediately adjacent to the Modified Phase II reach. The project would not increase flood protection in undeveloped areas that would induce growth. The projected 17% increase in population would occur in the eastern portion of the city that is outside of the affected flood plain.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

18.2.2 Operations and Maintenance

Original Phase II Plan (No Action Alternative)

Operations and maintenance activities would serve to maintain the design flood conveyance capacities of the project. The activities would not increase flood protection in undeveloped areas that would induce growth. The projected 17% increase in population would occur in the eastern portion of the city that is outside of the affected flood plain.

Modified Phase II Plan (Preferred Alternative)

Future maintenance activities would be regularly conducted within the project area by the ~~RCFCDWCD~~RCFC&WCD. Monitoring and maintenance of the restoration areas would be the responsibility of the Corps for 5 years after completion of construction. Activities that result in the discharge of dredged or fill material into waters of the United States would be subject to Section 404 of the Clean Water Act implemented by the Corps Regulatory program. As a result, general impacts associated with operations and maintenance activities are evaluated under NEPA.

The changes in the Modified Phase II Plan indicated above would entail *de minimis* changes to operations and maintenance activities associated with the Original Phase II Plan.

NEPA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

CEQA Impact Determination

Based on the above, the implementation of changes in the Modified Phase II Plan would result in less than significant impacts compared to impacts associated with the Original Phase II Plan.

18.3 Environmental Commitments (NEPA)/Mitigation Measures (CEQA)

No environmental commitments under NEPA or mitigation measures under CEQA are proposed.

19.0 CUMULATIVE EFFECTS

19.1 Introduction

The Council of Environmental Quality (CEQ) has defined cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." Cumulative effects can result from individually minor, but collectively significant, actions occurring over a period of time (40 CFR 1508.7). The CEQ guidance further indicates that it is not practical to analyze cumulative effects for other than those truly meaningful environmental effects.

The CEQA guidelines define cumulative impacts similarly, stating,

> *"Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *(a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. (CCR, Section 15355).*

Guidance from the CEQ and CEQA has been followed in the preparation of this analysis. This chapter describes the past and present activities that have contributed to current conditions within the vicinity of Murrieta Creek. This chapter also addresses present and reasonably foreseeable projects in the immediate vicinity as well as overall development trends in the area. This section would assess the cumulative effects of the proposed action for Phase II. The Phase II plans are described in detail in Section 3.0.

19.2 Past actions

Past actions in the Murrieta Creek vicinity is described in detail in the 2000 EIS/EIR. That document describes the effect of ranching operations, the 1939 and 1969 flood control projects, and urban development. Actions since the 2000 EIS/EIR include:

Regional Mall: A 700,000 square foot commercial development between Winchester, Inez, and Margarita Roads and Overland Drive.

Ynez Road Corridor: Commercial development along Ynez road between Overland Drive and Rancho California Road.

Jefferson Road Corridor: Development along Jefferson Road from Rancho California to the city limits.

West Side Business Center: Developed a predominantly industrial business park north of Winchester Road and west of Diaz Road.

Old Town Temecula: Commercial and residential (approximately 300 residential units) development south of Rancho California Road along Front Street and Pujo Street.

Rancho California Road Bridge Improvements: Widened the bridge to eight lanes of traffic by adding three turn lanes on the eastern end of the bridge.

First Street Bridge Replacement: a new bridge was constructed.

Harveston Project: constructed 1.5 million square feet of commercial development, 1,900 residential units, and an elementary school on the east side of I-15 and west of Margarita Road.

City of Murrieta Roadway Improvements: These includes
Widening Jefferson Avenue from Corning Place to Murrieta Hot Springs Road to six lanes
Construction of a freeway crossing at Nutmeg Street
General road improvements along Washington Avenue near Kalmia Street, Kalmia From Washington Avenue to Jefferson Avenue, and Nutmeg Street from Washington Avenue to Jefferson Avenue.

City of Murrieta Residential Development: The City of Murrieta has had 18 single-family residential projects within the last 10-15 years. These projects range from 19 to 1,117 units.

West1st Street Extension - Environmental Mitigation: This project created approximately 1.49 acres of wetlands along Murrieta Creek at 1st Street.

Community Theatre – Mercantile Seismic Retrofit: This project created a community theatre at the old mercantile building in downtown Temecula.

Children's Museum: This project constructed a 7,500 square foot children's museum.

Temecula Library: A full service library, approximately 34,000 square feet in area, was built on Pauba Road, just west of Fire Station #84. This project provided the community with library resources and services.

Landscaping and Sidewalk on 79S (Front Street to Pechanga Parkway): The project constructed a new sidewalk, landscaping, and irrigation along State Route 79 South between Pechanga Parkway and Old Town Front Street.

Murrieta Creek Multi Purpose Trail: This project built a 1.2-mile, 10 feet wide stretch of asphalt trail and a 0.5-mile decomposed granite path, for horse, between Winchester and Rancho California Roads. This included benches, picnic tables, and for signs that describe the native vegetation along Murrieta Creek within City limits.

Old Town Southern Gateway Landscaping: A 10,000 square foot remnant parcel west of Front Street, was be landscaped.

Old Town Community Theater: This project constructed a 20,000 square foot community theater complex and refurbished the existing Mercantile Building.

Rancho California Road Median Modifications at Town Center: This project closed two median openings on Rancho California Road in front of the Town Center, and lengthened the left turn lanes at Ynez Road, Town Center Drive, and Via Los Colinas to improve traffic circulation.

Rancho California Road Widening at Ynez Road (Add right turn lane to westbound lanes): This project added a right turn lane on westbound Rancho California Road at Ynez Road.

Rancho California Sports Park ADA Access and Shade Structure: This project constructed ADA compliant concrete walkways to ball fields, 3,4,5,7, and 8. It included the installation of two shade picnic/seating areas adjacent to the snack bar building.

Bus Bench Upgrades: New bus benches and shade structures were installed and existing ones upgraded at various locations.

I-15/ SR 79 Interchange: Modification of I-15/ SR 79 South Interchange.

Roripaugh Fire Station: a single story, three bay heavy urban fire station structure and adjoining and support facilities. This included a two above ground fuel tanks, parking lot and landscaping.

Ronald Reagan Sports Park Desilting Basin Environmental Mitigation: installed landscape and irrigation improvements on a 0.26 acre habitat creation area. Construction was completed in 2011. The area is currently being maintaining for five years.

19.3 Current Projects

Projects currently under construction include:

French Valley Parkway/Interstate 15 over-crossing and interchange improvements: Phase I – widening of southbound I-15 from Warm Springs Creek to Winchester Road off-ramp, construction of new southbound off-ramp at French Valley Parkway, and construction of the westbound portion of French Valley Parkway from the off-ramp to Jefferson Avenue.

Roripaugh Street Improvements: would improve the wet and dry utilities, sidewalks, medians and new roadway section on Butterfield Stage Road from Murrieta Hot Springs Road to Calle Chops, South Loop Road. This would also complete utility feeds to the fire station and future amenities.

Pavement Rehabilitation Program and Citywide Concrete Repairs: this would provide repairs to various damaged concrete facilities throughout the City of Temecula and repairs to Ynez road from Winchester road to Solana Way, Margarita Road from Avenida Barca to Solana Way, and Margarita Community Park Parking lot.

Main Street Bridge over Murrieta Creek (replacement) Construction by the City of Temecula: the Main Street Bridge is within the Modified Phase II project area. The new bridge is open as of May 8, 2014; which is longer and wider to meet current design and safety standards for bridge construction.

19.4 Reasonably Foreseeable Future Actions

It is anticipated that the Murrieta Creek watershed would continue to experience urbanization. This assessment is based on reviews of the cities of Murrieta and Temecula's General Plans. These plans show residential and commercial development within portions of the watershed. This trend would likely result in an increase in impervious surfaces within the watershed and a corresponding increase in peak storm flows and urban pollutants within Murrieta Creek. The reasonably foreseeable actions were taken of the Cities of Temecula and Murrieta's websites. These projects include:

Murrieta Creek Flood Risk Management, Ecosystem Restoration and Mitigation Phase III: The USACE proposed project would include channel improvements for flood control, detention basins, ecosystem restoration, and recreation fields.

Overland Drive Bridge: This project would extend Overland Drive to Murrieta Creek and construct a bridge at that site.

West Side Specific Plan: This is a proposed high density residential development (approximately 1,200 homes) project located west of Pujol Street. This development would be located just south of 6th Street along the west side of the creek.

Pechanga Parkway Storm Drain Improvements: construction of new wetlands for the Wolf Valley Creek Channel improvements Stage I project.

~~**Main Street Bridge and**~~ **Overland Drive Extension from Commerce Center to Diaz Road**: The project includes the extension of Overland Drive from Commerce Center Drive to Diaz Road with a bridge over Murrieta Creek.

Western Bypass Bridge over Murrieta Creek: Construction of a new bridge over Murrieta Creek at the westerly terminus of Western Bypass and extension of Pujol Street to the new structure. Once constructed, this would serve as the southerly connection of the Western Bypass Corridor.

Old Town Gymnasium: Construction of a 9,000 square foot gymnasium adjacent to boys and Girls club on Pujol Street.

Santa Gertrudis Creek Pedestrian/Bicycle Trail Extension and Interconnect: Construction of a Class I bicycle trail that connects the existing Santa Gertrudis Creek Pedestrian/Bicycle Trail at Ynez Road to Murrieta Creek Multi-Purpose Trail at Diaz Road.

Pavement Rehabilitation Program: This project would rehabilitate portions of Winchester, Rancho California, Ynez, Margarita and Rancho Vista Roads.

French Valley Parkway/I-15 overcrossing and Interchange Improvements:

Nicolas Valley: A feasibility study is being conducted to assess the possibility of completing street and minor storm drain improvements on the unimproved portions of streets within the Nicolas Valley area.

19.5 Analysis of Cumulative Impacts

This cumulative impact analysis addresses the incremental effects of the proposed action when considered with the cumulative effects of other past, present, and reasonably foreseeable future actions.

19.5.1 Geology and Soils

The amount of grading and earthwork required for the proposed Phase II project would not contribute incrementally to a significant cumulative impact. This assessment was based on the types of other major projects anticipated to occur in the study area (primarily residential development and roadway improvements) and the effects these types of projects have on topography and geologic resources. While other projects may contribute to localized erosion or seismic related impacts, none of the flood control alternatives addressed in the EIS/EIR would contribute to these localized effects. This project would not incrementally contribute to a substantial alteration of topography nor would it result or contribute to significant impacts related to geology or soils.

19.5.2 Water Resources

The proposed Phase II Project would not result in post-construction water quality or hydrology impacts. Temporary impacts could occur during construction. The Phase II construction, as with other development projects in the study area, would be subject to laws and regulations that address water quality. Prior to construction, coverage under the General Construction Activity Storm Water Permit would be obtained and a SWPPP would be designed to eliminate or reduce pollutant discharge. Specific SWPPP provisions include requirements for identifying potential pollution sources, controlling stormwater runoff and erosion, implementing best management practices (BMPs) to prevent or reduce contaminant discharge, and conforming to applicable state and local stormwater and erosion control plans. The identification of applicable BMPs is based on site-specific characteristics but typically involves implementing and monitoring pollution control measures both during and after construction. Based on these requirements, the cumulative impact of the projected future actions in the study area would not cause a significant construction-related impact to water quality (including impacts associated with erosion and sedimentation).

The future plan of constructing a detention basin to help reduce peak flows (Phase III) would help offset the impacts of past and present development projects within the watershed. By temporarily detaining these peak flows, the riparian habitat downstream from the project area would experience flows somewhat closer to those of pre-urbanization conditions within the watershed. Therefore, significant impacts for this and future project would be less than significant.

19.5.3 Biological Resources

Implementation of the Proposed Murrieta Creek Flood Control Project Phase II has potential to contribute to cumulative biological impacts. Although the proposed project would not result in significant impacts to native habitats and species, there are potential additive effects associated with vegetation removal and ground disturbance when combined with other projects in the vicinity. The environmental commitments provided in Section 6.0 and 20.0 of this SEA/SEIR would reduce the Proposed Project's impacts to less-than-significant levels and would avoid a significant contribution to cumulative impacts on biological resources in the project vicinity. Therefore, the Proposed Project combined with other projects would not contribute to cumulative biological resource impacts. The permanent effects of the Proposed Project are site-specific and localized, and would not result in incremental cumulative impacts to biological resources through increased disturbance, removal of habitat, or degradation of habitat through traffic, increased noise, or decreased water quality. Impacts to biological resources were previously evaluated in the Original Phase II (EIS/EIR 2000). The Modified Phase II project would not result in any new or additional impacts to biological resources. Modifications incorporated into the new project design provide for an increase riparian habitat by restoring it with native species. Components of the Modified Phase II Plan would result in a long-term benefit to wildlife. With implementation of the environmental commitments, impacts of the Proposed Project would be reduced to less-than-significant levels, and effects of the Proposed Project would not be considered cumulatively significant.

19.5.5 Cultural Resources

A records and literature search was conducted for all phases of the Murrieta Creek Ecosystem and Flood Control Project. For ~~this~~ Modified Phase II~~2~~ of the project, two separate cultural resources surveys were conducted. As a result, no historical or prehistoric archeological sites have been identified. Based on this information, the Corps has determined that Modified Phase II~~2~~ project will not affect historic properties. Based on Section 106 compliance requirements, resources that may be destroyed or disturbed by Federal actions (which may include some of the reasonably foreseeable actions) would contribute to our understanding of past societies. Because the Corps is in compliance with requirements of Section 106 for the Murrieta Creek Flood Control Project, the project would not incrementally contribution to cultural resource impacts would not result in a significant cumulative effect.

19.5.6 Traffic

The incremental contribution to cumulative effects for transportation related to implementation of Modified Phase II was evaluated and determined to not contribute significantly to the cumulative effect. Phase II Modifications would not add any new or additional impacts and would not contribute significantly to the cumulative effects for transportation. The construction traffic generated by these alternatives would have a localized effect on traffic circulation; however, this effect on traffic would be relatively short term in duration.

Other projects in the area including bridge replacements and road repairs would have short-term effects on traffic including the potential to displace traffic onto other local roadways. The past, present, and current roadway improvements are designed to improve transportation therefore, the nearby projects would contribute to cumulative traffic impacts; however, cumulative impacts would be less than significant

19.5.6 Air Quality

Construction activities for the proposed project would not have air quality impacts above and beyond those determined in the Corps' 2000 EIR/EIS, where in that document the cumulative project impacts were determined to be significant in large part due to the significant project impacts. Past and present projects constructed within Murrieta Creek include Phase I that was completed by 2008. Future projects, to include Phase(s) III and IV, would include a like-for-like replacement or construction of similar structures and infrastructure within Murrieta Creek. The cumulative projects discussed above would not singly, or combined cumulatively, a significant criteria pollutants impact. The mitigation required in the 2000 EIR/EIS in Section 4.4 for Air Quality would reduce air quality impacts to the extent feasibility. Therefore, the air quality cumulative impact for the proposed project would be less than significant on air quality.

19.5.7 Land Use

The present development trend within the watershed includes the modification of open space land to urban (residential and commercial) uses, particularly in the cities of Temecula and Murrieta. The Modified Phase II construction would not entail the conversion of open space land to urban uses and, thus, would not incrementally contribute to this land use trend. As described in Chapter 4.0, the floodplain would continue to be developed in a manner consistent with the local zoning and General Plan land use designations regardless of whether the proposed flood control project is constructed. Many of these areas adjacent to Murrieta Creek are planned to be built out, and proposed developments are consistent with surrounding nearby land uses and/or General Plan designations. Based on the factors described above, cumulative land use impacts would be less than significant.

19.5.8 Visual Resources

As a result of past actions, including the channelization of Murrieta Creek in the late 1930s, the creek would never appear in as natural a state as a creek that has not been channelized. The Modified Phase II channel improvements would include an unmaintained vegetation bench along

the length of the project. The additional phases of channel improvements, ecosystem restoration and recreational projects within Murrieta Creek have a component to restore native vegetation. Native vegetation within the creek is generally considered a positive visual amenity. These positive aspects of Phase II construction would offset the adverse esthetic impacts, including the loss of mature vegetation. Additionally, with the exception of proposed bridge projects, none of the other projects identified in this cumulative impacts analysis would contribute to the long-term loss of vegetation within the creek. The loss of vegetation associated with reasonably foreseeable bridge construction and widening projects would be nominal. Even when considered in combination with the long-term loss of vegetation associated with the proposed flood control project's soil cement downstream and grade control structures, this change to the visual environment would not constitute a cumulatively significant esthetic impact.

19.5.8 Noise

Noise impacts associated with the Modified Phase II project are limited to short-term construction noise. Noise impacts would be created by on-site construction activities and, to some degree, roadway noise from construction traffic. These impacts would be mitigated to less than significant levels. Due to the location and types of development anticipated near the creek, significant cumulative noise impacts are not anticipated. Although surrounding construction activities would contribute to cumulative noise impacts, the effects would be short-term and less than significant.

19.5.9 Hazardous Materials

No known hazardous materials are known to be located within the Modified Phase II project area. The proposed project would therefore not contribute incrementally to cumulative hazardous material impacts.

19.5.10 Public Services/Utilities

Proposed land development, specifically the residential developments would contribute to the increased demand for public utilities and services. The increase in population of the various cumulative projects in combination with the proposed recreational amenities may require an increased need for police protection, and emergency medical and related services. However, the Modified Phase II project would not incrementally contribute to this increased need.

19.5.11 Recreation

With development of the proposed Modified Phase II project, new recreation facilities would not be provided nor would existing facilities be impacted. However, maintenance roads would be constructed along both sides of Murrieta Creek. These roads maybe used in the future to provide pedestrian/bicycle trails increasing publicly available recreation facilities. The future use of this trail combined with other past, present, and foreseeable future recreational projects in the area would result in cumulative beneficial effects to the surrounding communities.

19.5.12 Socioeconomics/Environmental Justice

The Modified Phase II construction would not result in significant socioeconomic impacts. The reasonably foreseeable future projects described above would not be expected to contribute incrementally to these impacts. In contrast, the numerous residential development projects would increase the supply of local housing. The short-term generation of construction-related jobs would be beneficial to the local economy and would not be expected to substantially alter the area's population/housing balance. Accordingly, significant cumulative socioeconomic impacts are not anticipated.

19.5.13 Public Safety

The Modified Phase II construction would improve public safety by providing an increased level of flood protection. In consideration of the cumulative projects in the study area (particularly development in the Old Town Temecula area), the flood control project would be beneficial to numerous residential, commercial, and industrial uses. Potential safety hazards regarding access to the flood control channels and the multi-purpose detention basin would be mitigated to less than significant levels. None of the other past, present, or reasonably foreseeable actions would be anticipated to incrementally contribute to a significant cumulative safety impacts.

20.0 ENVIRONMENTAL COMMITMENTS/ MITIGATION MEASURES

The proposed project would not result in any significant impacts to environmental resources including water quality, air quality, green house gases, biological resources, land use, aesthetics, geology and soils, recreation, noise, socioeconomics, utilities, public service, transportation, public health and safety, or cultural resources. The analysis documented in this SEA/SEIR shows that implementation of the Modified Phase II Plan would not result in any additional impacts, and in some areas, be reduced compared to the Original Phase II Plan. The environmental commitments (mitigation measures) identified below have been incorporated into the project for the purpose of further minimizing environmental effects.

Water Resources

W-1 Channel construction and routine maintenance activities will not be conducted if bank to bank flows exist and during rain events to reduce the potential for significant impacts to water quality. The construction contractor will monitor and record weather reports for any indication of potential rain events. The contractor shall divert the low flow channel consistent with the Storm Water Pollution Prevention Plan (SWPPP) and regulatory permits to minimize working within the live channel. Construction activities shall conform to the requirements of the State-wide National Pollutant Discharge Elimination System (NPDES) General Permit (Board Order No. 2009-0009-DWQ, NPDES No. CA000002 as amended by Board Order No. 2010-0014-DWQ) for Stormwater Discharges Associated with Construction and Land Disturbance Activities. The SWPPP created and implemented pursuant to the NPDES General Construction Permit requirements shall also include provisions identified in the Section 401 water quality certification for the project and requirements of the current Construction Permit.

W-2 During construction and maintenance activities, equipment will be in proper working condition and inspected for leaks and drips on a daily basis prior to commencement of any in-channel ~~maintenance~~ work.

W-3 Implement ~~A~~a spill prevention and remediation plan ~~would be developed~~ and ~~implemented during~~ construction ~~and operation and maintenance. W~~workers will be instructed as to its requirements. Construction supervisors ~~and workers and maintenance personnel~~ would be instructed to (1) be alert for indications of equipment related contamination such as stains and odors, keep spill kits containing absorbent materials at the construction site, and (2) respond immediately with appropriate actions as detailed in the spill prevention and remediation plan if indications of equipment-related contamination are noted. . RCFC&WCD will implement its standard Hazardous Waste Disposal (i.e. Safety and Operations Manual Procedure #28) to address any hazardous material spills while conducting maintenance activities.

W-4 During construction and maintenance activities, fuels, solvents, and lubricants would be stored ~~in a bermed area so~~such that potential spills and/or leaks will be contained. Soil contamination resulting from spills and/or leaks would be remediated as required by

Federal and/or state law. Storage areas would be constructed so that containers would not be subjected to damage by construction and maintenance equipment. RCFC&WCD will implement its standard Hazardous Waste Disposal (i.e. Safety and Operations Manual Procedure #28) to address any hazardous material spills while conducting maintenance activities. ~~.~~

W-5 Implement~~ation of~~ appropriate best management practices (BMPs) during construction and maintenance to minimize soil erosion and transport of pollutants, and train operators.

W-6 Whenever possible, confine construction work within the flood control channel to low-flow periods. All construction and routine maintenance activities within the channel would be limited during wet weather. ~~, to~~ Construction contracts shall include specifications for: construction material stockpiling, channel slope protection, grading, levee openings, and excavation.

W-7 Construct sediment barriers (e.g. sandbags, silt fence, temporary containment dam) downstream of each major construction operation to trap sediments.

W-8 Conduct dewatering operations behind temporary sheet pile cofferdams. Groundwater dewatering operations shall be conducted in accordance with the requirements of the latest San Diego Regional Water Quality Control Board's General Waste Discharge Requirements (e.g. Regional Board Order No. R9-2008-0002), if applicable.

W-9 Cover and secure stockpiles of bulk granular building materials

W-10 Stabilize any areas of exposed soil, such as dirt stockpiles, dirt berms, and temporary dirt roads, with controlled amounts of sprinkled water.

W-11 At the close of each working day, sweep up any materials tracked onto the street or laying uncontained in the construction areas, and dispose of any trash accumulated in construction areas.

W-12 Contain concrete, asphalt, and masonry wastes and dispose of these wastes away from project construction sites.

W-13 Prohibit the storage of fuels and other hazardous materials and refueling and maintenance of equipment and vehicles near the flood control channel. Prohibited locations shall include all land and structures (e.g. bridges) within 50 feet of the creek.

~~W-14 Keep spill kits containing absorbent materials at the construction site.~~

~~W-15 Store fuels and other hazardous materials away from project drainage.~~

W-14~~6~~ Required Opinions, Concurrences, and Permits:

- Applicable Regulatory Section 404 Permit (RCFC&WCD to obtain for operation and maintenance activities)
- Section 401 Water Quality Certification
- Section 402 National Pollution Discharge Elimination System General Construction
- A Storm Water Pollution Prevention Plan will be prepared and implemented during construction.

Biological Resources

B-1 A 23.67-acre portion of the channel invert along the toe of the east bank will be planted with riparian and riparian scrub vegetation to create the Riparian/Low Flow Corridor project feature (Figures 3-1a to 3-1e). This unmaintained zone will not be subject to future mowing or sediment removal activities.

B-2 The Corps will submit a draft Phase II revegetation plan for the slopes and the unmaintained riparian zone to the USFWS and California Department of Fish and Wildlife (CDFW) for review and approval at least 60 days prior to planting of any seeds or container plants within the Project area. If the Project is constructed in stages, the revegetation will be accomplished at the conclusion of each respective stage. The revegetation plan will address the following:

a. Total acreage of habitat to be restored
b. The size and quantity of species to be planted
c. Appropriate seed mixes and schedules of planting
d. Revegetation success criteria
e. 5-year maintenance and monitoring program to ensure that native plant cover is achieved, that non-native species do not out-compete the native species, and that the restoration of ecological function within the creek is successful.

B-~~2~~3 Disturbance or removal of vegetation shall not exceed the limits authorized for construction and operation and maintenance. Temporarily disturbed areas shall be restored to their original condition or better and will be described in the revegetation plan (see commitment 2 above). Restoration shall include the revegetation of stripped or exposed areas with native species.

B-~~3~~4 To minimize construction and operation and maintenance impacts to nesting birds, vegetation removal will be scheduled to occur between August 15 and March 15 (outside of the avian nesting season).

B-~~3A~~5 If the project is completed in stages as described in the project description, prior to and during construction of the Base segment or Option 1, the Corps would require a qualified biologist to survey any potential vireo habitat immediately adjacent to the Base segment or Option 1 during the breeding season. In the event that vireos are detected within 500 feet of the Base segment, or Option 1, the Corps will require the construction contractor to provide a restricted buffer of 500 feet from the active construction area to the nearest

edge of the vireo territory, to avoid any potential affects to vireo during the breeding season.

B-63B A Corps biologist (or environmental monitor) shall monitor construction activities to ensure compliance with environmental commitments, which include:

B-6A Prior to construction activities, a qualified biologist shall conduct pre-construction training for all construction crew members. The training shall focus on required mitigation measuresenvironmental commitments and conditions of regulatory agency permits and approvals. The training shall also include a summary of sensitive species and habitats potentially present within and adjacent to the proposed project site, including potential for vernal pools adjacent to the staging area at Jefferson Avenue and native southern willow scrub habitat and potential use of this habitat by least Bell's vireo.

B-6B4 Immediately prior to construction activities and throughout any portion of the construction period that takes place during the bird breeding season, a qualified biologist shall inspect the construction site and adjacent areas (using non-protocol surveys) to determine if any special-status species are nesting within 500 feet of the construction site. If active nests are found, the Corps biologist will coordinate with the U.S. Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Game Wildlife (CDFG CDFW) to determine appropriate avoidance or minimization measures.

B-57 To prevent impacts to southwestern pond turtles, trapping will be conducted in all suitable pools prior to any construction related activity (brush clearance, ground disturbance, construction). Trapping will be conducted by a qualified biologist and consist of at least three trapping events. Southwestern pond turtles will be transported to sections of Murrieta Creek where suitable habitat has been located outside the construction area. Trapping will be coordinated with the CDFGW and USFWS to determine the appropriate methods and suitable relocation areas.

B-68 To prevent impacts to burrowing owl and red-legged frog, pre-construction surveys would be conducted for those species in suitable habitat. If burrowing owls are found, owls would be relocated outside of the nesting season in accordance with acceptable protocols.

B-79 With the exception of emergency repairs; all mowing, sediment removal, and scheduled maintenance activities involving heavy equipment or human presence in riparian habitat will be conducted between August 15 and March 15 (outside of the bird nesting season). Some emergency repairs may require maintenance work to occur for extended periods of time. If non-emergency repair work is to be conducted during the nesting season (i.e., vireo), the work area will be surveyed for active bird nests. If active nests are identified in the work area the nests and appropriate buffer (to be determined by the qualified biologist in coordination with the USFWS) will be avoided until the end of the nesting season. The appropriate buffer area will be indentified based on the the type of activity/repair work. A qualified biological monitor will be present during all non-

emergency repair~~brush clearing~~ activities within the unmaintained riparian/low flow corridor between March 15 and August 15.

B-10~~8~~ Appropriate coordination/consultation will occur with resource agencies (USFWS, CDFW and Corps regulatory as appropriate) when emergency ~~prior to conducting~~ maintenance activities are required during the nesting season. ~~, and any necessary permits will be obtained.~~ Resource agency representatives will be notified as early as possible and emergency coordination/consultation conducted and any necessary permits or approvals obtained prior to action taken. Under situations of imminent threat to life or property, obtaining permits and approvals prior to taking of an emergency action may not be possible. Under such circumstances, notification would be made to resource agency representatives of decision to proceed and emergency coordination/consultation would be performed after the emergency action. Contents of the notification will include: 1) point of contact information (name, address, email address, telephone number; 2) location of proposed project; 3) brief description of imminent threat to life or property and proposed project's purpose and need; 4) description of methods anticipated to be used to rectify the situation; and 5) brief description of the project area's existing condition and anticipated environmental impacts resulting from the proposed work.

B-~~9~~11 With the exception of scheduled invasive plant removal or temporary impacts from ~~any necessary~~emergency repair work, vegetation will not be removed from the unmaintained riparian/low flow corridor ~~or channel sideslopes~~ as part of the scheduled maintenance plan. Large trees and shrubs above 3-4 feet on the vegetated slopes that would affect the flow conveyance capacity of the channel and integrity of the side slope protection would be trimmed or removed. All other shrubs on the side slopes would be maintained by cutting to maintain a maximum height of 3-4 feet.

B-~~10~~11A If vegetation is removed from the unmaintained riparian corridor or sideslopes as a result of emergency repairs, the site will be stabilized and revegetated with a native seed mix, cuttings and/or select container plantings to ensure the timely replacement of riparian trees removed as a result of the repair work. Revegetation plantings will be of sufficient quantity to ensure the rapid establishment of vegetation. Replacement plantings of riparian trees will not be required if the vegetation was removed as a result of natural scouring.

B-12 The Corps will include a provision in the OMRR&R manual indicating that: If the District fails to perform the required vegetation maintenance for 2 consecutive years, prior to its resumption of maintenance, the District will conduct a vireo survey in the deferred-maintenance area and provide a report to the Corps and the USFWS indicating whether the deferred maintenance area is being used by vireos. This report will be used to assist the Corps in determining whether the resumption of maintenance would cause an effect to vireo not considered in the BO and reinitiation of consultation is required.

Cultural Resources

C-1 A qualified archeologist and a Pechanga Tribe Native American monitor will monitor project ground disturbing activities. The purpose will be to observe subsurface deposits for buried historic or prehistoric resources. If previously unknown resources are uncovered, construction in the area of the find will be temporarily halted. The find would be then be evaluated for the National Register of Historic Places (NRHP). If it were determined to be eligible for the NRHP, the Corps would consult with the SHPO on treatment of the remains in accordance with 36 CFR 800.13. The construction monitoring by the Pechanga Tribe will be conducted pursuant to the executed December 18, 2012 Master Cultural Resources Treatment and Tribal Monitoring Agreement between the RCFC&WCD and the Pechanga Tribe.

Traffic

T-1 A road improvement plan would be prepared during the final design stage of the project, and implemented during the construction phase. The plan would identify road segments, bridges, and culverts that need to be improved and turnout locations that need to be constructed to accommodate project construction, maintenance, and operational activities. The plan would also include measures for identifying any damage to existing roadways caused by construction vehicles. These damages would be repaired following completion of the project.

T-2 A traffic control plan would be prepared during the final design stage of the project, and implemented during the construction phase. The plan would address and outline appropriate vehicular speeds in construction areas; travel routes, detours, bridge closures, or lane/road closures; flag-person requirements; appropriate signage and safety reflectors; coordination with local city agencies/departments and Caltrans for appropriate notification to the public; any utility relocation requirements; the location of staging areas; safety procedures to reduce hazards to motorists, bicyclists and pedestrians; approach to ensuring access to businesses and residences; and emergency information. The traffic control plan would be reviewed by appropriate entities, including the City of Temecula. The final version of the plan would be submitted to all appropriate entities.

Air Quality

AQ-1 Require 6.9 grams per horsepower standard for heavy duty construction equipment on- and off-road.

AQ-2 Require injection timing retard of 2 degrees on all diesel vehicles, where applicable.

AQ-3 Install high-pressure injectors on all vehicles, where feasible.

AQ-4 Use Caterpillar pre-chamber diesel engines or equivalent, and perform proper

maintenance and operation.

AQ-5 Electrify equipment, where feasible.

AQ-6 Maintain equipment in tune with manufacturers' specifications, except as otherwise stated above.

AQ-7 Restrict the idling of construction equipment to 10 minutes.

AQ-8 Install catalytic converters on gasoline-powered equipment.

AQ-9 Substitute gasoline-powered for diesel-powered, where feasible.

PM_{10} Emissions

The following PM_{10} reducing construction practices would be implemented throughout the construction period:

AQ-10 The speed limit on all unpaved roads would be 10 MPH.

AQ-11 Gravel roads would be constructed for unpaved access/egress roads, and these roads would be watered hourly.

AQ-12 All handled (i.e. loaded/unloaded) soil would be watered to 25 percent moisture, and active excavation/grading areas would be watered hourly to ensure 15 percent moisture.

AQ-13 Street sweepers would be active at each unpaved road access/egress point for soil export (on- and off-site) and each on-site unpaved road access/egress point or materials import. Three street sweepers would be cleaning the entire soil export paved road route, beginning daily operation in the morning prior to the first haul truck and ending daily operation after cleaning the roadway after the passage of the last haul truck. The street sweepers will be wet-type "street washers" that will meet the requirements of SCAQMD Rule 1186 for PM_{10} efficient street sweepers.

AQ-14 Soil haul trucks would be covered, would have 18 inches of freeboard and would have soils on the top of the load watered, or shall be sufficiently wet to mitigate emissions.

AQ-15 Inactive storage piles would be covered.

AQ-16 All grading activities would be prohibited during periods of high winds (i.e., winds greater than 30 mph).

AQ-17 Nontoxic chemical soil stabilizers would be applied to inactive construction areas (i.e., disturbed lands within construction areas that are unused for at least 4 consecutive days), or water at least twice daily.

AQ-18 Nontoxic binders (i.e., latex acrylic copolymer) will be applied to exposed areas after cut-and –fill operations and hydroseed the areas if appropriate for the project location.

AQ-19 Wheel washers would be installed for all exiting trucks.

Noise

N-1 Construction or maintenance activities within 0.25 mile of residences or other noise-sensitive uses will be restricted to daytime hours. No construction or maintenance activities will be performed within 0.25 mile of noise sensitive uses on Sundays, on legal holidays, or between the hours of 6:30 p.m. and 7:00 a.m. Monday through Friday and Saturday, as per City of Temecula.

N-2 All construction and maintenance equipment will have sound-control devices that are at least as effective as those devices provided on original equipment. No equipment will have an unmuffled exhaust.

N-3 The contractor will implement appropriate additional noise mitigation measures, including, but not limited to, changing the location of stationary construction and maintenance equipment, shutting off idling equipment, rescheduling construction and maintenance activity, notifying adjacent residents in advance of construction and maintenance work, and installing acoustic barriers around construction and maintenance noise sources.

Hazardous Materials

HZ-1 If a contaminated area is encountered during construction, construction would cease in the vicinity of the contaminated area. The contaminated areas shall be assessed to determine the extent and type of contamination. If necessary, the contaminated site would be remediated to minimize the potential for exposure of the public and to allow the project to safely be constructed.

Utilities and Public Services

U-1 During the preliminary design phase of each project component, the utility service providers would be consulted to identify existing and proposed buried facilities in affected roadways and to determine which utilities require relocation and which can be avoided. If relocation is required, the appropriate utility service provider would be consulted to sequence construction activities to avoid or minimize interruptions in service. The Local Sponsor and contractor shall comply with permit conditions and such conditions shall be included in the contract specifications.

U-2 If utility service disruption is necessary, residents and businesses in the project area would be notified a minimum of two to four days prior to service disruption through local newspapers, and direct mailings to affected parties.

U-3 The contractor would be required to excavate around utilities, including hand excavation as necessary, to avoid damage and to minimize interference with safe operation and use. Hand tools must be used to expose the exact location of buried gas or electric utilities.

U-4 Prior to construction during the Plans and Specifications phase, utility locations shall be verified through field surveys.

21.0 COMPLIANCE AND COORDINATION

The proposed project action has been developed in accordance with the requirements of the environmental statutes and regulations outlined below.

FEDERAL

National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq)

NEPA is the nation's primary charter for protection of the environment. It establishes national environmental policy which provides a framework for Federal agencies to minimize environmental damage and requires Federal agencies to evaluate the potential environmental impacts of their proposed actions. NEPA requires that agencies of the Federal Government shall implement an environmental impact analysis program in order to evaluate "major federal actions significantly affecting the quality of the human environment." A "major federal action" may include projects financed, assisted, conducted, regulated, or approved by a Federal agency. Under NEPA, a Federal agency must prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS) describing the environmental effects of any proposed action that may have a significant impact on the environment. The EA or EIS must identify measures necessary to avoid or minimize adverse impacts resulting from the proposed action. NEPA specifically allows the integration of Federal and state environmental evaluations into a single, joint document (40 C.F.R. § 1506.2).

This Environmental Assessment (EA) has been prepared in accordance with the requirements of NEPA of 1969 (42 USC 43221, as amended) and the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508).

Procedures for Implementing NEPA, Engineering Regulation (ER) 200-2-2, published at Title 33 CFR part 230, March 1988. This regulation provides guidance for implementation of the procedural provisions of the National Environmental Policy Act (NEPA) for the Civil Works Program of the Corps. It supplements the CEQ regulations in accordance with those regulations. Wherever the guidance in this regulation is unclear or not specific, the reader is referred to the CEQ regulations. This regulation is applicable to all Corps responsibility for preparing and processing environmental documents in support of civil works functions. This EA has been prepared in accordance with this regulation.

Planning Guidance Notebook, ER-1105-2-100, April 2000, as amended. The Planning Guidance Notebook, provides guidance for conducting Civil Works planning studies and related programs by the Corps. Guidance provided in this regulation has been followed in the preparation of this document.

Clean Water Act of 1972 (33 USC 1251 et seq.)

The Clean Water Act (CWA) was passed to restore and maintain chemical, physical, and biological integrity of the Nation's waters. Specific sections of the CWA control the discharge of pollutants and wastes into aquatic and marine environments. Under Section 404, the Corps must

evaluate the effects of ~~issues permits for~~ discharge of dredge or fill materials into waters of the U.S. including wetlands and other special aquatic sites. For Corps projects, this is accomplished through preparation of a 404(b)(1) Evaluation. A Section 401 water quality certification or waiver from the RWQCB is also necessary ~~for issuance of a Corps permit~~. Additional water quality permitting requirements may include compliance with the Section 402 National Pollution Discharge Elimination System (NPDES) General Construction Permit for Storm Water Discharges Associated with Construction Activity (including the development of a Storm Water Pollution Prevention Plan [SWPPP]) issued by the State Water Resources Control Board (SWRCB) for projects that would disturb 1 or more acres (0.4 ha).

This SEA/SEIR is prepared in compliance with the Section 404 of the Clean Water Act. Environmental commitments are included in the SEA/SEIR to minimize impacts to waters of the United States. Coordination has been initiated with Corps Regulatory Division as well as RWQCB, including several meetings and conference calls. ~~The Corps does not issue itself a permit for civil works projects. Therefore, a~~A Section 404(b)(1) Evaluation ~~analysis i~~was prepared and included in Appendix C in compliance with Section 404 of the CWA. For future maintenance activities under the jurisdiction of Section 404, as applicable, the RCFC&WCD would obtain a ~~n appropriate~~ Section 404 permit from the Corps Regulatory Division.

The Corps and RCFC&WCD received a Section 401 Water Quality Certificate from the RWQCB on August 15, 2003 (File No. 03C-046, Appendix J) for construction and operation and maintenance of the overall flood control project. The Corps has continued to coordinate this project with the RWQCB, providing them a copy of the Draft SEA/SEIR and requesting their participation in several resources agency meetings held prior to and after release of that document. The Corps also has sent a letter dated July 24, 2014 to the RWQCB to provide an update of the mitigation for Phase I and inform the RWQCB of the status of the minor changes to the Phase II design. The Corps and RCFC&WCD will continue to coordinate with the RWQCB and the Corps Regulatory Division on the proposed Modified Phase II Plan.

Endangered Species Act of 1973 (16 USC 1531 et seq.)

The Endangered Species Act (ESA) protects threatened and endangered species by prohibiting federal actions that would jeopardize continued existence of such species or result in destruction or adverse modification of any critical habitat of such species. Section 7 of the Act requires consultation regarding protection of such species be conducted with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) prior to project implementation. During the planning process, the USFWS and the NMFS evaluate potential impacts of all aspects of the project on threatened or endangered species. Their findings are contained in letters that provide an opinion on whether a project would jeopardize the continued existence of endangered species or modify critical habitat. If a jeopardy opinion is issued, the resource agency would provide reasonable and prudent alternatives, if any, that would avoid jeopardy. A non-jeopardy opinion may be accompanied by reasonable and prudent measures to minimize incidental take caused by the project.

The least Bell's vireo, listed as endangered under the ESA, was detected within the Phase II project area. The Corps ~~will~~ initiated formal consultation under Section 7 of the ESA with the

USFWS on March 15, 2013. An evaluation of potential effects to the least Bell's vireo as well as other listed species is described in Section 6.0 of this SEA/SEIR. Avoidance and minimization measures are also outlined in this document to avoid and minimize potential effects to listed species. ~~Prior to construction, a~~A biological opinion (Appendix I) ~~would be obtained~~was received on July 25, 2014 which ~~by the Corps in compliance with~~ concludes formal consultation under Section 7 of the ESA. Terms and conditions of the biological opinion will be complied with. The Phase II project is in compliance with the ESA.

Fish and Wildlife Coordination Act, as Amended

The Proposed Project is in compliance with the Fish and Wildlife Coordination Act. Coordination with the USFWS, ~~CDFG~~ CDFW and other agencies for the Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project was initiated during development of the original project and documented in the September 2000 Final Feasibility Report and EIS/EIR. A Coordination Act Report was prepared for the Murrieta Creek Flood Control Project (July 2000). This document is included in the 2000 Final EIS/EIR as appendix E, and the recommendations continue to be carried forward during implementation of each Phase, including the proposed Phase II of the Murrieta Creek Flood Control Project.

In recent years, numerous meetings have occurred between USFWS, ~~CDFG~~CDFW, other resource agencies, local sponsors, and the Corps to discuss the various proposed Phases including Phase II. Discussions included potential impacts to, mitigation for, and minimization and avoidance measures for nesting birds covered under the MBTA, species covered under the Federal ESA and the California ESA (such as the least Bell's vireo and ~~Southwestern~~ southwestern pond turtle), and wildlife movement issues. This SEA/SEIR ~~will be~~was sent to USFWS, ~~CDFG~~CDFW, and other resource agencies for review and to facilitate further coordination efforts. The USFWS and CDFW provided comments on the Draft SEA/SEIR during the public review period. The Corps and RCFC&WCD coordinated with the USFWS and CDFW extensively on consideration of the review comments and addressing the concerns. See Appendix H for copies of the comment letters and responses to the comments. There is no change in compliance from the 2000 Final EIS/EIR.

Clean Air Act of 1969 (42USC7401 et seq.); CAA Amendments of 1990 (PL101-549)

Air quality regulations were first promulgated with the Clean Air Act (CAA). The CAA is intended to protect the Nation's air quality by regulating emissions of air pollutants. Section 118 of the CAA requires that all Federal agencies engaged in activities that may result in the discharge of air pollutants comply with state and local air pollution control requirements. Section 176 of the CAA prohibits federal agencies from engaging in any activity that does not conform to an approved State Implementation Plan.

The CAA established the National Ambient Air Quality Standards (NAAQS) and delegated enforcement of air pollution control to the states. In California, the Air Resources Board (ARB) has been designated as the state agency responsible for regulating air pollution sources at the state level. The ARB, in turn, has delegated the responsibility of regulating stationary emission

sources to local air pollution control or management districts that, for the proposed project, is the South Coast Air Quality Management District (SCAQMD).

The CAA states that all applicable federal and state ambient air quality standards must be maintained during the operation of any emission source. The CAA also delegates to each state the authority to establish their own air quality rules and regulations. State adopted rules and regulations must be at least as stringent as the mandated federal requirements. In states where the NAAQS are exceeded, the CAA requires preparation of a State Implementation Plan (SIP) that identifies how the state would meet standards within timeframes mandated by the CAA.

The 1990 CAA established new nonattainment classifications, new emission control requirements, and new compliance dates for areas presently in nonattainment of the NAAQS, based on the design day value. The design day value is the fourth highest pollutant concentration recorded in a 3-year period. The requirements and compliance dates for reaching attainment are based on the nonattainment classification.

One of the requirements established by the 1990 CAA was an emission reduction amount, which is used to judge how progress toward attainment of the ozone standards is measured. The 1990 CAA requires areas in nonattainment of the NAAQS for ozone to reduce basin wide VOC emissions by 15 percent for the first 6 years and by an average 3 percent per year thereafter until attainment is reached. Control measures must be identified in the SIP, which facilitates reduction in emissions and show progress toward attainment of ozone standards.

The 1990 CAA states that a federal agency cannot support an activity in any way unless it determines the activity would conform to the most recent EPA-approved SIP. This means that Federally supported or funded activities would not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any standard; or (3) delay the timely attainment of any standard or any required interim emission reductions or other milestones in any area. In accordance with Section 176 of the 1990 CAA, the EPA promulgated the final conformity rule for general Federal actions in the November 30, 1993 *Federal Register*.

Project emissions are not expected to exceed “de minimis” levels established as a criteria for a finding of conformity. Therefore, the project is consistent with the SIP and meets the requirements of Section 176(c). Construction and operation and maintenance activities are expected to result in emissions which are all below SCAQMD's as well as Federal threshold major source thresholds. None of the pollutant exceeds State or Federal thresholds. Therefore, the project is in compliance with the CAA.

National Historic Preservation Act of 1966 (16 USC 470 et seq.)

A records and literature search was conducted for all phases of the Murrieta Creek Ecosystem and Flood Control Project. For this Phase 2 of the project, two separate cultural resources surveys were conducted. As a result, no historical or prehistoric archeological sites have been identified. Based on this information, the Corps has determined that Phase 2 will not affect historic properties. In accordance with section 106 of the Act (36 CFR 800), a letter dated

August 27, 2007 was sent to the California State Historic Preservation Officer transmitting our determination. In a letter dated October 16, 2008 the SHPO concurred with the Corps' determination. A copy of the Corps and SHPO correspondence is located in Appendix E.

Executive Order 11990, Protection of Wetlands

In developing alternatives, the Corps considered the effects of the Proposed Project on the survival and quality of wetlands. Projects are to "avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." The proposed project evaluated in this SEA/SEIR is a modified plan of the original authorized project, initially evaluated in the 2000 EIS/EIR for the overall flood control project. As described in the 2000 EIS/EIR, the project will have an effect on wetlands; however, no feasible alternative is available to avoid these areas. The proposed Modified Phase II Plan incorporates the design of a wider unmaintained riparian corridor, which is a benefit compared to the Original Phase II Plan. With implementation of the Modified Phase II Plan, regular maintenance (i.e., mowing) of the channel bottom by the RCFC&WCD would be lessen in area compared with existing conditions. Mitigation measures developed in the 2000 Final EIS/EIR and this SEA/SEIR for the Murrieta Creek Flood Control Project have been formulated to reduce impacts to wetlands. The project, therefore, is in compliance with this Executive Order.

Executive Order 11988, Floodplain Management, May 24, 1977

Signed May 24, 1977, this order requires that government agencies, in carrying out their responsibilities, provide leadership and take action to restore and preserve the natural and beneficial values served by floodplains. Before proposing, conducting, supporting or allowing an action in the floodplain, each agency is to determine if planned activities will affect the floodplain and evaluate the potential effects of the intended action on its functions. In addition, agencies shall avoid locating development in a floodplain to avoid adverse effects in the floodplains. The eight-step process outlined in ER 1165-2-26, para. 8, General Procedures was followed. The purpose of the proposed project is to reduce the risk of flooding through the Cities of Temecula and Murrieta in Riverside County by the construction and maintenance of flood control improvements, restoration areas, and recreational features. To address the purpose of the project (reducing the risk of flooding), selection of the proposed project location within the floodplain is required. Section 3 of this SEA/SEIR and Section 2 of the EIS/EIR provides details of the alternative formulation process. The proposed action complies with state and local flood plain protection standards. No adverse impacts to the flood plain are anticipated from the Proposed Action. The proposed action does not induce floodplain development or increase risks to public safety beyond those identified for the Original Phase II Plan. The proposed action minimizes potential harm within the flood plain as there are no non-floodable structures in any element of the proposed project. Environmental commitments are proposed to minimize effects to the floodplain. The proposed project is in compliance with this Executive Order.

Executive Order 13112 – Invasive Species

EO 13112 requires federal agencies to prevent the introduction of invasive species; provide for their control; and minimize the economic, ecological, and human health effects that invasive species cause. The environmental protection standard specifications direct the contractor to implement measures to prevent the spread of invasive species. Mitigation measures developed in the 2000 Final EIS/EIR and this SEA/EIR have been formulated to reduce impacts from invasive species.

Executive Order 12898, Environmental Justice Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations) was signed on February 11, 1994. This order was intended to direct Federal agencies "To make achieving environmental justice part of its mission by identifying and addressing... disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the [U.S.]..." No minority or low-income communities would be disproportionately affected by implementation of the Proposed Action. The Proposed Action is in compliance with the Executive Order.

Executive Order 12088, Federal Compliance with Pollution Control Standards

Federal Agencies are responsible for ensuring that all necessary actions are taken for the prevention, control, and abatement of environmental pollution with respect to Federal facilities and activities under control of the agency. To ensure responsible prevention, control, and abatement of potential environmental pollution associated with project activities, the environmental commitments listed in Sections 5.1 and 5. 4 would be integrated into the proposed project activities. The proposed project would be consistent with this Order.

Executive Order (EO) 11514, Protection and Enhancement of Environmental Quality, amended by Executive Order 11991, Relating to Protection and Enhancement of Environmental Quality

This EO mandates that the Federal government provide leadership in protecting and enhancing the quality of the nation's environment to sustain and enrich human life. Federal agencies must initiate measures needed to direct their policies, plans and programs so as to meet national environmental goals. Corps regulations advocate early NEPA preparation and require impact statements to be concise, clear, and supported by evidence that agencies have made the necessary analyses. This SEA/SEIR has been prepared in compliance with NEPA, ER 200-2-2 (Procedures for Implementing NEPA), and CEQA, in coordination with resource agencies. The proposed project is consistent with Order.

Migratory Bird Treaty Act

The MBTA prohibits persons, except as permitted by regulations, "to pursue, take, or kill…any migratory bird, or any part, nest, or egg of any such bird, included in the terms of conventions" with certain other countries (16 USC 703). Direct and indirect acts are prohibited under this definition, although harassment and habitat modification are not included unless they result in the direct loss of birds, nests, or eggs. The current list of species protected by the MBTA includes several hundred species and essentially includes all native birds. Mitigation measures developed in this document and in the 2000 Final EIS/EIR have been formulated to reduce impacts on migratory birds.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits the "take," possession, sale, purchase, barter, offer to sell, purchase, or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 U.S. Code [USC] 668(a); 50 CFR 22). The Proposed Project is in compliance. The Proposed Project modification would not affect bald or golden eagles.

STATE

Compliance with state and local laws and regulations are addressed below for CEQA purposes.

California Environmental Quality Act (CEQA) (Public Resources Code 22,000 et seq.)

CEQA establishes requirements and procedures for state and local agency review of the environmental effects of projects proposed within their jurisdictions. It further requires that agencies, when feasible, avoid or reduce the significant environmental impacts of their decisions. CEQA requires the preparation of an Initial Study (IS) to determine whether a Negative Declaration or Environmental Impact Report should be prepared by a state or local agency for projects that may significantly impact the environment. In some cases, a joint document is prepared to comply with both NEPA and CEQA for projects that are cost-shared by Federal and non-Federal agencies. This document (SEA/SEIR) meets the goals, policies, and requirements of CEQA. Information and analysis to meet CEQA requirements are included within this SEA/SEIR for each resource.

Guidelines for the Implementation of the California Environmental Quality Act (Section 15000 et seq. of the California Public Resources Code). The CEQA Guidelines stipulate that a public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when: (a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or (b) The initial study identifies potentially significant effects, but: (1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects

would occur, and (2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

In accordance with the provisions of CEQA, reasonable alternatives to the Proposed Action have been considered during the planning process and potential environmental effects have been included in the evaluation of the project. An EIR has been prepared to address the proposed design modifications to the Phase II Plan. The procedural requirements set forth in the Guidelines for Implementation of the California Environmental Quality Act have been followed.

The CEQA requires state and local agencies to disclose and consider the environmental impacts of their actions. It further requires that agencies, when feasible, avoid or reduce the significant environmental impacts of the implementation of their action. A detailed impact analysis of applicable environmental resources is located in Sections 4.0 through 19.0 of this document. Environmental Commitments are outlined in Section 20.0. Appendix A contains a copy of the Notice of Preparation for the EIR. Therefore, this document meets the goal, policies, and requirements of CEQA.

California Endangered Species Act of 1984 (Fish and Game Code 2050- 2116)

Provides for the protection of rare, threatened, and endangered plants and animals, as recognized by the Department of Fish and ~~Game~~Wildlife, and prohibits the unauthorized taking of such species. As a responsible agency, the California Department of Fish and Wildlif~~Game~~ (~~CDFG~~CDFW) has regulatory authority over state-listed endangered and threatened species. State agencies are required to consult with the ~~Department of Fish and Game~~CDFW on actions that may affect listed or candidate species.

Since the Proposed Action may affect species that are listed as threatened or endangered under both the state and Federal Endangered Species Acts and, since the project is subject to CEQA review and Federal review pursuant to NEPA, the Corps and RCFC&WCD shall continue to coordinate with ~~CDFG~~CDFW. The state legislature encourages cooperative and simultaneous findings between state and Federal agencies. Further, the General Counsel for the ~~CDFG~~ CDFW has issued a memorandum to ~~CDFG~~ CDFW regional managers and division chiefs clarifying the CESA consultation process wherein, if a Federal Biological Opinion has been prepared for a species, the ~~CDFG~~ CDFW must use this Biological Opinion in lieu of its own findings unless it is inconsistent with CESA. ~~CDFG~~ CDFW Code Section 2095 authorizes participation in Federal consultation and adoption of a Federal Biological Opinion. By adopting the Federal Biological Opinion, the ~~CDFG~~ CDFW need not issue a taking permit per Section 2081 of the state Code. If the Biological Opinion is consistent with CESA, the ~~CDFG~~ CDFW will complete a 2095 form in finalizing the adoption of the Biological Opinion.

The Corps and RCFC&WCD ~~will continue~~ coordinat~~ion~~ed with ~~CDFG~~ CDFW to ensure compliance with requirements of the CESA. Per coordination with CDFW, since the Corps is the entity constructing the project, CDFW has no authority to issue a CESA Incidental Take Permit or Consistency Determination pursuant to Sections 2081 and 2080.1, respectively (pers. comm. Ms. Leslie MacNair, CDFW, email correspondence, June 25, 2014) for construction of Phase II. The MSHCP addresses take and MSHCP states that maintenance of existing flood control facilities within the MSHCP Criteria Area that is subject to an MOU with the CDFW

would be covered pursuant to those MOUs or agreements (MSHCP Section 7.3.7). Further, since no effect to the least Bell's vireo or its habitat is expected during operation and maintenance of the project, no CESA permitting is required.

California Fish and Game Code Section 1600 et seq (Streambed Alteration Agreement)

Under Chapter 6 of the California Fish and Game Code, ~~CDFG~~ CDFW is responsible for protecting and conserving the state's fish and wildlife resources. Sections 1600 et seq. of the Code define the responsibilities of ~~CDFG~~CDFW, and the requirement for public and private applicants to obtain an agreement to divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by ~~CDFG~~ CDFW in which there is at any time an existing fish or wildlife resource or from which those resources derive benefit, or will use material from the streambeds designated by the department.

Federal agencies are exempt from Section 1601, but the RCFC&WCD is a participant in the project. The RCFC&WCD have obtained a Streambed Alteration Agreement (SAA#6-2003-089) from ~~CDFG~~ CDFW for construction activities for the Phase I construction of the Murrieta Creek Flood Control Project. ~~The local sponsor will~~RCFC&WCD has submitted a notification to the CDFW for~~request an amendment or~~ a new SAA ~~for the proposed project from CDFG~~ CDFW for ~~construction and~~ operation and maintenance of Phase II of the Murrieta Creek Flood Control Project. The RCFC&WCD is currently coordinating with the CDFW on the SAA and will complete the SAA with the CDFW prior to construction. The Proposed Action will comply with the Code.

Porter-Cologne Water Quality Control Act of 1967 (Water Code Section 13000 et seq.)

The Porter-Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq., requires the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (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 Porter-Cologne Water Quality Control Act also requires the SWRCB and the nine RWQCBs to ensure the protection of water quality through the regulation of waste discharges to land. Such discharges are regulated under Title 23, California Code of Regulations, Chapter 9, Division 3. These regulations require that the RWQCB issue a Waste Discharge Requirement regarding the discharge of waste (soil) into surface waters resulting from land disturbance. The Waste Discharge Requirement regarding the protection of water quality by appropriate design, sizing, and construction of erosion and sediment controls is covered under the California Water Code, Sections 13260 -13269. Murrieta Creek, which lies within the San Diego Region 9 RWQCB, is subject to the policies set forth in the San Diego RWQCB or Basin Plan. The Corps and RCFC&WCD ~~has~~ have been in coordination with the RWQCB. A CWA Section 401 Water Quality Certification (WQC) was issued to the Corps and RCFC&WCD for the overall flood control project on August 15, 2003 (File No. 03C-046). The Corps and RCFC&WCD will continue coordination with the RWQCB.

California Hazardous Waste Control Law (HWCL)

Although individual states may implement hazardous waste programs under RCRA with USEPA approval, California has not yet received this USEPA approval. The California Hazardous Waste Control Law (HWCL) is administered, instead, by the California Environmental Protection Agency (CALEPA) to regulate hazardous wastes. This law provides for the minimization, management, storage, transport, treatment, and disposal of hazardous wastes. While the HWCL is generally more stringent than RCRA, both the state and Federal laws will apply in California until the USEPA approves the California program.

The HWCL lists approximately 790 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging and labeling hazardous wastes; prescribes applicable management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies selected wastes that cannot be disposed of in landfills. Conformance with this law would only be engaged if unforeseen waste is found within the area of the Proposed Action in the future.

Cal/OSHA

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings. Implementation of the proposed action will be in compliance with this act.

LOCAL

Western Riverside County Multiple Species Habitat Conservation Plan

On June 17, 2003, the Riverside County Board of Supervisors adopted the Western Riverside County Multiple Species Habitat Conservation Plan (WRC-MSHCP). The WRC-MSHCP is a comprehensive, multi-jurisdictional plan that has as its goal the creation of a 500,000-acre conservation area that protects and manages habitat for 146 covered species. As the Corps of Engineers is not a participating agency to the WRC-MSHCP it is exempt from WRC-MSHCP policies. However, the Corps ~~will~~ consult<u>ed</u> with the ~~U.S. Fish and Wildlife Service (~~USFWS~~)~~ under Section 7 of the Federal Endangered Species Act and ~~be subject to~~<u>received a</u> separate take coverage for LBV. ~~The Section 7 incidental take statement will also be used to obtain a State consistency determination under Section 2080.1 of the California Endangered Species Act (CESA).~~ An analysis has been prepared (Appendix G) to determine whether the Modified Phase II Plan would result in impacts to the assembly of the Conservation Area identified in Section 3 of the WRC-MSHCP. <u>The RCFC&WCD has coordinated with the CDFW. Per review of Section 7.3.7 of the MSHCP, the Corps is constructing Phase II (not RCFC&WCD) and is not a Permittee to the MSHCP. Therefore, the CDFW has determined that construction of Phase II is not subject to processing through MSHCP (completion of a JPR and DBESP). The RCFC&WCD would be responsible for the operation and maintenance of Phase II, of which this portion of Murrieta Creek (within Phase II) is currently covered by the CDFW Memorandum of</u>

Understanding (MOU) with RCFC&WCD. Therefore, based on Section 7.3.7 of the MSHCP, MSHCP compliance (a JPR and DBESP) is not required for operation and maintenance of Phase II. The proposed project ~~would be~~is in compliance with the goals of the WRC-MSHCP.

COORDINATION

As part of the overall Murrieta Creek Flood Control Project efforts, the Proposed Project (Phase II) the Corps and RCFC&WCD ~~is in coordination~~has coordinated with numerous agencies, organizations, and individuals, including the ~~U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG)~~USFWS, CDFW, State Office of Historic Preservation, ~~Regional Water Quality Control Board (~~RWQCB~~)~~, U.S. Environmental Protection Agency (USEPA), Pechange Tribe, and local cities and counties. The Draft SEA/EIR of the Proposed Project ~~will~~ was~~be~~ distributed to several public agencies and interested parties for review and comments. The Murrieta Creek Flood Control Project has been fully coordinated with resource agencies and interested parties since 1998. Summaries of past coordination, consultation and permitting are included in the 2000 Final EIS/EIR for the Murrieta Creek Flood Control Project. ~~Recent c~~Coordination specific to Phase II design modifications included ~~has occurred on~~a site visit on October 15, 2012 to discuss the features of the Modified Phase II Plan and to discuss applicable permit requirements. In addition to individual phone calls and email correspondence, additional meetings occurred on December 19, 2012 and June 19, 2013 with the USFWS, CDFW, RWQCB, and USEPA to review the comments received during the public review period, discuss how the Corps is proposing to address the comments, present further analysis performed to address comments, and to receive additional clarification from the agencies. A conference call was held on March 18, 2014 to further coordinate with the USFWS, CDFW, RWQCB, and USEPA of design changes proposed to address the agencies concerns, to the extent possible.

As discussed above, the Corps initiated Section 7 consultation, pursuant to the ESA with the USFWS on March 15, 2013. The Corps coordinated with the USFWS throughout this process and a biological opinion (Appendix I) was received on July 25, 2014 which concludes formal consultation under Section 7 of the ESA.

The Corps and RCFC&WCD received a Section 401 Water Quality Certificate from the RWQCB on August 15, 2003 (File No. 03C-046) for construction and operation and maintenance of the overall flood control project. The Corps has continued to coordinate this project with the RWQCB, providing them a copy of the Draft SEA/SEIR and requesting their participation in several resources agency meetings held prior to and after release of that document. The Corps also has sent a letter dated July 24, 2014 to the RWQCB to provide an update of the mitigation for Phase I and inform the RWQCB of the status of the minor changes to the Phase II design. The Corps and RCFC&WCD will continue to coordinate with the RWQCB and the Corps Regulatory Division on the proposed Modified Phase II Plan.

Coordination with CDFW was accomplished, including a coordination meeting on May 6, 2014, to discuss the project's compliance with the CESA, MSHCP, and the SAA Program under Section 1602 of the Fish and Game Code. RCFC&WCD will continue to coordinate with CDFW to complete a SAA for the project. Per coordination with CDFW, since the Corps is the

entity constructing the project, CDFW has no authority to issue a CESA Incidental Take Permit or Consistency Determination pursuant to Sections 2081 and 2080.1, respectively (pers. comm. Ms. Leslie MacNair, CDFW, email correspondence, June 25, 2014) for construction of Phase II. The MSHCP addresses take and MSHCP states that maintenance of existing flood control facilities within the MSHCP Criteria Area that is subject to an MOU with the CDFW would be covered pursuant to those MOUs or agreements (MSHCP Section 7.3.7). Further, since no effect to the least Bell's vireo or its habitat is expected during operation and maintenance of Phase II, no CESA permitting is required.

Per review of Section 7.3.7 of the MSHCP, the Corps is constructing Phase II (not RCFC&WCD) and is not a Permittee to the MSHCP. Therefore, the CDFW has determined that construction of Phase II is not subject to processing through MSHCP (completion of a JPR and DBESP). The RCFC&WCD would be responsible for the operation and maintenance of Phase II, of which this portion of Murrieta Creek (within Phase II) is currently covered by the CDFW Memorandum of Understanding (MOU) with RCFC&WCD. Therefore, based on Section 7.3.7 of the MSHCP, MSHCP compliance (a JPR and DBESP) is not required for operation and maintenance of Phase II.

22.0 CONCLUSION/CEQA MANDATORY FINDINGS OF SIGNIFICANCE

This joint draft SEA/EIR has been prepared in compliance with NEPA and CEQA guidelines. This draft SEA/EIR evaluated the environmental effects of the proposed Modified Phase II Plan. Potential adverse effects to the following resources were evaluated in detail: recreation, biological resources including special status species, air quality, climate change, green house gases, water resources, transportation, aesthetics, noise, geology and soils, cultural resources, public safety, recreation, utilities and hazardous materials. Minimization measures would be implemented to avoid an adverse effect on water quality and threatened and endangered species.

Results of the analysis in the SEA/EIR, 2000 EIS/EIR, field visits, and coordination with other agencies indicate that the Modified Phase II Plan would meet the purpose and need of the project in reducing the risk of flooding while providing for restoration and recreation features. The proposed Modified Phase II Plan ~~(Alternative 2)~~ would be similar to the previously approved Original Phase II Plan (Alternative ~~1, No Action Alternative~~ 6) in degree to both short-term and long-term effects on the environment, and would not result in significant long-term effects on the environment. Short-term effects would either be less than significant or mitigated to less than significance using BMPs and other mitigation measures. ~~Alternative 2 has been identified as the preferred alternative.~~

Based on this evaluation, the proposed project meets the definition of a Finding of No Significant Impact (FONSI) as described in 40 CFR 1508.13. A FONSI may be prepared when an action would not have a significant effect on the human environment and for which an environmental impact statement would not be prepared. Therefore, a ~~draft~~ FONSI has been prepared and accompanies this ~~draft f~~Final SEA/SEIR.

The local sponsor, the RCFC&WCD, has evaluated this project under CEQA guidelines. As required by CEQA, this Final SEA/SEIR and ~~T~~the FONSI will be submitted to the RCFC&WCD Board for consideration and approval prior to taking a discretionary action ~~has determined that the project would have no significant impacts on the environment~~.

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APPENDIX A

CEQA Notice of Preparation and Notice of Availability

NOTICE OF PREPARATION

Date: October 4, 2012

To: NOP Distribution List

Subject: Notice of Preparation of a Supplemental Environmental Assessment/ Supplemental Environmental Impact Report for the Murrieta Creek Phase 2 Project (SCH Number 2000071051)

Lead Agency: Riverside County Flood Control and Water Conservation District

Project Title: Murrieta Creek Phase 2 Project

This Notice of Preparation (NOP) is to notify agencies and interested parties that the Riverside County Flood Control and Water Conservation District (District) as the Lead Agency is beginning preparation of a Supplemental Environmental Assessment (SEA)/ Supplemental Environmental Impact Report (SEIR) pursuant to the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) for the proposed Murrieta Creek Phase 2 Project.

The District is soliciting the views of interested persons and agencies as to the scope and content of the environmental resources and topics to be studied in the SEA/SEIR. In accordance with CEQA, agencies are requested to review this NOP and provide comments on environmental issues related to the statutory responsibilities of the agency. The SEA/SEIR will be used by the District, and any CEQA responsible agencies, when considering approvals of the Murrieta Creek Phase 2 Project.

Project Description: The U.S. Army Corps of Engineers (Corps) proposes to construct various improvements to provide flood control, a multi-purpose trail, and higher quality riparian habitat along the existing Murrieta Creek channel within the location described below. The project will increase the channel capacity by excavating a wider and deeper channel section. Riprap and soil cement are proposed to protect the banks from erosion. The project will also include the establishment of a riparian corridor to provide higher quality native habitat for wildlife species. The Corps is the federal lead agency and will construct the project. The District owns the channel right of way, will provide funding, and will operate and maintain the project. Refer to attached figures.

Project Location: The project is located in the city of Temecula in southwesterly Riverside County, within the existing Murrieta Creek channel from a point approximately 1,000 linear feet south of 1st Street to approximately Winchester Road . The project is located within the USGS 7.5' Temecula and Murrieta quadrangle maps in extrapolated Sections 2, 11-12 of Township 8 South, Range 3 West, and Sections 34-35 of Township 7 South, Range 3 West, San Bernardino Base & Meridian. Refer to attached figures.

Environmental Documents: The Corps and District will jointly prepare the necessary NEPA and CEQA documents to address the Phase 2 Project. The entire Murrieta Creek Project was addressed in a previously adopted EIS/EIR (September 2000) (SCH Number 2000071051). Since that time, new information has become available, including the Western Riverside County Multiple-Species Habitat Conservation Plan (WRC-MSHCP) and the presence of the Federally and State Endangered least Bell's

vireo. The SEA/SEIR document will also address any changes to the Phase 2 Project since the 2000 EIS/EIR.

The Corps and District are currently seeking information from agencies and individuals who are potentially affected by the proposed project or who have knowledge about resources in the project area. Information received in response to the Notice of Preparation will be considered in determining the scope and content of the detailed environmental analysis that will be presented in the SEA/SEIR. Agencies will need to use the SEA/SEIR when considering approvals of the project.

Environmental Factors Potentially Affected: The purpose of the SEA/SEIR is to evaluate and disclose the potential short- and long-term environmental consequences of the proposed Phase 2 project. The SEA/SEIR will address the potential for the project to cause direct and indirect impacts to environmental resources. The document will primarily address new information and new potentially significant impacts that were not addressed in the original EIS/EIR and are specific to the Phase 2 project. Based on the project description and the Lead Agency's understanding of the environmental issues associated with the proposed project, the following topics have been tentatively identified to be analyzed in detail in the SEA/SEIR:

- Biological Resources (including threatened and endangered species)
- Air Quality
- Traffic

The environmental factors listed below will be re-evaluated and updated where necessary:

- Cultural Resources
- Physical Environment
- Water Quality
- Noise
- Land Use and Recreation
- Aesthetics
- Utilities
- Socioeconomics

Response to Notice of Preparation: In accordance with CEQA, the Notice of Preparation provides information on the above referenced project and provides an opportunity to submit comments on potential environmental effects that should be considered in the SEA/SEIR. Please send written comments to the mailing address below:

Mr. Arturo Diaz, Senior Civil Engineer
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, CA 92501

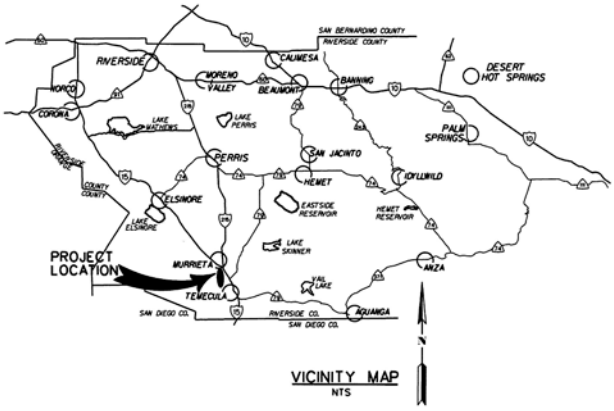
Telephone: (951) 955-1233
Fax: (951) 788-9965
Email: aadiaz@rcflood.org

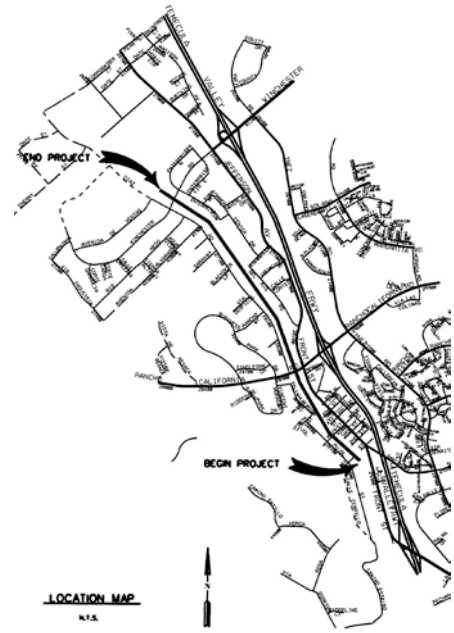
Due to the time limits mandated by State CEQA Guidelines Section 15082, responses must be sent to the District at the earliest possible date but **no later than** 5:00 p.m. on November 5, 2012.

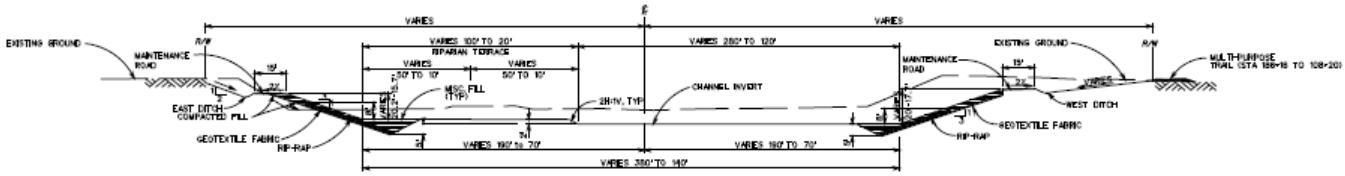
MURRIETA CREEK PHASE 2

7-8-00021

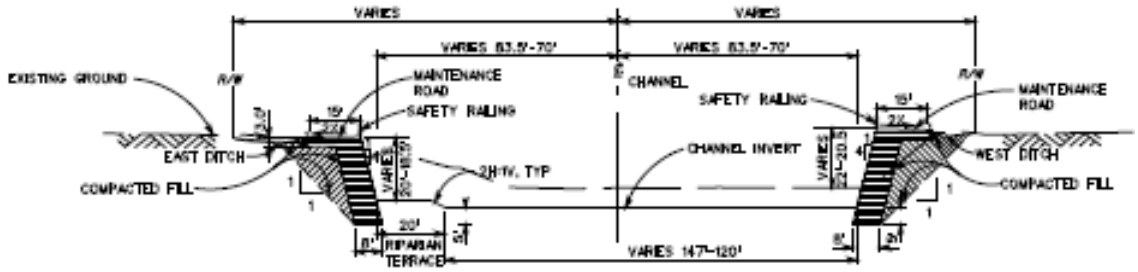
October 2012







TYPICAL SECTION WITH RIP-RAP SLOPE PROTECTION



TYPICAL SECTION WITH SOIL CEMENT SLOPE PROTECTION

CEQA Notice Mailing List – Murrieta Creek Phase 2

Ms. Peggy Bartels
Corps of Engineers, Los Angeles District
Regulatory Division
Riverside Field Office
1451 Research Park Drive, Suite 100
Riverside, CA 92507-2154

Ms. Karin Cleary-Rose
U.S. Fish and Wildlife Service
Palm Springs Fish & Wildlife Office
777 E. Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262

Caltrans District 8
464 W. 4th Street (MS 619)
San Bernardino CA 92401

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Southern California Association of Governments
818 West Seventh Street, 12th Floor
Los Angeles, CA 90017-3435
Attn: Intergovernmental Review

Western Riverside Council of Governments
4080 Lemon Street, 3rd Floor
Riverside, CA 92501

Riverside County Planning Department
4080 Lemon Street
Riverside, CA 92501

Temecula Valley Unified School District
31350 Rancho Vista Road
Temecula, CA 92592

Mr. Darren Bradford
Regional Water Quality Board
San Diego Region
9174 Sky Park Court, Suite 100, San Diego,
California 92123-4353

State of California
Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

Mr. Matt Stone, General Manager
Rancho California Water District
42135 Winchester Road
Temecula, CA 92590

Mr. Severino Mendoza
Eastern Municipal Water District
P.O. Box 8300
Perris, CA 92572-8300

Riverside County Transportation Department
4080 Lemon Street
Riverside, CA 92501

Mr. Greg Butler
City of Temecula
41000 Main Street
Temecula, California 92590

Mr. Pat Thomas
City of Murrieta
One Town Square, Murrieta, CA 92562

Ms. Cynthia Kinser
City of Murrieta
One Town Square, Murrieta, CA 92562

Mr. Peter Brillinger
Verizon Communications
150 South Juanita Street
Hemet, CA 92543-4385

Mr. Steven Waters
Time Warner Cable
560 S Promenade Ave. Ste 102
Corona, CA 92879

Southern California Edison
Planning Supervisor
26100 Menifee Road
Romoland, CA 92585

Mr. Frank Kalinowski
Southern California Gas Company
1981 W. Lugonia Avenue
Redlands, CA 92374

Mr. Charles Landry
Western Riverside County
Regional Conservation Authority
Riverside Centre Building
3403 10th Street, Suite 320
Riverside, CA 92501

Ms. Anna Hoover
Pechanga Band of Luiseno Mission Indians
P. O. Box 2183
Temecula, CA 92593

Mr. Juan Lopez-Torres
California Department of Fish and Game
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764-4913

Posted at:

Riverside County Clerk-Recorder
2720 Gateway Drive
Riverside, CA 92502-0751

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

October 30, 2012

Arturo Diaz, Senior Civil Engineer
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside CA 92501

Notice of Preparation of a CEQA Document for the
Murrieta Creek Phase 2 Project

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Please send the SCAQMD a copy of the Draft EIR upon its completion. Note that copies of the Draft EIR that are submitted to the State Clearinghouse are not forwarded to the SCAQMD. Please forward a copy of the Draft EIR directly to SCAQMD at the address in our letterhead. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. The lead agency may wish to consider using land use emissions estimating software such as the recently released CalEEMod. This model is available on the SCAQMD Website at: http://www.aqmd.gov/ceqa/models.html.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has developed a methodology for calculating PM2.5 emissions from construction and operational activities and processes. In connection with developing PM2.5 calculation methodologies, the SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD requests that the lead agency quantify PM2.5 emissions and compare the results to the recommended PM2.5 significance thresholds. Guidance for calculating PM2.5 emissions and PM2.5 significance thresholds can be found at the following internet address: http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html.

In addition to analyzing regional air quality impacts the SCAQMD recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized significance analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis") can be found on the SCAQMD's CEQA web pages at the following internet address: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html. An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additional mitigation measures can be found on the SCAQMD's CEQA web pages at the following internet address: www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/prdas/aqguide/aqguide.html. In addition, guidance on siting incompatible land uses can be found in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Perspective, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (http://www.aqmd.gov).

The SCAQMD staff is available to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. If you have any questions regarding this letter, please call Ian MacMillan, Program Supervisor, CEQA Section, at (909) 396-3244.

Sincerely,

Ian MacMillan
Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

IM
RVC121009-05
Control Number

State of California -The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
1416 9th Street
Sacramento, CA 95814
http://www.dfg.ca.gov

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

November 5, 2012

Arturo Diaz
Riverside County Flood Control and
Water Conservation District
1995 Market Street
Riverside, CA 92501

Re: Notice of Preparation for the Draft Environmental Impact Report for the Murrieta Creek Phase 2 Project, City of Murrieta, State Clearinghouse (SCH) No. 2000071051

Dear Mr. Diaz:

The Department of Fish and Game (Department) appreciates this opportunity to comment on the Notice of Preparation for the Draft Environmental Impact Report for the Murrieta Creek Phase 2 Project, City of Murrieta, SCH No. 2000071051. The Department is responding as a Trustee Agency for fish and wildlife resources [Fish and Game Code sections 711.7 and 1802 and the California Environmental Quality Act Guidelines (CEQA) section 15386] and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines section 15381), such as a Lake and Streambed Alteration Agreement (California Fish and Game Code Sections 1600 *et seq.*) and/or a California Endangered Species Act (CESA) Permit for Incidental Take of Endangered, Threatened, and/or Candidate species (Fish and Game Code Sections 2080 and 2080.1).

Project Description

The United States Army Corps of Engineers (ACOE) proposes to construct flood control improvements, a multi-purpose trail and riparian habitat along the existing Murrieta Creek Channel. Channel capacity will be increased by widening and deepening the channel. The creek sides will consist of rip-rap and soil cement. The ACOE will construct the project, while the County will provide funding and will operate and maintain the channel. The Project site is located in the City of Temecula from a point approximately 1,000 lineal feet south of 1st Street to approximately Winchester Road. The ACOE and Riverside County Flood Control and Water Conservation District (RCFCWCD) will jointly prepare the National Environmental Policy Act (NEPA) and CEQA documents.

Multiple Species Habitat Conservation Plan (MSHCP)

The Department is responsible for ensuring appropriate conservation of fish and wildlife resources, including rare, threatened, and endangered plant and animal species, pursuant to the CESA, and administers the Natural Community Conservation Planning Program (NCCP Program). On June 22, 2004, the Department issued NCCP approval and take Authorization for the Western Riverside County MSHCP per Section 3800 *et seq.* of the Fish and Game Code. The MSHCP establishes a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the

permit. In order to be considered a covered activity, Permittees must demonstrate that proposed actions are consistent with the MSHCP and its associated Implementing Agreement.

The RCFCWCD is the joint lead agency with the ACOE and is signatory to the Implementing Agreement of the MSHCP. The proposed Project occurs within Subunit 1 of the Southwest Area Plan of the MSHCP and is subject to the provisions and policies of the MSHCP. The project is also located in the Lake Mathews/Lake Skinner Management Unit that includes Murrieta Hot Springs, Murrieta Creek, and Pechanga Creek. The Project does contain criteria cells.

The biological issues for Subunit 1 include the following:

1. Maintain habitat connectivity within Murrieta Creek from the confluence of Temecula Creek to Cold Creek and from Lower Warm Springs Creek and Murrieta Creek for wildlife movement and conservation of wetland species;
2. Maintain linkage area for bobcat;
3. Maintain the area of Murrieta Creek at the confluence of Pechanga Creek, Temecula Creek and Santa Margarita River for mountain lion linkage, and,
4. Maintain habitat for arroyo chub, California red-legged frog and western pond turtle within Murrieta Creek and Cole Creek.

Department Concerns

The DEIR should include an analysis of the potential and direct effects of the Project on the fish and wildlife resources noted above. The Project should also discuss the importance of the project to the Temecula Creek-Murrieta Creek-Santa Margarita River confluence and how this project potentially impacts the flow of biological resources to and between these areas.

In addition to the recommended measures later in this letter, the Department has concerns regarding this Project and the content of the EIR:

1. Provide a thorough analysis of the wildlife corridor issues (west to east and south to north), the potential impact of the Project on connectivity, and mitigation measures to offset those impacts;
2. Provide a thorough analysis of the potential mountain lion corridor, the Project's potential impact and mitigation measures to offset those impacts;
3. Maintain habitat for arroyo chub, California red-legged frog and western pond turtle;
4. Include biological assessments, surveys, Determination of Biologically Equivalent or Superior Preservation, and avoidance and minimization measures to riparian resources;
4. Provide a detailed impact assessment, mitigation measures to offset Project impacts and a funding mechanism for the habitat maintenance and monitoring plan;
5. Provide several alternatives for proposals to mitigate for the loss of riparian resources and, show how these mitigation measures conform to the MSHCP Reserve and biological objectives;
6. Provide a discussion of the entire Project including Phase 1 and any future development associated with this Project; and
7. Provide a cumulative impact analysis of this and other projects in this area of Murrieta Creek and its adjacent tributaries.

Potential Biological Impacts

The target species for Subunit 1 of the Southwest Area Plan include: California red-legged frog, Cooper's hawk, least Bell's vireo, southwest willow flycatcher, tree swallow, White-tailed kite, yellow warbler, arroyo chub, bobcat, mountain lion and western pond turtle.

Species that require additional survey needs and procedures in the Project area include: heart-leaved pitcher sage, prostrate navarretia, and burrowing owl. The Project is not located within the Narrow Endemic Plant Species Survey Area. Other Resource protection polices that apply to the Project are: Urban/Wildlands Interface (Section 6.1.4 of the MSHCP), and Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools (Section 6.1.2).

Compliance with approved habitat plans, such as the MSHCP, is discussed in CEQA Section 15125(d) of the Guidelines. The implementation of CEQA requires that an environmental impact report (EIR) discuss any inconsistencies between a proposed project and applicable general plans and regional plans, including habitat conservation plans and natural community conservation plans (NCCP).

The Department is concerned about the continuing loss of jurisdictional waters of the State and the encroachment of development into areas with native habitat values. The CEQA document should contain sufficient, specific, and current biological information on the existing habitat and species at the Project site; measures to minimize and avoid sensitive biological resources; and mitigation measures to offset the loss of native flora and fauna and State waters. If the Project site contains Federally- or State-listed species, the CEQA document should include measures to avoid and minimize impacts to these species as well as mitigation measures to compensate for the loss of biological resources. The CEQA document should not defer impact analysis and mitigation measures to future regulatory discretionary actions, such as a Lake or Streambed Alteration Agreement.

This particular Project has the potential to have significant environmental impacts on sensitive flora and fauna resources. Therefore, the CEQA document should include an alternatives analysis which focuses on environmental resources and ways to avoid or minimize impacts to those resources.

To enable Department staff to adequately review and comment on the proposed Project, we suggest that updated biological studies be conducted prior to any environmental or discretionary approvals. The following information should be included in any focused biological report or supplemental environmental report:

1. Please provide a summary of the structure, purpose and obligations of the Lead Agency under the MSHCP and an analysis of the Project in relation to the Area Plan and Criteria Cell biological goals and objectives.

    a. Reserve Assembly. The Project is located within the MSHCP Criteria Area and is subject to the conservation requirements for reserve assembly. A discussion of the applicable Area Plan and whether the Project includes Criteria Cells should be addressed. Documents processed through the Resource

Conservation Agency (RCA) of the MSHCP should be included in the CEQA document.

b. Goals and Objectives. A discussion of the Area Plan biological goals and objectives for species and habitats and an analysis of the Project's species and habitats in relation to those goals and objectives.

c. MSHCP Policies. A discussion of the applicability of MSHCP policies and procedures, including: the (MSHCP Section 6.3.2); Fuels Management (MSHCP Section 6.4), and the Guidelines Pertaining to the Urban Wildlands Interface (MSHCP Section 6.1.4).

d. Special Survey Areas. A discussion of what the survey requirements are of the Project site and the results of general and focused surveys. Surveys should be conducted within one year of submittal of the CEQA document. Survey requirements and results should be included in the CEQA document.

e. Biological Resources. A list of the biological resources found on the site and an analysis of how the Project implementation would impact those resources.

f. Mitigation Measures. A list of proposed mitigation measures required by the MSHCP to offset Project impacts, including payment of fees or other measures.

2. Please provide a complete assessment of the flora and fauna within and adjacent to the Project area, with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive habitats.

a. A thorough assessment of rare plants and rare natural communities, following the Department's November 2009 guidance for Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. The guidance document can be found at the following link: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf

b. A thorough assessment of sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the Project area should also be considered. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service.

c. The Department's California Natural Diversity Data Base in Sacramento should be contacted at (916) 327-5960 to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the California Fish and Game Code.

3. Please provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts.

species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful.

5. A CESA Permit must be obtained if there are impacts to State or Federal listed species and the applicant chooses not to process the Project through the Resource Conservation Agency of the MSHCP.

   a. If the Project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the Project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to the proposed Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the California Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA permit unless the Project CEQA document addresses all Project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit. For these reasons, the following information is requested:

   b. Biological mitigation, monitoring,and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.

   c. A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.

6. Although the proposed Project is within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) and could be subject to Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, a Lake and Streambed Alteration Agreement Notification is still required by the Department for any activity that will change the bed, channel, or bank (which may include associated riparian resources) of a river or stream or use material from a streambed. The Department's criteria for determining the presence of jurisdictional waters are generally more comprehensive than the MSHCP criteria in Section 6.1.2. The CEQA document should include a jurisdictional delineation if there are impacts to riparian vegetation or State waters.

   The Department opposes the elimination of watercourses and/or their channelization or conversion to subsurface drains. All wetlands and watercourses, whether intermittent or perennial, must be retained or mitigated for and provided with substantial setbacks which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations.

   a. Under Section 1600 *et seq.* of the California Fish and Game Code, the Department requires the Project applicant to notify the Department of any activity that will divert, obstruct or change the natural flow or the bed, channel or bank (which includes associated riparian resources) of a river, stream or lake, or use material from a streambed prior to the applicant's commencement of the activity. Streams include, but are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with

subsurface flow. The Department's issuance of a Lake and Streambed Alteration Agreement for a project that is subject to CEQA will require CEQA compliance actions by the Department as a responsible agency. The Department, as a responsible agency under CEQA, may consider the local jurisdiction's (lead agency) Negative Declaration or Environmental Impact Report for the Project. However, if the CEQA document does not fully identify potential impacts to lakes, streams, and associated resources (including, but not limited to riparian and alluvial fan sage scrub habitat) and provide adequate avoidance, mitigation, monitoring, and reporting commitments, additional CEQA documentation will be required prior to execution (signing) of the Streambed Alteration Agreement. In order to avoid delays or repetition of the CEQA process, potential impacts to a lake or stream, as well as avoidance and mitigation measures need to be discussed within this CEQA document. The Department recommends the following measures to avoid subsequent CEQA documentation and project delays:

(i) Incorporate all information regarding impacts to lakes, streams and associated habitat within the DEIR. Information that should be included within this document includes: (a) a delineation of lakes, streams, and associated habitat that will be directly or indirectly impacted by the proposed Project; (b) details on the biological resources (flora and fauna) associated with the lakes and/or streams; (c) identification of the presence or absence of sensitive plants, animals, or natural communities; (d) a discussion of environmental alternatives; (e) a discussion of avoidance measures to reduce Project impacts, (f) a discussion of potential mitigation measures required to reduce the Project impacts to a level of insignificance; and (g) an analysis of impacts to habitat caused by a change in the flow of water across the site. The applicant and lead agency should keep in mind that the State also has a policy of no net loss of wetlands.

(ii) The Department recommends that the Project applicant and/or lead agency consult with the Department to discuss potential Project impacts and avoidance and mitigation measures. Early consultation with the Department is recommended since modification of the proposed Project may be required to avoid or reduce impacts to fish and wildlife resources. To obtain a Streambed Alteration Agreement Notification package, please visit our website at: http://www.dfg.ca.gov/habcon/1600.html.

Thank you for this opportunity to comment. Please contact Robin Maloney-Rames at (909) 980-3818, if you have any questions regarding this letter.

Sincerely,

Jeff Brandt
Senior Environmental Scientist

EASTERN MUNICIPAL WATER DISTRICT
SINCE 1950

November 5, 2012

Mr. Arturo Diaz Senior Civil Engineer
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, CA 92501

SUBJECT: Murrieta Creek Phase 2 Project
Notice of Preparation (NOP) of a
Supplemental Environmental Assessment /
Supplemental Environmental Impact Report

Dear Mr. Diaz:

Thank you for the opportunity to review the Notice of Preparation (NOP) for the above referenced project. The project proposes to construct various improvements to provide flood control, a multi-purpose trail, and higher quality riparian habitat along the existing Murrieta Creek Channel; from a point approximately 1,000 lineal feet south of 1st Street to approximately Winchester Road. The project will increase the channel capacity by excavating a wider and deeper channel section. Riprap and soil cement are proposed to protect the banks from erosion. Eastern Municipal Water District (EMWD) offers the following comments.

The U.S. Army Corps of Engineers (USACE) shall protect-in-place EMWD's existing 12-inch and 24-inch VCP gravity sewer crossings during its creek improvements. In past meetings between EMWD and USACE, USACE staff determined that a grade control structure could be positioned in the vicinity of these crossings to protect them from erosive forces. In those meetings, it was agreed by USACE staff that additional measures would be taken to protect the pipelines for loads exerted by heavy equipment during construction efforts. USACE's Contractor shall submit to EMWD the chosen measures to protect the pipelines for review and approval.

Again, EMWD appreciates the opportunity to comment on this project. Please forward the Draft Environmental Impact Report to the attention of Helen Stratton at the mailing address shown below. If you have questions concerning these comments, please feel free to contact Helen Stratton at 951 928-3777, Ext. 4545, or Armando Arroyo at Ext. 4480.

Sincerely,

Jayne Joy
Director of Environmental and Regulatory Compliance

Mailing Address: Post Office Box 8300 Perris, CA 92572-8300 Telephone: (951) 928-3777 Fax: (951) 928-6177
Location: 2270 Trumble Road Perris, CA 92570 Internet : www.emwd.org

PECHANGA CULTURAL RESOURCES
Temecula Band of Luiseño Mission Indians

Post Office. Box 2183 • Temecula, CA 92593
Telephone (951) 308-9295 • Fax (951) 506-9491

November 5, 2012

VIA E-MAIL and USPS

Mr. Arturo Diaz
Senior Civil Engineer
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, CA 92501

Re: Pechanga Tribe Comments on the Notice of Preparation of a Supplemental Assessment/Supplemental Environmental Impact Report for the Murrieta Creek Phase 2 Project (SCH Number 2000071051)

Dear Mr. Diaz:

This comment letter is written on behalf of the Pechanga Band of Luiseño Indians (hereinafter, "the Tribe"), a federally recognized Indian tribe and sovereign government. The Tribe formally requests, pursuant to Public Resources Code §21092.2, to be notified and involved in the entire CEQA, NEPA and Section 106 environmental review process for the duration of the above referenced project (the "Project"). Please add the Tribe to your distribution list(s) for public notices and circulation of all documents, including environmental review documents, archeological reports, and all documents pertaining to this Project. The Tribe further requests to be directly notified of all public hearings and scheduled approvals concerning this Project. Please also incorporate these comments into the record of approval for this Project.

The Tribe submits these comments concerning the Project's potential impacts to cultural resources in conjunction with the environmental review of the Project and to assist the District in developing appropriate avoidance and preservation standards for the Pechanga Cultural resources that the Project may be impacting.

The Pechanga Tribe informs the District that the Project area is within the Luiseño Ancestral Origin Landscape Area which includes Luiseño place names, *tóota yixélval* (rock art, pictographs, and petroglyphs), Village Complexes, a TCP, sacred places and other tangible and intangible tribal heritage resources. Please understand that the above information may not be exhaustive of all the cultural resources that may be impacted by this Project. Based upon our oral tradition, ethnographic studies and historic documents, the Origin Landscape is one of the most sacred areas to the Tribe and is presently included in the Sacred Lands File with the State Native

American Heritage Commission and is considered by the Tribe to be eligible for both the California and National Registers of Historic Places.

Given the geographical area within which the Project lies, and the Project's proximity to recorded and known archaeological and cultural resources, the Project's impacts must be carefully considered and the Tribe consulted with as soon as possible concerning such impacts. At this time, the Tribe is opposed to any direct, indirect and cumulative impacts this Project may have to tribal heritage resources.

THE DISTRICT AND ARMY CORPS OF ENGINEERS MUST INCLUDE INVOLVEMENT OF AND CONSULTATION WITH THE PECHANGA TRIBE IN ITS ENVIRONMENTAL REVIEW PROCESS

It has been the intent of the Federal Government[1] and the State of California[2] that Indian tribes be consulted with regard to issues which impact cultural and spiritual resources, as well as other governmental concerns. The responsibility to consult with Indian tribes stems from the unique government-to-government relationship between the United States and Indian tribes. This arises when tribal interests are affected by the actions of governmental agencies and departments. In this case, it is undisputed that the project lies within the Pechanga Tribe's traditional territory. Therefore, in order to comply with CEQA, NEPA, Section 106 and other applicable Federal and California law, it is imperative that the District and the Corps consult with the Tribe in order to guarantee an adequate knowledge base for an appropriate evaluation of the Project effects, as well as generating adequate mitigation measures.

As this Project has a Federal nexus, Section 106 consultation with the Tribe is mandatory. The requirements of Section 106 of the NHPA, set forth in 36 CFR Part 800, clearly requires consultation with Indian tribes, regardless of the location of the project (36 CFR 800.2(c)). The regulations go on to state that the agency official *shall* ensure that consultation provides an Indian tribe "a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects." Id. Further, consultation must occur early in the planning process in order to "identify and discuss relevant preservation issues and resolve concerns about the confidentiality of information on historic properties." Id.

Delegation of these obligations cannot be made except where there is a clear statutory basis for a Federal agency delegation of its legal responsibility to a non-Federal party (ACHP Guidelines). Preparing and entering a Programmatic Agreement between the Federal agency and

[1]See e.g., Executive Memorandum of April 29, 1994 on Government-to-Government Relations with Native American Tribal Governments, Executive Order of November 6, 2000 on Consultation and Coordination with Indian Tribal Governments, Executive Memorandum of September 23, 2004 on Government-to-Government Relationships with Tribal Governments, and Executive Memorandum of November 5, 2009 on Tribal Consultation.
[2] See California Public Resource Code §5097.9 et seq.; California Government Code §§65351, 65352.3 and 65352.4

a non-Federal agency with major decision-making responsibilities, such as Caltrans, is one such authorized delegation (36 CFR 800.14(b)).

PECHANGA CULTURAL AFFILIATION TO PROJECT AREA AND REQUESTED INVOLVEMENT

The Pechanga Tribe asserts that the Project area is part of Luiseño, and therefore the Tribe's, aboriginal territory as evidenced by the existence of Luiseño place names, *tóota yixélval* (rock art, pictographs, and petroglyphs), Village Complexes, a TCP, sacred places and other tangible and intangible tribal heritage resources. This culturally sensitive area is directly affiliated with the Pechanga Band of Luiseño Indians because of the Tribe's cultural ties to this area, knowledge of the cultural resources in this area, proximity to the Pechanga Reservation as well as extensive history of working on Projects in the Temecula region. During our consultation and in subsequent comment letters, we will provide more specific, confidential information on the resources located on and near this Project.

The Tribe requests to be involved and participate with the District and the Corps in assuring that an adequate environmental assessment is completed, and in developing appropriate avoidance measures for impacts to cultural resources. This includes early and continued consultation with the District and the Corps, participation in cultural resources surveys and a thorough review of Project documents. The Tribe further believes that the SEA/SEIR and any other NEPA documents should address auditory and visual impacts of the Project, cumulative impacts related to cultural resources and the TCP as well as any potential growth-related or long-term impacts that may occur as a result of the improvements.

At this time we are requesting project specific information on archaeological and biological resources, development plans, noise, geotechnical and any other relevant surveys or studies as well as a copy of the original EA/EIR as we do not have enough information to provide specific details. As additional Project information becomes available and through consultations between the Tribe, the District and the Corps, the Tribe may offer specific avoidance or mitigation measures. Further discussions with the District and the Corps should occur in a confidential setting regarding this culturally important and sensitive landscape.

The Tribe reserves the right to fully participate in the environmental review process, as well as to provide further comment on the Project's impacts to tribal cultural resources and potential mitigation, including avoidance, for such impacts. Further, the Tribe reserves the right to participate in the regulatory process and provide comment on issues pertaining to the regulatory process and Project approval.

The Pechanga Tribe looks forward to working together with the District and the Corps in protecting the invaluable Pechanga cultural resources found in the Project area, as well as working together to further identify the tangible and intangible cultural resources within this Project area. Please contact me at 951-770-8104 or ahoover@pechanga-nsn.gov once you have

had a chance to review these comments so that we can schedule a meeting and begin consultations. Thank you.

Sincerely,

Anna Hoover
Cultural Analyst

Cc Pechanga Office of the General Counsel

NOTICE OF AVAILABILITY
FOR

Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Phase II
Draft
Supplemental Environmental Assessment/Environmental Impact Report
SCH #2000071051

LEAD AGENCIES: U.S. Army Corps of Engineers (Corps)/Riverside County Flood Control and Water Conservation District (District)

PROJECT LOCATION: The project is located in the city of Temecula in southwestern Riverside County, within the Murrieta Creek channel generally located between Pujol Street/Diaz Road on the west and Front Street/Del Rio Road/Enterprise Circle West on the east from approximately 1,000 linear feet south of 1st Street to approximately 200 linear feet north of Winchester Road.

PROJECT DESCRIPTION: The Corps and the District propose to improve flood risk management by excavating a wider and deeper Murrieta Creek channel to increase flood capacity. Embankments composed of riprap and soil cement would be constructed to stabilize the channel banks. The project will include the establishment of a riparian terrace and a maintenance road/multi-use trail. The District owns and maintains the channel right of way.

ENVIRONMENTAL DOCUMENTS: A Draft Supplemental Environmental Assessment/Environmental Impact Report (Draft SEA/EIR) was prepared for Phase II of this project. The entire Murrieta Creek Project was addressed in a previously adopted EIS/EIR dated September 2000. The Draft SEA/EIR is available for review at the District's address below and at Temecula City Hall, 41000 Main Street Temecula, California 92590. The Draft SEA/EIR is also available from the Public Notices section of District's internet site (http://www.rcflood.org/).

RESPONSE TO NOTICE: Pursuant to CEQA Statutes Section 15105, the Draft SEA/EIR will be available for a 45-day public review period, which will begin on December 3, 2012 and end on January 16, 2013. All comments must be received at the address below no later than 5:00 p.m. on January 16, 2013. Please send written comments to the mailing address below:

Mr. Arturo Diaz
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, CA 92501

For questions, contact Arturo Diaz, of the District at (951) 955-1233 (aadiaz@rcflood.org) or Tiffany Bostwick of the Corps at (213) 452-3845 (tiffany.bostwick@usace.army.mil).

FILED
RIVERSIDE COUNTY
DEC 0 3 2012
LARRY W. WARD, CLERK
By B. Kennemer B. Kennemer
Deputy

COUNTY CLERK
Neg Declaration/Ntc Determination
Filed per P.R.C. 21152
POSTED
DEC 0 3 2012
Removed: 1/10/13
By: _____ Dept.
County of Riverside, State of California

NOTICE OF AVAILABILITY
FOR

Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Phase II
Draft
Supplemental Environmental Assessment/Environmental Impact Report
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  - Notice of Petition to Administer Estate (13)
  - Notice of Trustee Sale (405)
  - Notice of Creditors of Bulk Sale (0)
  - Notice of Creditors of Bulk Sale to Transfer Alcoholic Beverage License (0)
  - Order to Show Cause (0)
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Page: 1 **Showing 1 - 1 of 1 Ads**

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General Public Notice 12/03/2012

NOTICE OF AVAILABILITY FOR Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Phase II Draft Supplemental Environmental Assessment/Environmental Impact Report SCH #2000071051 LEAD AGENCIES: U.S. Army Corps of Engineers (Corps)/Riverside County Flood Control and Water Conservation District (District) PROJECT LOCATION: The project is located in the city of Temecula in southwestern Riverside County, within the Murrieta Creek channel generally located between Pujol Street/Diaz Road on the west and Front Street/Del Rio Road/Enterprise Circle West on the east from approximately 1,000 linear feet south of 1st Street to approximately 200 linear feet north of Winchester Road. PROJECT DESCRIPTION: The Corps and the District propose to improve flood risk management by excavating a wider and deeper Murrieta Creek channel to increase flood capacity. Embankments composed of riprap and soil cement would be constructed to stabilize the channel banks. The project will include the establishment of a riparian terrace and a maintenance road/multi-use trail. The District owns and maintains the channel right of way. ENVIRONMENTAL DOCUMENTS: A Draft Supplemental Environmental Assessment/Environmental Impact Report (Draft SEA/EIR) was prepared for Phase II of this project. The entire Murrieta Creek Project was addressed in a previously adopted EIS/EIR dated September 2000. The Draft SEA/EIR is available for review at the District's address below and at Temecula City Hall, 41000 Main Street Temecula, California 92590. The Draft SEA/EIR is also available from the Public Notices section of District's internet site (http://www.rcflood.org/). RESPONSE TO NOTICE: Pursuant to CEQA Statutes Section 15105, the Draft SEA/EIR will be available for a 45-day public review period, which will begin on December 3, 2012 and end on January 16, 2013. All comments must be received at the address below no later than 5:00 p.m. on January 16, 2013. Please send written comments to the mailing address below: Mr. Arturo Diaz Riverside County Flood Control and Water Conservation District 1995 Market Street Riverside, CA 92501 For questions, contact Arturo Diaz, of the District at (951) 955-1233 (aadiaz@rcflood.org) or Tiffany Bostwick of the Corps at (213) 452-3845 (tiffany.bostwick@usace.army.mil). 12/3

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Page: 1 **Item: 1 - 1 of 1**

ley wearies LA urban waste

e it. A Los Angeles analysis of state recy- lata shows that more) percent of all nonag- ıral compost in the inds up in the region, is home to just 14 per- the population.

essing waste region- he only way cities can ate goals that call for ng half their waste om landfills, state and olitan officials say. s not enough space in enters like San Fran- ıd Los Angeles, nor is ı large market there ıpost.

ome officials said that ıe waste gets to rural recycling facilities ways sufficiently pro- e environment and ors' quality of life.

VING ON COST?

t of these disposal fa- don't want to use the odern technology be- t costs more," said unty's planning direc- elei Oviatt. "Our resi- ant to know why they endure the impacts to save money for ople in Los Angeles."

lebate is only expec- escalate: A law ap- last year calls for the aim to recycle or oth- reduce 75 percent of e by 2020. Los Ange- vowed to go even fur- panding recycling so hat the city will be aste" by 2025.

f the most bitter bat- California is over the batter-like mate- over after treatment inish cleaning and g what is flushed ıe toilet or washed e sink.

e used to get dumped ean — but that was in the 1980s because

In 2000, the city of Los Angeles bought 4,600 acres in Kern County, just off Interstate 5 near Taft, and has been sending up more than 20 truckloads a day of "wet cake" from the Hyperion Sewage Treatment Plant near LAX.

Private companies in Kern County are also in the business, including the South Kern Industrial Center, operated by Synagro and Liberty Composting, both permitted to take hundreds of thousands of tons a year, according to officials at the regional waterboard.

Los Angeles officials and those at major wastewater treatment plants in the state say that spreading such "biosolids" on land or composting it as fertilizer is good for the city and good for the farm. They note that sludge is heated to 131 degrees for several days until harmful bacteria and pathogens are destroyed or removed.

Los Angeles' land in Kern County features a red barn and a sign: "Green Acres Farm." The city's website proudly describes the corn, alfalfa and oats that are grown there.

"To me, it's completing a circle, putting back to the earth what came from it, and doing it very protectively and beneficially," said Greg Kester, biosolids program manager for the California Association of Sanitation Agencies. "Biosolids do enrich the soil in Kern County."

Kern County officials don't see it that way. They fear groundwater will be contaminated and that metals and pharmaceuticals will leach into the soil.

Most experts say recycled products such as sludge and compost are safe if handled properly. But Kern County officials filed court declarations from scientists who are

PUBLIC NOTICES

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YOU SHOULD KNOW....

The Press-Enterprise public notices serve to notify the entire community that an important government function is being carried out. This includes governmental events, activities, contracting, and other transactions of interest to every citizen. The Press-Enterprise public notices are a permanent record and source of information for the entire community.

NOTICE OF SALE OF ABANDONED PROPERTY

Notice is hereby given the undersigned intends to sell the personal property described below to enforce a lien imposed on said property pursuant top to Sections 21700-21716 of the Business and Professional Code, Section 2328 of the UCC, Section 535 of the Penal Code and Provisions of the Civil Code.

The undersigned will sell at public sale by competitive bidding on December 6, 2012, at 11:30 am at the premises where said property has been stored and which are located at SWS STORAGE, 33868 Mission Trail, Wildomar Ca 92595, County of Riverside, State of California, the following misc. household goods, personal items, furniture, clothing, tools, etc. belonging to the following:

M Del Pilar
T Relber

Purchases to be paid for at the time of purchase, CASH only. All purchased items sold as is, where is, & must be removed at time of sale. Sale subject to cancellation in event of settlement between owner & obligated party. The owner reserves the right to bid and, the right to refuse any & all bids. Owner reserves the right to sell in part, or whole.
AUCTIONEER:
American Auctioneers-
Dan Datson, #3S94212400
Telephone: 800-838-7653
11/26, 12/3

STATE OF CALIFORNIA DEPARTMENT OF GENERAL SERVICES REAL ESTATE SERVICES DIVISION PROJECT MANAGEMENT BRANCH

ADVERTISEMENT FOR BIDS

RIVERSIDE CAMPUS PROJECT
CALIFORNIA DEPARTMENT OF EDUCATION
CALIFORNIA SCHOOL FOR THE DEAF
RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA
PROJECT NUMBER 124637, 120302, 122190 & 122192

Project comprises labor, material and services necessary for the following Work Items:

Work Item 124637 - **Renovation of Academic Support Cores and Construction of a New Bus Loop** - Construction of four small buildings totaling 6,700 sf, includes renovation of three buildings totaling 14,200 sf, installation of eight new hot water boilers for 16 existing buildings and removal of plant boilers.

furnish payment and performance bonds, each in the amount of 100 percent of the Contract price.

Bidders' attention is directed to Document 01 35 00 California School for the Deaf Project Procedures of the Project Manual for security clearance requirements.

Prospective bidders must attend the **mandatory pre-bid site meeting** on December 18, 2012, at California School for the Deaf, Riverside. The pre-bid site meeting will begin at 1:00 P.M. at Plant Operations office for the School for the Deaf, located at 3044 Horace Street, Riverside, CA 95206. The State's requirements for Disabled Veteran Business Enterprise (DVBE) participation will be presented along with other contract requirements.

Prospective bidders must also attend the **mandatory pre-bid site inspection tour** on December 19, 2012, at California School for the Deaf, Riverside. The pre-bid site inspection tour will begin at 9:00 A.M. at Plant Operations office for the School for the Deaf, located at 3044 Horace Street, Riverside, CA 95206 and will continue as long as there are questions.

Bidders may view and order secure Drawings and Project Manuals on the following web site: http://www.dgsresdprogroupplanroom.com. Click on the "Public Jobs" link listed below the "Menu" heading on the left. Alternatively, bidders may place an order by contacting ProGroup, 1808 Tribute Road, Suite C, Sacramento, CA 95815; Telephone (916) 927-7010. There is a non-refundable charge of $850, inclusive of sales tax for each set of Drawings and Project Manuals which shall be received before sets can be sent to bidder.

Drawings and Project Manual may also be viewed through Builders' Exchanges. Refer to the Plan Holders List tab on the plan room website identified above for specific locations.

Bid opening will be January 31, 2013, at 2:00 P.M, at: 320 West 4th Street, Suite 330, Los Angeles, CA 90013.

State's estimated cost: $54,500,000. The term of this project is 1,065 calendar days.
The State's Project Director is Wayne Hawkins at (916) 376-1622.

The Bid Tabulation web posting can be viewed at h ttp://www.eprocure.dgs.ca.gov. Click the link for "View CSCR Ads" under Bidding Opportunities. To view Bid Tabulation results you must be logged in to BidSync. Registration is free. Enter the project number; select "Past Bids" for the desired year in the "Search" fields on the left of the page. Results will show in red shaded boxes. Click on the item in the "TAB" column for an attached document showing bid results.
12/3, 12/10/12
CNS-2414703#
THE PRESS ENTERPRISE

WHAT IS A PUBLIC NOTICE?

A Public Notice is a notice given to the public by a government agency or legislative body in a rulemaking or lawmaking proceeding in order to allow members of the public to make their opinions on proposals known...
BEFORE A RULE OR LAW IS MADE.

BE IN THE KNOW...
PUBLIC NOTICES PUBLISH DAILY IN THE PRESS-ENTERPRISE

RIVERSIDE UNIFIED SCHOOL DISTRICT
Is Looking for Qualified Contractors

The Riverside Unified School District needs qualified contractors of all categories wishing to participate in small-to-medium sized Public Works projects for the upcoming fiscal year. Upon submitting your registration form, you will be eligible to receive notices of projects for your particular category.
To register, please log onto our website of www.rusd.k12.ca.us, click "Departments," select "Business Services," select "Purchasing," click on "Vendor Registration Form," and complete the Online Vendor registration Form and submit.
All contractors are required to complete the criminal background check requirements per Education Code Section 451251.

RIVERSIDE UNIFIED SCHOOL DISTRICT 12/3

COUNTY OF RIVERSIDE
NOTICE TO CONTRACTORS

Sealed proposals will be received at the Riverside County Transportation Department, 14th Street Transportation Annex, 3525 14th Street, Riverside, California 92501, telephone (951) 955-6780 until 2:00 pm on **Wednesday January 9, 2013** at which time they will be publicly opened at said address, for construction in accordance with the specifications therefore, to which special reference is made, as follows:
County of Riverside,

LEON ROAD
ROADWAY IMPROVEMENTS
KELLER ROAD TO SCOTT ROAD

PROJECT NO. B7-0733
FEDERAL AID NO. HSIPL - 5956 (191)

The DBE Contract goal is 2.9 Percent

A pre-bid meeting is scheduled for 2:15 pm on **Thursday December 13, 2012,** at the County of Riverside Transportation Department, 3525 14th Street, Riverside, California 92501. This meeting is to inform bidders of prai-

NOTICE OF AVAILABILITY
FOR

Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Phase II
Draft
Supplemental Environmental Assessment/Environmental Impact Report
SCH #2000071051

LEAD AGENCIES: U.S. Army Corps of Engineers (Corps)/Riverside County Flood Control and Water Conservation District (District)

PROJECT LOCATION: The project is located in the city of Temecula in southwestern Riverside County, within the Murrieta Creek channel generally located between Pujol Street/Diaz Road on the west and Front Street/Del Rio Road/Enterprise Circle West on the east from approximately 1,000 linear feet south of 1st Street to approximately 200 linear feet north of Winchester Road.

PROJECT DESCRIPTION: The Corps and the District propose to improve flood risk management by excavating a wider and deeper Murrieta Creek channel to increase flood capacity. Embankments composed of riprap and soil cement would be constructed to stabilize the channel banks. The project will include the establishment of a riparian terrace and a maintenance road/multi-use trail. The District owns and maintains the channel right of way.

ENVIRONMENTAL DOCUMENTS: A Draft Supplemental Environmental Assessment/Environmental Impact Report (Draft SEA/EIR) was prepared for Phase II of this project. The entire Murrieta Creek Project was addressed in a previously adopted EIS/EIR dated September 2000. The Draft SEA/EIR is available for review at the District's address below and at Temecula City Hall, 41000 Main Street Temecula, California 92590. The Draft SEA/EIR is also available from the Public Notices section of District's internet site (http://www.rcflood.org/).

RESPONSE TO NOTICE: Pursuant to CEQA Statutes Section 15105, the Draft SEA/EIR will be available for a 45-day public review period, which will begin on December 3, 2012 and end on January 16, 2013. All comments must be received at the address below no later than 5:00 p.m. on January 16, 2013. Please send written comments to the mailing address below:

Mr. Arturo Diaz
Riverside County Flood Control and
Water Conservation District
1995 Market Street
Riverside, CA 92501

For questions, contact Arturo Diaz, of the District at (951) 955-1233 (aadiaz@rcflood.org) or Tiffany Bostwick of the Corps at (213) 452-3845 (tiffany.bostwick@usace.army.mil). 12/3

CITY OF RIVERSIDE

PUBLIC NOTICE OF FISCAL YEAR 2013-2014 CDBG FUNDING AVAILABILITY

Community Development Block Grant Program (CDBG)

The City of Riverside is currently soliciting proposals for the Fiscal Year 2013-2014 Community Development Block Grant (CDBG) Program, which begins July 1, 2013. The primary objective of the CDBG Program is the development of viable communities, decent housing, and expanding economic opportunities for low- to moderate- income persons.

Since 1975 the City of Riverside has received an annual CDBG allocation from the U.S. Department of Housing and Urban Development (HUD). The resources have been used to fund a variety of community development, economic development, public improvements, public service, and affordable housing activities and projects.

At least seventy percent (70%) of the total grant allocation received each year must be invested in activities and projects which benefit low- to moderate- income persons living in Riverside. Under HUD regulations, in order to be eligible for CDBG funding, a program or project must address at least one (1) of the three (3) following national objectives:

1) The activity must benefit low-to moderate- income persons; or
2) The activity must aid in the prevention or elimination of slums or urban blight; or
3) The activity must meet a certified urgent need posing a threat to health and welfare.

The City of Riverside Public Service funds available through this application process are primarily used to benefit low- to moderate- income persons. Under CDBG regulations, at least 51% of the applicant's clientele must be low- to moderate- income. Applicants must be able to document that the individuals or households served fall within HUD income limits. Under 24 CFR 570.201(e), proposed programs and projects should address Public Service eligible activities in support of the national objectives listed above.

Funding for the Fiscal Year 2013-2014 CDBG Program will be available to implement programs, projects, or activities determined to be eligible and approved through

Printed at: 3:59 pm
on: Thursday, Nov 29, 2012
Ad #: 0000943925
Order Taker: Maria Tinajero

enterprise media
Classified Advertising
Proof

3450 Fourteenth St.
Riverside, CA 92501-3878
(800) 514-7253
(951) 684-1200
(951) 368-9006 Fax

Account Information

Phone #:	(951) 955-1200
Name:	FLOOD CONTROL & WATER (
Address:	1995 MARKET ST , RIVERSIDE, CA 92501 USA
Account #	100141448
Client:	
Placed By:	Shelagh Boggio
Fax #:	(951) 788-9965

Ad Information

Classification:	EN CLS Legals
Publication:	PE.com, Press Enterprise
Start Date:	12/03/2012
Stop Date:	12/03/2012
Insertions:	1 print / 1 online
Rate code:	LGL PE County-Legal
Ad type:	CLS 10 Liner
Size:	2.0 X 73 Li
Bill Size:	
Amount Due:	**$188.50**

Ad Copy:

NOTICE OF AVAILABILITY
FOR

Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Phase II
Draft
Supplemental Environmental Assessment/Environmental Impact Report
SCH #2000071051

LEAD AGENCIES: U.S. Army Corps of Engineers (Corps)/Riverside County Flood Control and Water Conservation District (District)

PROJECT LOCATION: The project is located in the city of Temecula in southwestern Riverside County, within the Murrieta Creek channel generally located between Pujol Street/Diaz Road on the west and Front Street/Del Rio Road/Enterprise Circle West on the east from approximately 1,000 linear feet south of 1st Street to approximately 200 linear feet north of Winchester Road.

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Riverside County Flood Control and
Water Conservation District
1995 Market Street
Riverside, CA 92501

For questions, contact Arturo Diaz, of the District at (951) 955-1233 (aadiaz@rcflood.org) or Tiffany Bostwick of the Corps at (213) 452-3845 (tiffany.bostwick@usace.army.mil). 12/3

U-T San Diego

Order Confirmation

Account Number: 1220724
Customer: RIV CO FLOOD CONTROL
1995 MARKET STREET
RIVERSIDE, CA 92501

Telephone: (951) 955-1292
Fax:
EMail:

Ad Number: 0010692762
PO Number: NOA SCH# 2000071051
Date Ordered: 11/29/2012
Orderer: SHELAGH BOGGIO
Order Status: Live
Queue: Ready
Colors: <NONE>
Prod Colors:
Production Method: AdBooker
Ad Size: 3.22 x 5.12
Columns: 2.00 Inches: 5.12

Total Amount: $159.52
Payment Method:
Payment Amount: $0.00
Amount Due: $159.52

Sales Rep: TAMMI SWENSON
Telephone: (951) 676-4315
EMail: TAMMI.SWENSON@UTSANDIEGO.COM

Product	Zone	Placement	Position	Start Date	End Date	Insertions
NCTimes	Full Run	NCT Legals	NCT Legals	12/03/2012	12/03/2012	1
NCTimes Mobile	Full Run	NCT Legals	NCT Legals	12/03/2012	12/03/2012	1
The Californian	Full Run	NCT Legals	NCT Legals	12/03/2012	12/03/2012	1

Ad Content

NOTICE OF AVAILABILITY FOR Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Phase II Draft Supplemental Environmental Assessment/Environmental Impact Report SCH #2000071051 LEAD AGENCIES: U.S. Army Corps of Engineers (Corps)/Riverside County Flood Control and Water Conservation District (District) PROJECT LOCATION: The project is located in the city of Temecula in southwestern Riverside County, within the Murrieta Creek channel generally located between Pujol Street/Diaz Road on the west and Front Street/Del Rio Road/ Enterprise Circle West on the east from approximately 1,000 linear feet south of 1st Street to approximately 200 linear feet north of Winchester Road. PROJECT DESCRIPTION: The Corps and the District propose to improve flood risk management by excavating a wider and deeper Murrieta Creek channel to increase flood capacity. Embankments composed of riprap and soil cement would be constructed to stabilize the channel banks. The project will include the establishment of a riparian terrace and a maintenance road/multi-use trail. The District owns and maintains the channel right of way. ENVIRONMENTAL DOCUMENTS: A Draft Supplemental Environmental Assessment/Environmental Impact Report (Draft SEA/EIR) was prepared for Phase II of this project. The entire Murrieta Creek Project was addressed in a previously adopted EIS/EIR dated September 2000. The Draft SEA/EIR is available for review at the District's address below and at Temecula City Hall, 41000 Main Street Temecula, California 92590. The Draft SEA/EIR is also available from the Public Notices section of District's internet site (http://www.rcflood.org/). RESPONSE TO NOTICE: Pursuant to CEQA Statutes Section 15105, the Draft SEA/EIR will be available for a 45-day public review period, which will begin on December 3, 2012 and end on January 16, 2013. All comments must be received at the address below no later than 5:00 p.m. on January 16, 2013. Please send

NOTICE OF AVAILABILITY

350 Camino de la Reina
P.O. Box 120191, San Diego, CA 92112-0191
619-299-3131

U-T San Diego

Order Confirmation

Ad Order: 0010692762

FOR
Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Phase II Draft Supplemental Environmental Assessment/Environmental Impact Report
SCH #2000071051

LEAD AGENCIES: U.S. Army Corps of Engineers (Corps)/Riverside County Flood Control and Water Conservation District (District)

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RESPONSE TO NOTICE: Pursuant to CEQA Statutes Section 15085, the Draft SEA/EIR will be available for a 45-day public review period, which will begin on December 3, 2012 and end on January 16, 2013. All comments must be received at the address below no later than 5:00 p.m. on January 16, 2013. Please send written comments to the mailing address below:

Mr. Arturo Diaz
Riverside County Flood Control and Water Conservation District
1995 Market Street, Riverside, CA 92501

For questions, contact Arturo Diaz, of the District at (951) 955-1233 (aadiaz@rcflood.org) or Tiffany Bostwick of the Corps at (213) 452-3845 (tiffany.bostwick@usace.army.mil).

PJB: 12/03/2012

350 Camino de la Reina
P.O. Box 120191, San Diego, CA 92112-0191
619-299-3131

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

REPLY TO
ATTENTION OF

November 29, 2012

Office of the Chief
Planning Division

TO INTERESTED PARTIES:

The Los Angeles District Corps of Engineers (Corps) requests your review and comment on the Draft Supplemental Environmental Assessment (SEA)/Environmental Impact Report (EIR) for Phase II of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Temecula, Riverside County, California. The project was originally documented in the September 2000 Final Environmental Impact Statement (EIS)/Environmental Impact Report (EIR). This Draft SEA/EIR, prepared in compliance with the National Environmental Policy Act and California Environmental Quality Act, assesses the environmental impacts associated with implementation of the Phase II plan, as modified. The Phase II project extends from just upstream of Winchester Road to 1,000 feet downstream of 1st Street, approximately 2.5 miles in length. In this area, the Corps proposes to construct features to reduce the impact of flooding, while also providing opportunities for recreation.

Modifications or refinements from the Original Phase II Plan (2000 EIS/EIR) include use of soil cement in areas with a slope less than 2:1 and use of buried riprap in areas with a 2:1 and 3:1 slope; construction of maintenance roads and access ramps; and establishment of an unmaintained riparian terrace/corridor ranging between 20 feet and 125 feet in width. Vegetation clearing for the proposed project is scheduled to begin in February 2013, and construction is expected to continue for approximately 12 to 18 months.

Impacts to environmental resources would be similar to those addressed in the 2000 EIS/EIR. Mitigation measures identified in the Original Phase II Plan would be sufficient to minimize and compensate for impacts associated with the Modified Phase II Project.

In an effort to conserve paper and resources, the Draft SEA/EIR may be accessed on our website at http://www.spl.usace.army.mil/Media/PublicNotices/ProjectPublicNotices.aspx by selecting the Murrieta Creek Phase II link. Please respond with comments on the Draft SEA/EIR by January 16, 2013. Correspondence may be sent to:

Josephine R. Axt, Ph.D.
Chief, Planning Division
U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711
ATTN: Ms. Tiffany Bostwick
Los Angeles, California 90053-2325
OR
tiffany.bostwick@usace.army.mil

If you have any questions regarding the project or would like to request the document in hard copy or on CD, please contact Ms. Tiffany Bostwick, Project Environmental Coordinator, at (213) 452-3845.

Thank you for your attention to this document.

Sincerely,

Josephine R. Axt, Ph.D.
Chief, Planning Division

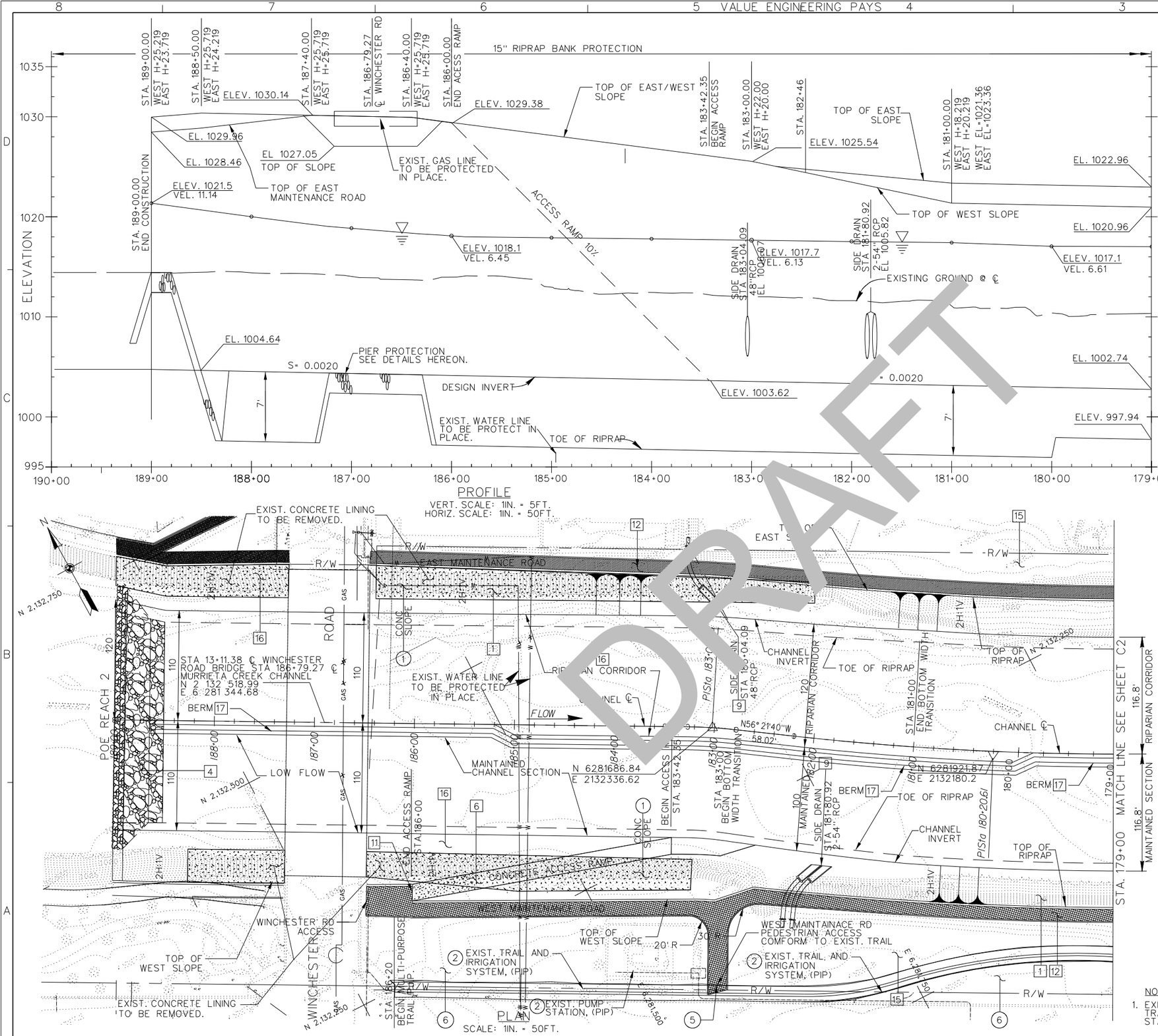
Enclosure

APPENDIX B

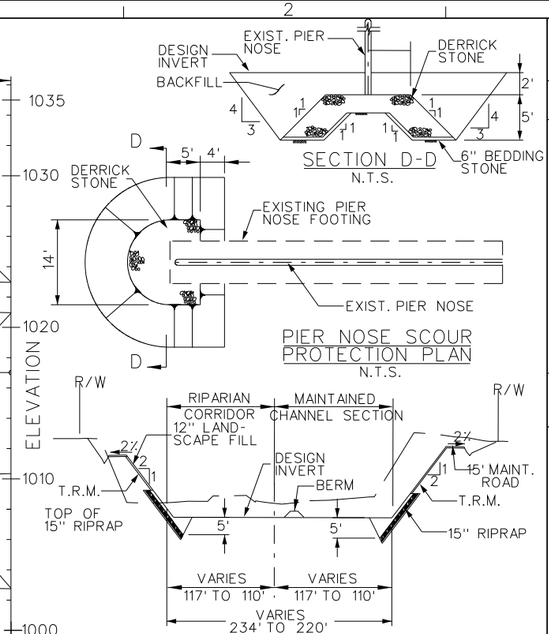
DRAFT DESIGN PLATES

VALUE ENGINEERING PAYS

SAFETY PAYS



PROFILE
VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.



LEGEND

(1) REMOVE

(2) PROTECT IN PLACE

(5) JOIN EXISTING WORK

(6) EXISTING LANDSCAPE IMPROVEMENTS (IRRIGATION SYSTEM, TRAILS, PLANTINGS) PROTECT IN PLACE, SEE L SHEETS.

CONSTRUCTION NOTES

[1] CONSTRUCT CHANNEL SECTION WITH RIPRAP SLOPE PROTECTION. SEE SHEET C13 FOR TYP. SECTIONS.

[4] CONSTRUCT END PROTECTION, SEE SHEET C34 FOR DETAILS.

[6] CONSTRUCT RAMP TO INVERT, SEE SHEET C38 FOR DETAILS.

[8] CONSTRUCT V-DITCH, SEE SHEETS C52 AND C42 FOR DITCH PLAN AND PROFILES.

[9] CONSTRUCT SIDE DRAIN FEATURE, SEE SHEETS C65-C69 FOR DETAILS.

[10] CONSTRUCT DROP INLET, SEE SHEET S6 & S7.

[11] INSTALL PIPE GATE, SEE SHEET C38.

[12] CONSTRUCT MAINTENANCE ROAD- DECOMPOSED GRANITE SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST ASIDE, SEE SHEET C13.

[15] INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.

[16] INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1.

[17] TEMPORARY BERM

REFERENCE NOTE:

1. FOR CROSS SECTIONS, SEE SHEET C15 & C16.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

CHANNEL ℄ CURVE DATA.		
PI. STATION	183+02.33	180+20.61
△=	5° 34'49"	7° 37'31"
R=	500'	3,000'
L=	48.70'	399.26"
T=	24.37'	199.92'

NOTE:

1. EXISTING MULRI-PURPOSE TRAIL CHANNEL STA 186+20 TO STA 107+95

GRAPHIC SCALE
50 25 0 50 100FT
SCALE: 1"= 50'

PLAN
SCALE: 1IN. = 50FT.

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED,
RIVERSIDE COUNTY, CALIFFORNIA
MURRIETA CREEK - PHASE 2
PLAN & PROFILE
STA 189+00 TO 179+00

DESIGNED BY: J.G.R.	DRAWN BY: J.G.R.	CHECKED BY: S.H.V	FILE NAME: C1.DGN

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

DISTRICT FILE NO. 226/249 | SPEC. NO. W912PL-13-B-0003

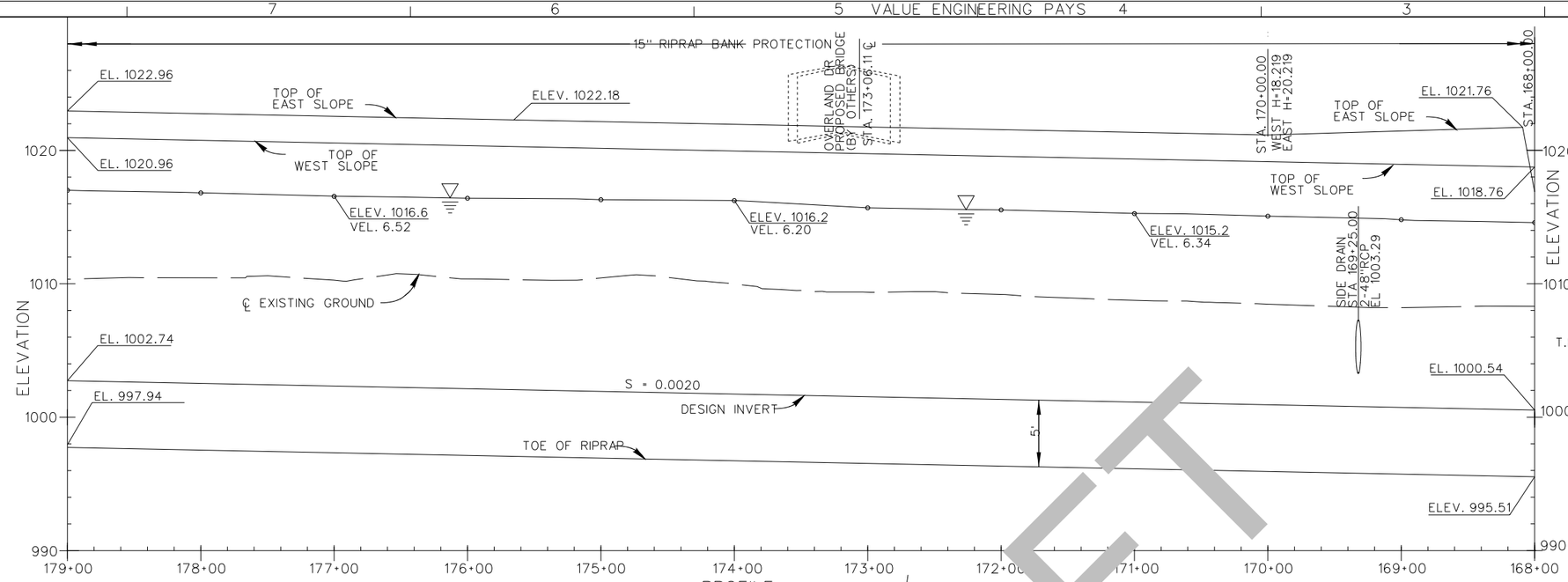
Scale: AS SHOWN

SHEET
C1

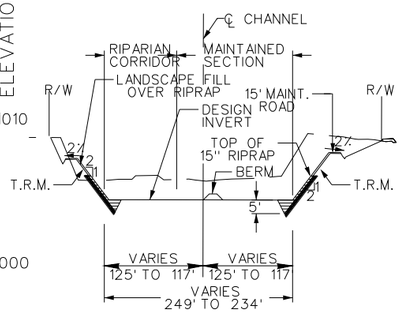
Plot Date: $date$

VALUE ENGINEERING PAYS

SAFETY PAYS



PROFILE
VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.



TYPICAL CROSS SECTION
N.T.S.

LEGEND

(2) PROTECT IN PLACE.
(4) CONSTRUCTED BY OTHERS.
(5) JOIN EXISTING WORK.
(6) EXISTING LANDSCAPE IMPROVEMENTS (IRRIGATION SYSTEM, TRAILS, PLANTINGS PROTECT IN PLACE, SEE L SHEETS.

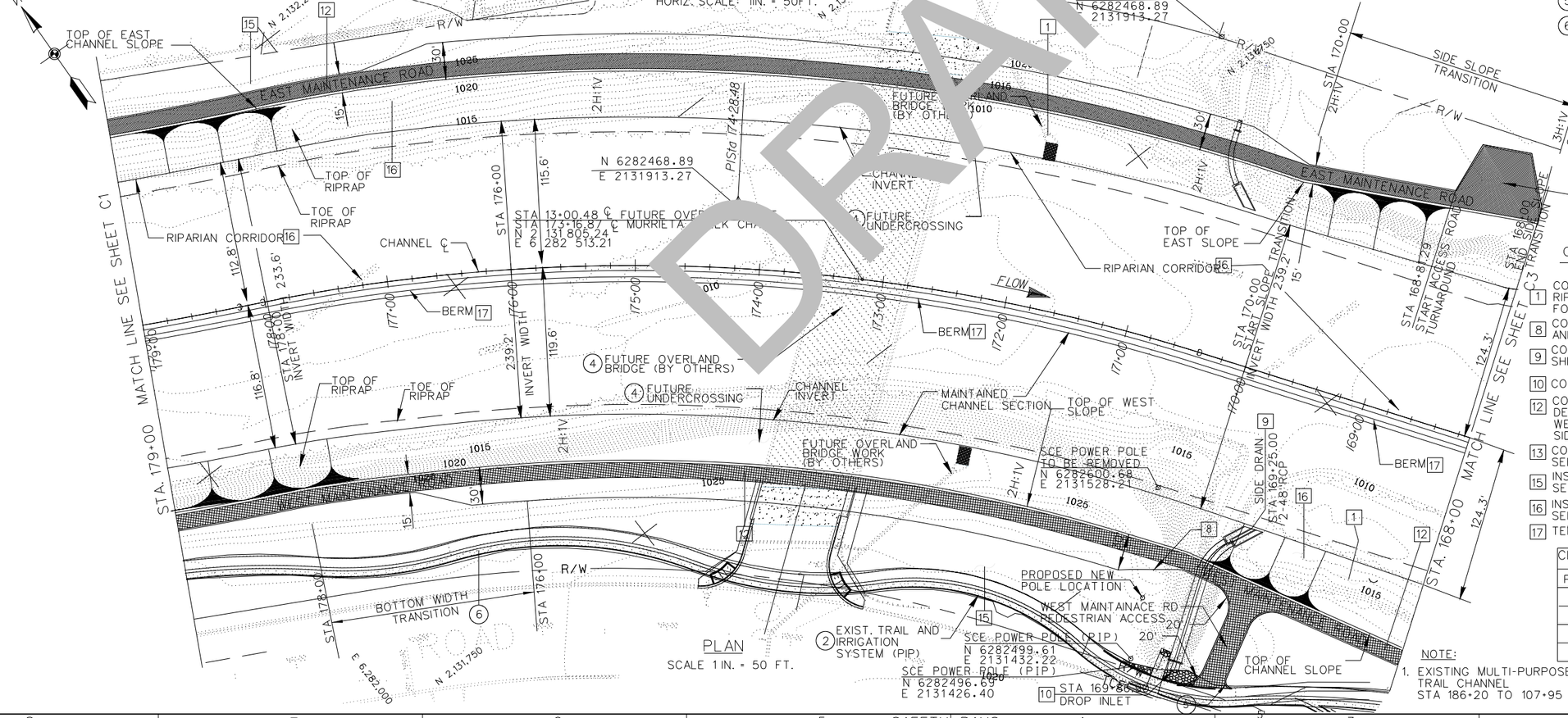
REFERENCE NOTE:
1. FOR CROSS SECTIONS, SEE SHEET C17 & C18.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

CONSTRUCTION NOTES:

1 CONSTRUCT CHANNEL SECTION WITH RIPRAP SLOPEPROTECTION. SEE SHEET C13 FOR TYPICAL SECTIONS.
8 CONSTRUCT V-DITCH. SEE SHEETS C52-C53 AND C42-C43 DITCH PLAN AND PROFILES.
9 CONSTRUCT SIDE DRAIN FEATURE, SEE SHEETS C65-C69 FOR DETAILS.
10 CONSTRUCT DROP INLET,SEE SHEETS S6-S7.
12 CONSTRUCT MAINTENANCE ROAD-DECOMPOSED GRANITE SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST SIDE, SEE SHEET C13.
13 CONSTRUCT VEHICLE TURN AROUND, SEE SHEET M1.
15 INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.
16 INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1
17 TEMPORARY BERM

CHANNEL ℄ CURVE DATA.	
PI. STATION	174+28.48
△	28° 51'21"
R=	1515'
L=	763'
T=	389.77'

NOTE:
1. EXISTING MULTI-PURPOSE TRAIL CHANNEL STA 186+20 TO 107+95



PLAN
SCALE 1 IN. = 50 FT.

SCALE: 1'' = 50'

DRAFT

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	NOT FOR CONSTRUCTION		
	95% DRAFT		
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED,
RIVERSIDE COUNTY, CALIFORNIA
MURRIETA CREEK - PHASE 2

PLAN AND PROFILE
STA. 179+00 TO STA. 168+00

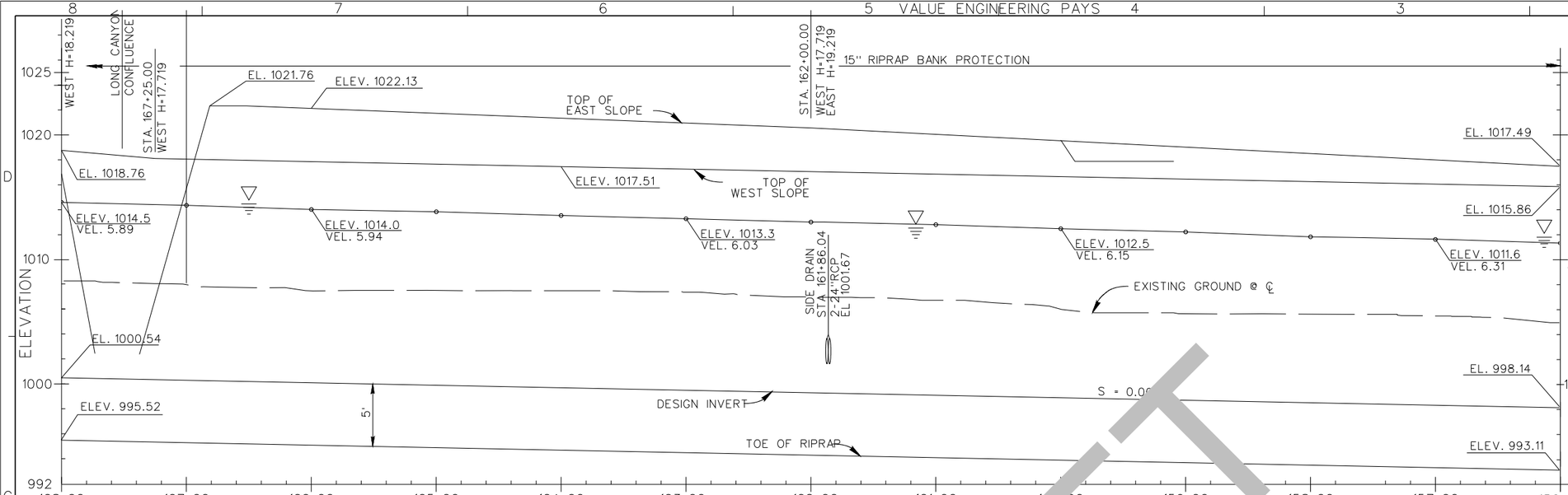
U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE, CHIEF, DESIGN BRANCH
DESIGNED BY: J.G.R.
DRAWN BY: J.G.R.
CHECKED BY: S.H.V.
FILE NAME: C2.DGN
DISTRICT FILE NO. 226/250
SPEC. NO. W912PL-13-B-0003
Scale: AS SHOWN
SHEET C2

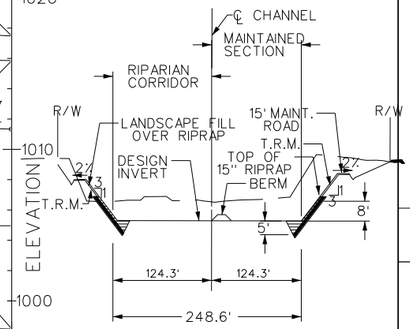
Plot Date: $date$

VALUE ENGINEERING PAYS

SAFETY! PAYS



PROFILE
VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.



TYPICAL CROSS SECTION
N.T.S.

LEGEND

(2) PROTECT IN PLACE

(6) EXISTING LANDSCAPE IMPROVEMENTS (IRRIGATION SYSTEM, TRAILS, PLANTINGS) PROTECT IN PLACE, SEE L SHEETS.

NOTE:

1. EXISTING MULTI-PURPOSE TRAIL CHANNEL STA 186+20 TO 107+95

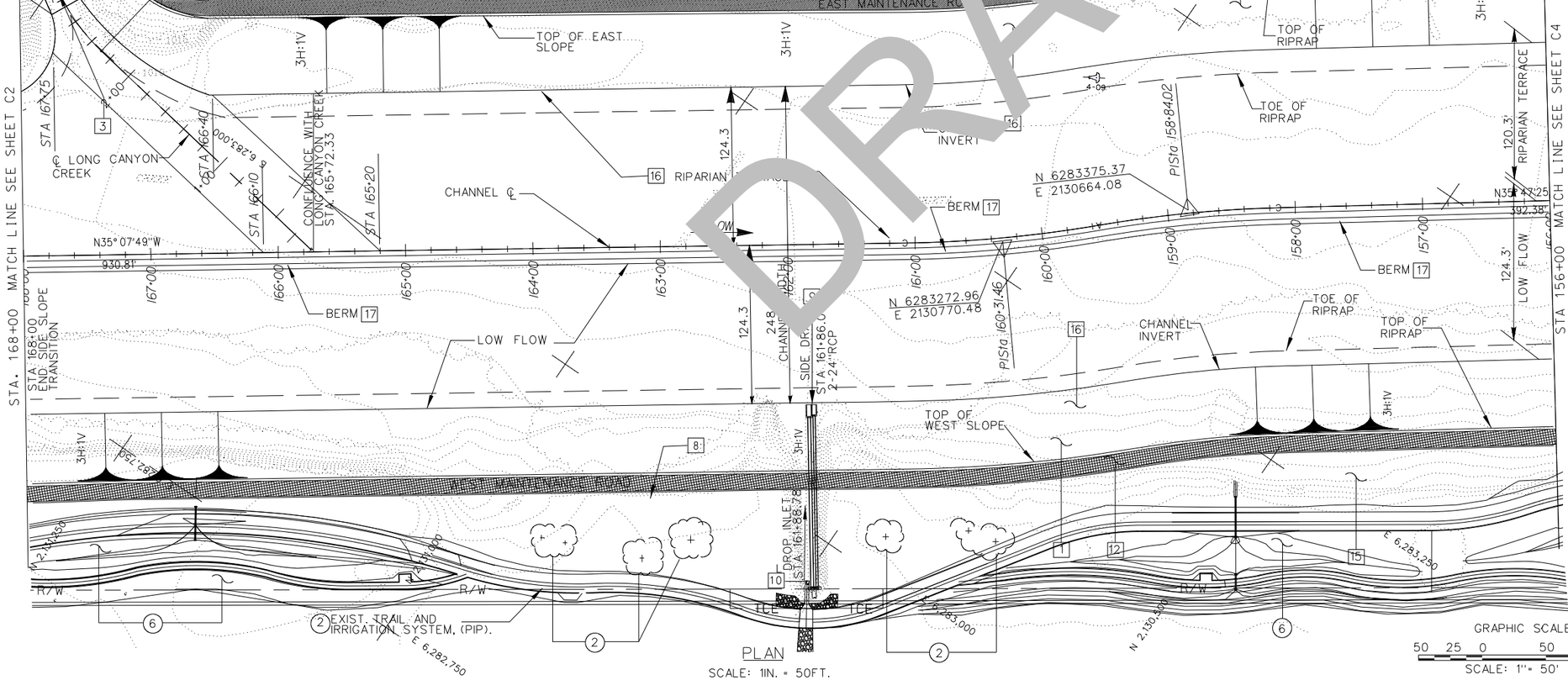
CONSTRUCTION NOTES:

1. CONSTRUCT CHANNEL SECTION WITH RIPRAP SLOPE PROTECTION. SEE SHEET C13 FOR TYPICAL SECTIONS.
3. CONSTRUCT GROUTED STONE STABILIZER. SEE SHEET C33 FOR DETAILS.
8. CONSTRUCT V-DITCH. SEE SHEET C53-C54 AND C43-C44 FOR DETAILS.
9. CONSTRUCT SIDE DRAIN FEATURE, SEE SHEETS C65-C69 FOR DETAILS.
10. CONSTRUCT DROP INLET,SEE SHEET S6&S7.
12. CONSTRUCT MAINTENANCE ROAD-DECOMPOSED GRANITE SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST SIDE, SEE SHEET C13.
15. INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.
16. INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1
17. TEMPORARY BERM

REFERENCE NOTE:

1. FOR CROSS SECTIONS, SEE SHEET C18 & C19.
2. FOR CONFLUENCE PLAN, SEE SHEET C32.
3. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

CHANNEL ℄ CURVE DATA.		
PI. STATION	158+84.02	160+31.46
△	8° 06'57"	8° 46'32"
R=	1000'	1000'
L=	141.65'	153.16'
T=	70.94'	76.73'



PLAN
SCALE: 1IN. = 50FT.

GRAPHIC SCALE
50 25 0 50 100FT
SCALE: 1"= 50'

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED,
RIVERSIDE COUNTY, CALIFORNIA
MURRIETA CREEK - PHASE 2

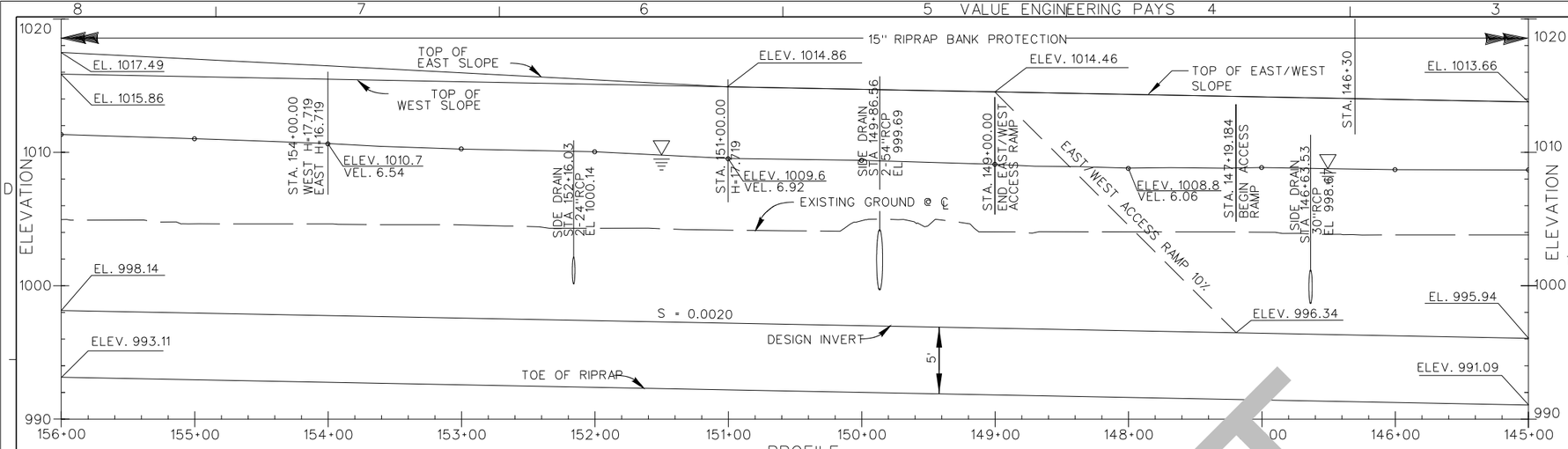
PLAN AND PROFILE
STA. 168+00 TO STA. 156+00

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

DESIGNED BY: J.G.R.
DRAWN BY: J.G.R.
CHECKED BY: S.H.V.
FILE NAME: C3.DGN
SPEC. NO. W912PL-13-B-0003
DISTRICT FILE NO. 226/251
Scale: AS SHOWN
SHEET C3

Plot Date: $date$

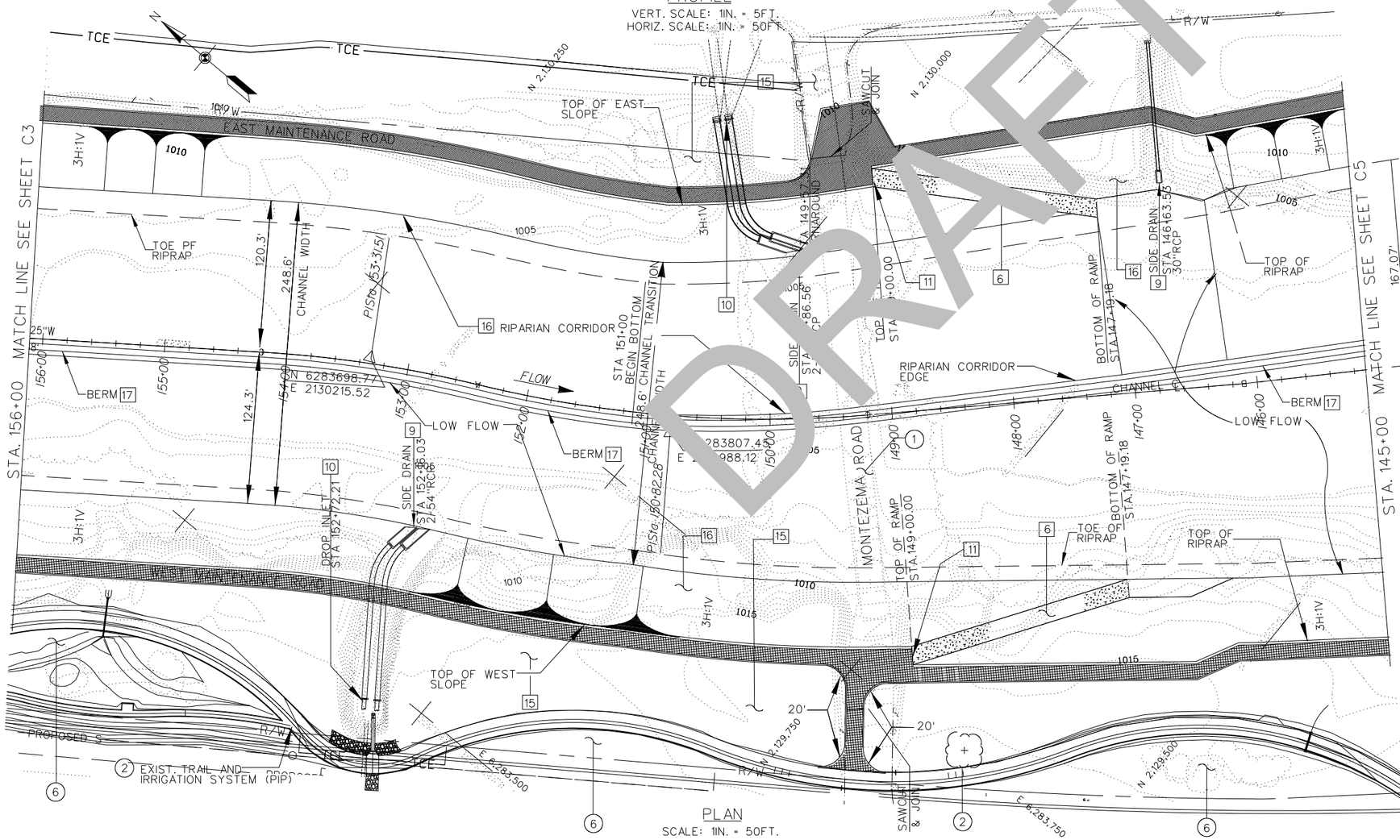


PROFILE

VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.

TYPICAL CROSS SECTION

N.T.S.



PLAN

SCALE: 1IN. = 50FT.

LEGEND

1. REMOVE
2. PROTECT IN PLACE
6. EXISTING LANDSCAPE IMPROVEMENTS (IRRIGATION SYSTEM, TRAILS, PLANTINGS) PROTECT IN PLACE, SEE L SHEETS.

CONSTRUCTION NOTES:

6. CONSTRUCT RAMP TO INVERT. SEE SHEET C39 FOR DETAILS.
8. CONSTRUCT V-DITCH. SEE SHEETS C54-C55 AND C44-C45 FOR DITCH PLAN AND PROFILES.
9. CONSTRUCT SIDE DRAIN FEATURE. SEE SHEETS C65-C69 FOR DETAILS.
10. CONSTRUCT DROP INLET, SEE SHEET S6 & S7.
11. INSTALL PIPE GATE. SEE SHEET C38.
15. INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS..
16. INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1.
17. TEMPORARY BERM

REFERENCE NOTE:

1. FOR CROSS SECTIONS, SEE SHEET C20 & C21.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

NOTE:

1. EXISTING MULTI-PURPOSE TRAIL CHANNEL STA 186+20 TO 107+95

CHANNEL ℄ CURVE DATA.		
PI. STATION	153+31.51	150+82.28
△	10° 14'49"	18° 26'46"
R=	1000'	1000'
L=	178.84'	321.95'
T=	89.66'	162.38'

GRAPHIC SCALE

50 25 0 50 100FT

SCALE: 1"= 50'

95% DRAFT

NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED, RIVERSIDE COUNTY, CALIFFORNIA

MURRIETA CREEK - PHASE 2

PLAN AND PROFILE
STA. 156+00 TO 145+00

DESIGNED BY:	J.G.R.
DRAWN BY:	J.G.R.
CHECKED BY:	S.H.V.
FILE NAME:	C4.DGN

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

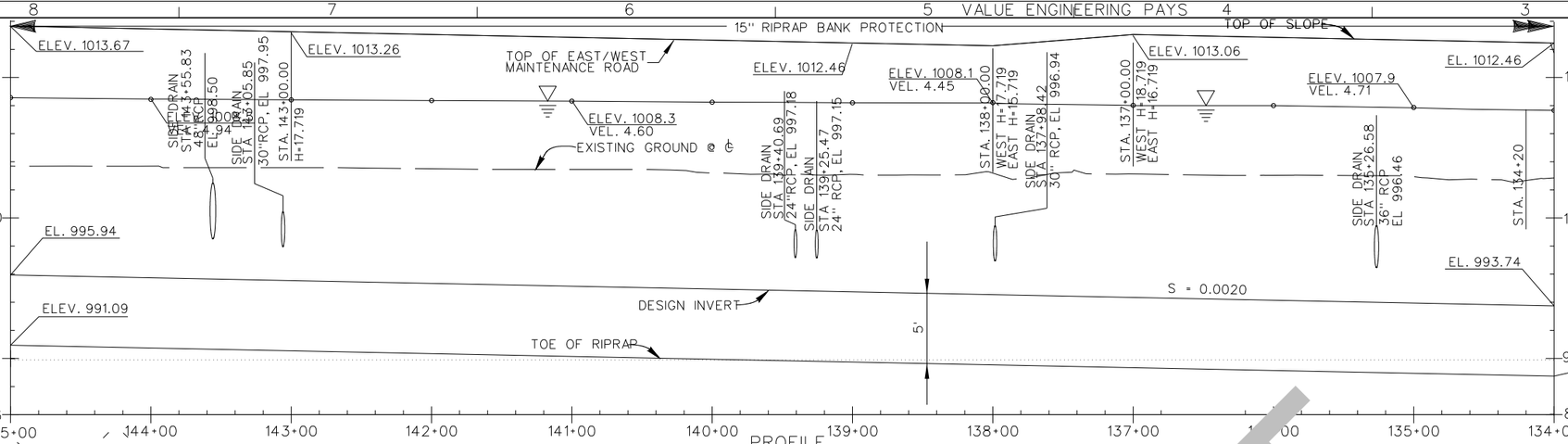
DISTRICT FILE NO. 226/252 | SPEC. NO. W912PL-13-B-0003

Scale: AS SHOWN

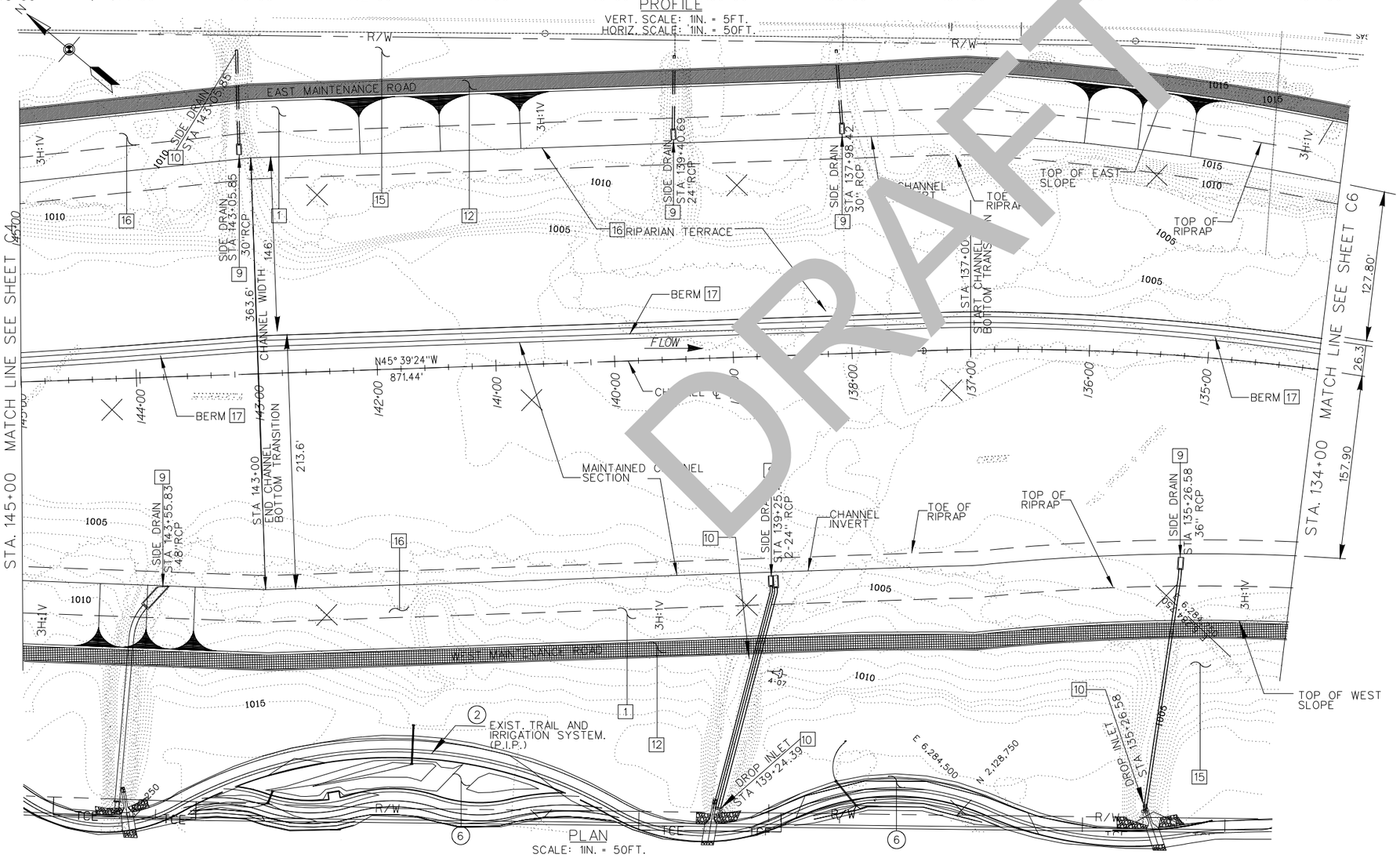
SHEET C4

Plot Date: $date$

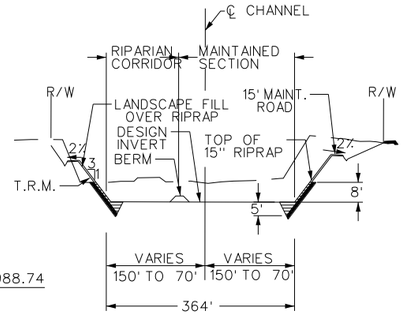
VALUE ENGINEERING PAYS



PROFILE
VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.



PLAN
SCALE: 1IN. = 50FT.



TYPICAL CROSS SECTION
N.T.S.

LEGEND

(2) PROTECT IN PLACE.

(6) EXISTING LANDSCAPE IMPROVEMENTS (IRRIGATION SYSTEM, TRAILS, PLANTINGS) PROTECT IN PLACE, SEE L SHEETS.

CONSTRUCTION NOTES:

1. CONSTRUCT CHANNEL SECTION WITH RIPRAP SLOPE PROTECTION. SEE SHEET C13 FOR TYPICAL SECTIONS.
8. CONSTRUCT V- DITCH, SEE SHEETS C55-C56 AND C45-C46 FOR DITCH PLAN AND PROFILE.
9. CONSTRUCT SIDE DRAIN FEATURE, SEE SHEETS C65-C69 FOR DETAILS.
10. CONSTRUCT DROP INLET, SEE SHEET S6 & S7.
12. CONSTRUCT MAINTENANCE ROAD-DECOMPOSED GRANITE SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST SIDE, SEE SHEET C13 & C14.
15. INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.
16. INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1.
17. TEMPORARY BERM

REFERENCE NOTE:

1. FOR CROSS SECTIONS, SEE SHEET C21 & C22.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

NOTE:

1. EXISTING MULTI-PURPOSE TRAIL CHANNEL STA 186+20 TO STA 107+95

GRAPHIC SCALE
50 25 0 50 100FT
SCALE: 1"= 50'

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED, RIVERSIDE COUNTY, CALIFORNIA
MURRIETA CREEK - PHASE 2
PLAN AND PROFILE
STA. 145+00 TO STA. 134+00

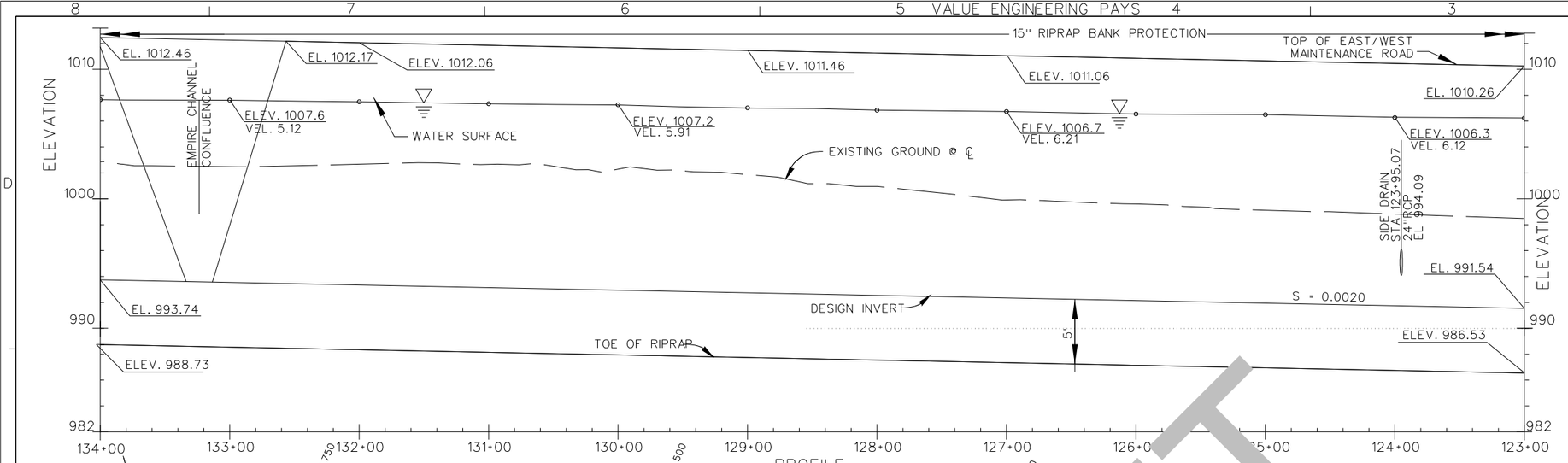
U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

DESIGNED BY: J.G.R.
DRAWN BY: J.G.R.
CHECKED BY: S.H.V.
SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

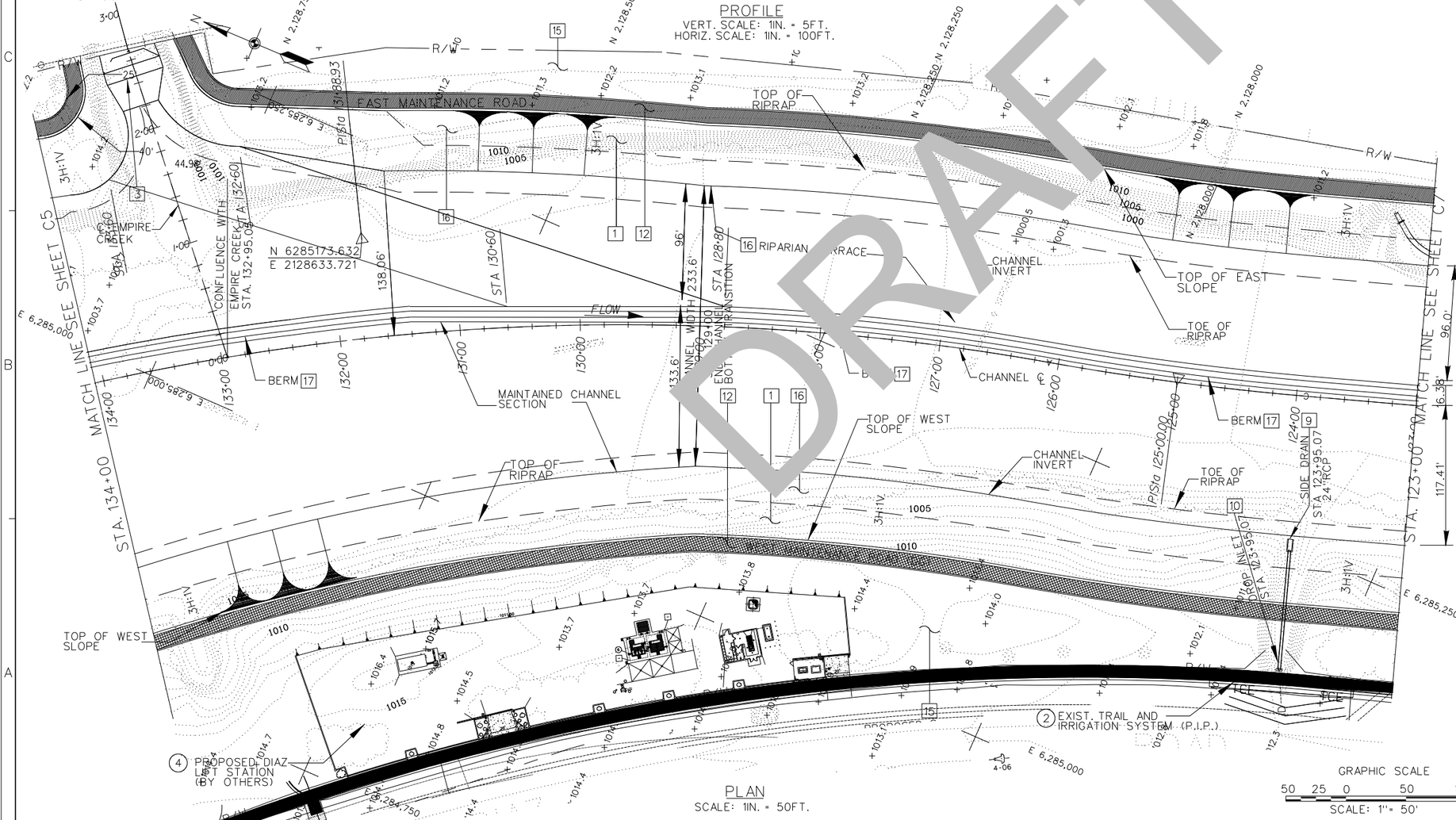
DISTRICT FILE NO. 226/253
SPEC. NO. W912PL-13-B-0003
FILE NAME: C5.DGN
Scale:AS SHOWN
SHEET C5

SAFETY! PAYS

Plot Date: $date$

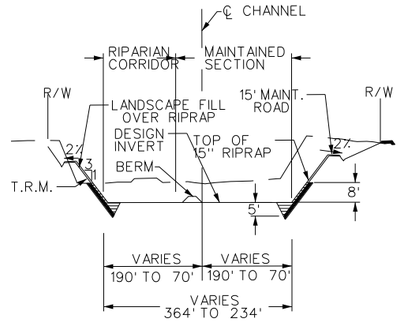


PROFILE
VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 100FT.



PLAN
SCALE: 1IN. = 50FT.

GRAPHIC SCALE
50 25 0 50 100FT
SCALE: 1" = 50'



TYPICAL CROSS SECTION
N.T.S.

LEGEND
(2) PROTECT IN PLACE
(4) CONSTRUCTED BY OTHERS

CONSTRUCTION NOTES:
1. CONSTRUCT CHANNEL SECTION WITH RIPRAP SLOPE PROTECTION. SEE SHEET C13 FOR TYPICAL SECTIONS.
3. CONSTRUCT GROUTED STONE STABILIZER. SEE SHEET C33 FOR DETAILS.
8. CONSTRUCT V- DITCH. SEE SHEETS C56-C57 AND C46 FOR DITCH PLAN AND PROFILE.
9. CONSTRUCT SIDE DRAIN FEATURE. SEE SHEET C65-C69 FOR DETAILS.
10. CONSTRUCT DROP INLET, SEE SHEET S6 & S7.
12. CONSTRUCT MAINTENANCE ROAD-DECOMPOSED GRANITE SURFACING ON WEST SIDE ASPHALT PAVING ON EAST SIDE,SEE SHEET C13 & C14.
15. INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.
16. INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1
17. TEMPORARY BERM

REFERENCE NOTE:
1. FOR CROSS SECTIONS, SEE SHEET C22 & C23.
2. FOR CONFLUENCE WITH EMPIRE CREEK PLAN, SEE SHEET C33.
3. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

NOTE:
1. EXISTING MULTI-PURPOSE TRAIL CHANNEL STA 186+20 TO STA 107+95

CHANNEL ℄ CURVE DATA.		
PI. STATION	131+88.93	125+00.00
△	32° 05'50"	5° 15'20"
R=	2,020'	2353.1'
L=	1131.61'	215.77'
T=	581.08'	108.00'

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED, RIVERSIDE COUNTY, CALIFFORNIA
MURRIETA CREEK - PHASE 2
PLAN AND PROFILE
STA. 134+00 TO STA. 123+00

U.S. ARMY ENGINEER DISTRICT LOS ANGELES CORPS OF ENGINEERS

DESIGNED BY: J.G.R.	DRAWN BY: J.G.R.	CHECKED BY: S.H.V.	FILE NAME: C6.DGN

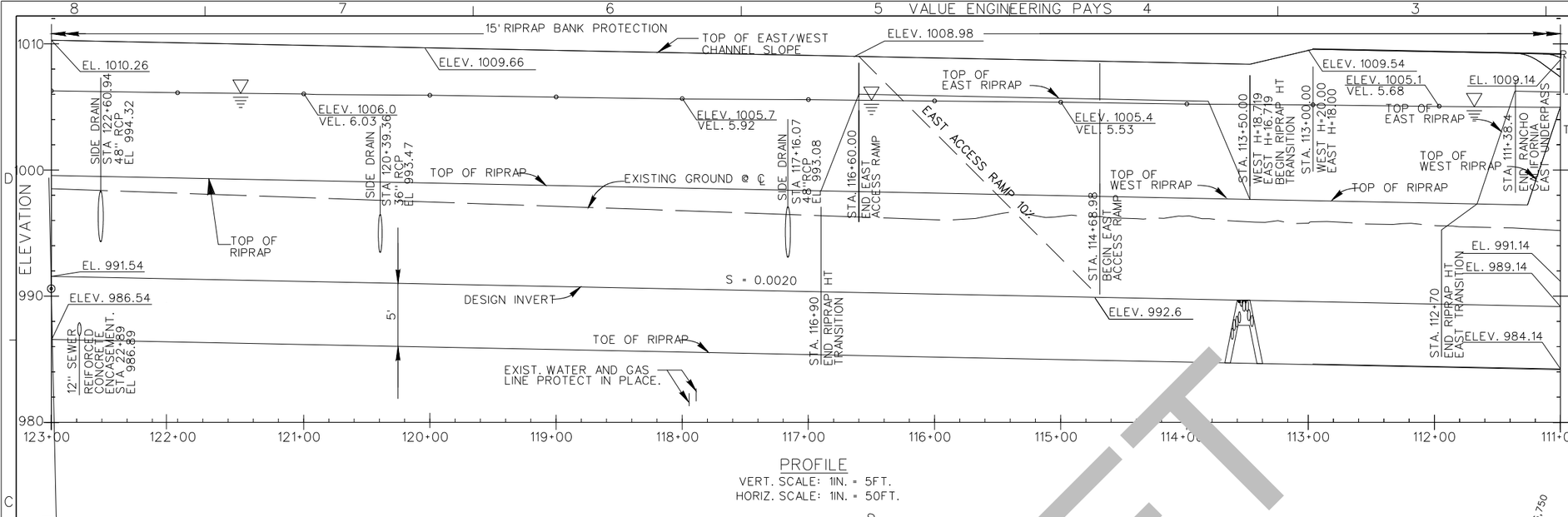
SUBMITTED BY: ARTHUR Y. JUNG, PE, CHIEF, DESIGN BRANCH
DISTRICT FILE NO. 226/254 | SPEC. NO. W912PL-13-B-0003

Scale:
SHEET C6

Plot Date: $date$

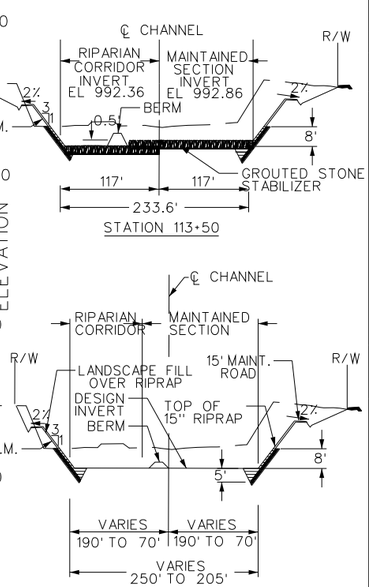
VALUE ENGINEERING PAYS

SAFETY PAYS

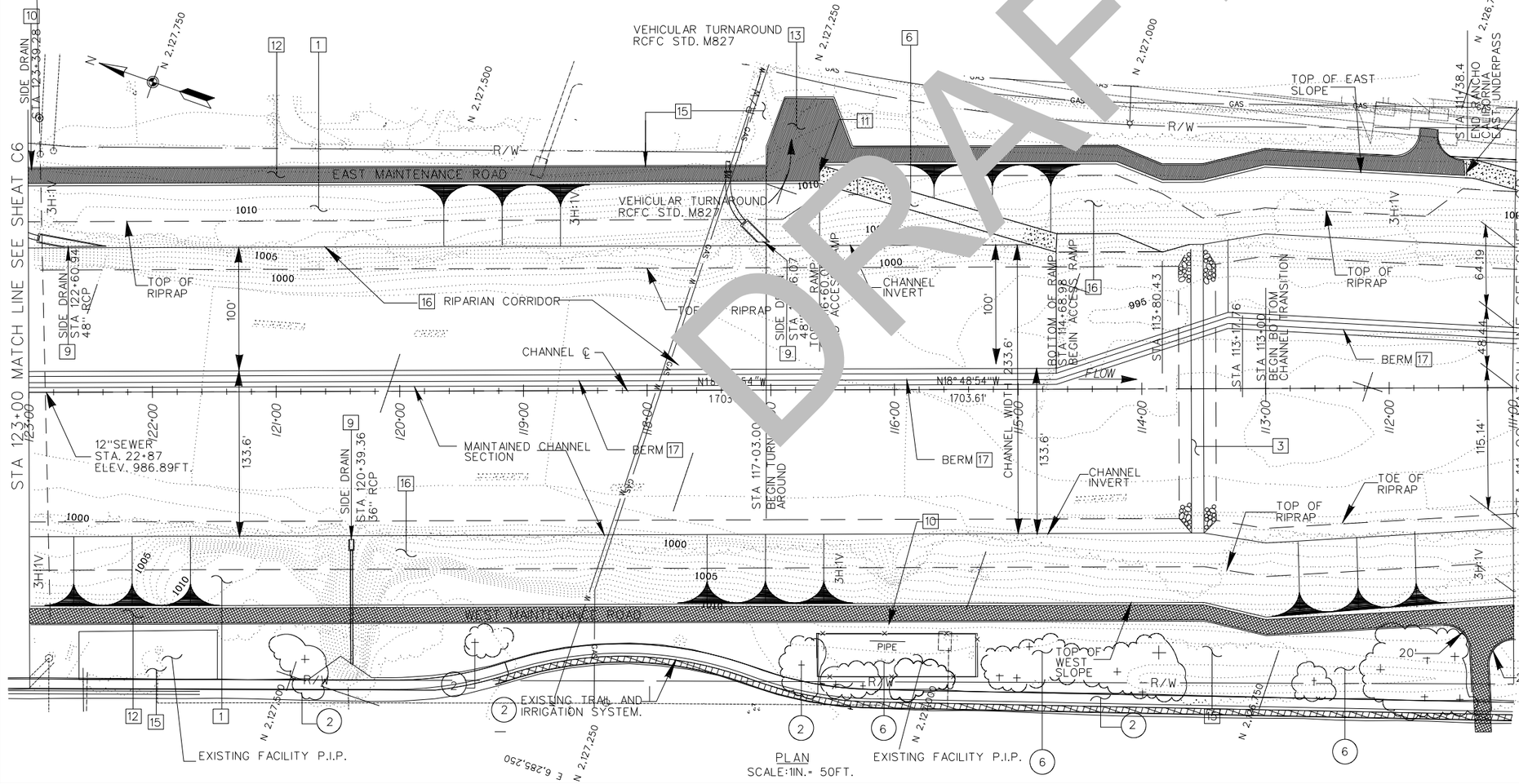


PROFILE

VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.



TYPICAL CROSS SECTION
N.T.S.



PLAN
SCALE:1IN.= 50FT.

LEGEND

(2) PROTECT IN PLACE

(6) EXISTING LANDSCAPE IMPROVEMENTS (IRRIGATION SYSTEM, TRAILS, PLANTINGS) PROTECT IN PLACE, SEE L SHEETS.

CONSTRUCTION NOTES:

1. CONSTRUCT CHANNEL SECTION WITH RIPRAP SLOPE PROTECTION. SEE SHEET C13 FOR TYP. DETAILS.
3. CONSTRUCT GROUTED STONE STABILIZER. SEE SHEET C34 FOR DETAILS.
6. CONSTRUCT RAMP TO INVERT. SEE SHEET C40 FOR DETAILS.
8. CONSTRUCT V-DITCH. SEE SHEETS C57-C58 AND C46-C47 FOR DITCH PLAN AND PROFILES.
9. CONSTRUCT SIDE DRAIN FEATURE, SEE SHEETSC65-C69 FOR DETAILS.
10. CONSTRUCT DROP INLET, SEE SHEET S6 & S7.
11. INSTALL PIPE GATE. SEE SHEET C38.
12. CONSTRUCT MAINTENANCE ROAD-DECOMPOSED GRANITE SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST SIDE, SEE SHEET C13-C14.
13. CONSTRUCT VEHICLE TURN AROUND, SEE SHEET M1.
15. INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.
16. INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1.
17. TEMPORARY BERM

REFERENCE NOTE:

1. FOR CROSS SECTION, SEE SHEET C24 & C25.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

NOTE:

1. EXISTING MULTI-PURPOSE TRAIL CHANNEL STA 186+20 TO STA 107+95

GRAPHIC SCALE
50 25 0 50 100FT
SCALE: 1"= 50'

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED,
RIVERSIDE COUNTY, CALIFFORNIA
MURRIETA CREEK - PHASE 2

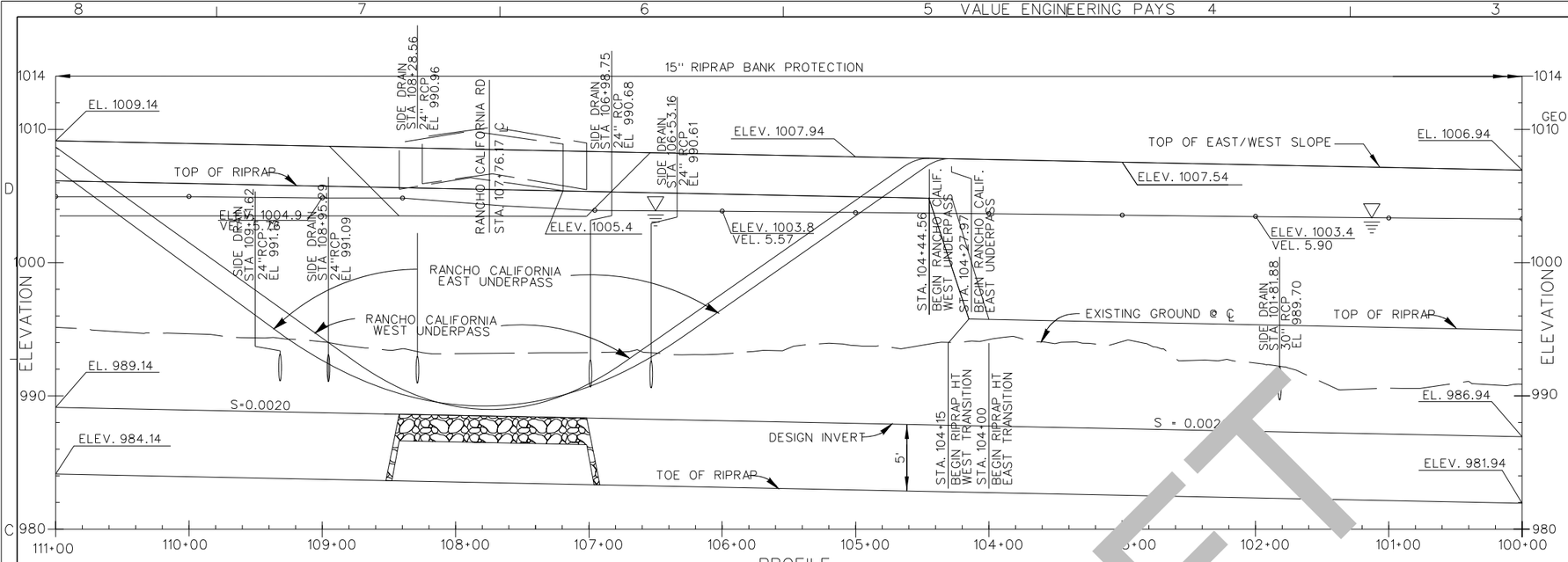
PLAN AND PROFILE
STA. 123+00 TO STA. 111+00

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE, CHIEF, DESIGN BRANCH
DESIGNED BY: J.G.R.
DRAWN BY: J.G.R.
CHECKED BY: S.H.V.
FILE NAME: C7.DGN
SPEC. NO. W912PL-13-B-0003
DISTRICT FILE NO. 226/255
Scale: AS SHOWN
SHEET C7

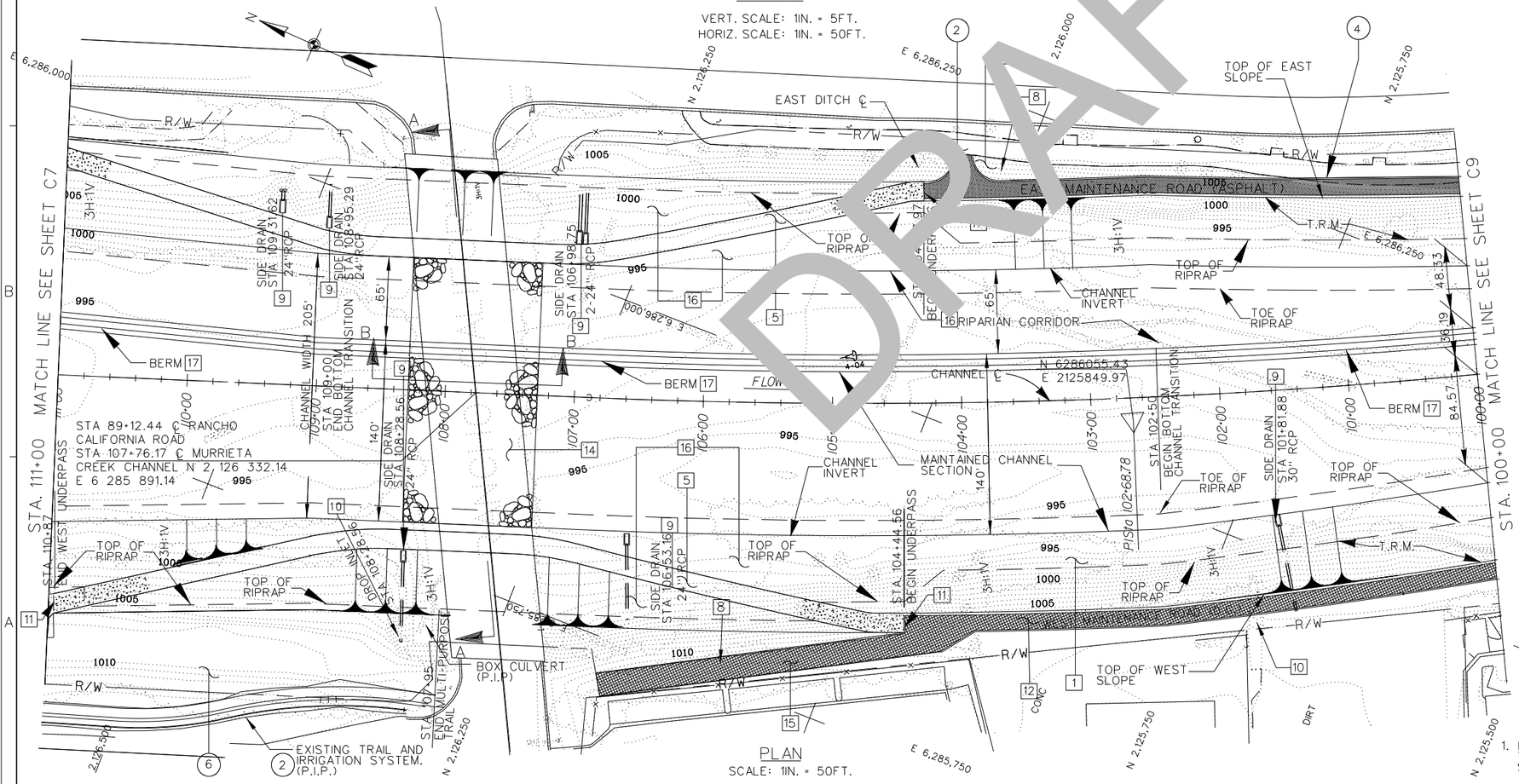
Plot Date: $date$

8 7 6 5 VALUE ENGINEERING PAYS 4 3 2 1



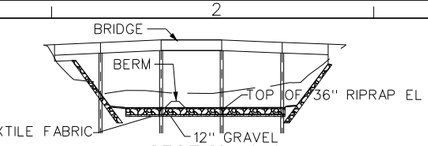
PROFILE

VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.

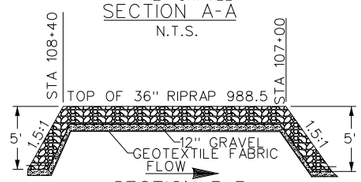


PLAN

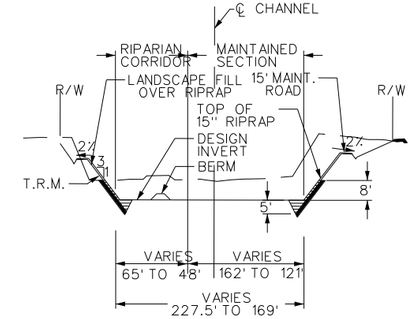
SCALE: 1IN. = 50FT.



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.



TYPICAL CROSS SECTION
N.T.S.

LEGEND

(2) PROTECT IN PLACE

(4) CONSTRUCTED BY OTHERS

(6) EXISTING LANDSCAPE IMPROVEMENTS (IRRIGATION SYSTEM, TRAILS, PLANTINGS) PROTECT IN PLACE, SEE L SHEETS.

CONSTRUCTION NOTES:

1. CONSTRUCT CHANNEL SECTION WITH RIPRAP SLOPE PROTECTION. SEE SHEET C13 FOR TYPICAL DETAILS.
5. CONSTRUCT ACCESS ROAD UNDERPASSING. SEE SHEET C35 FOR DETAILS.
8. CONSTRUCT V-DITCH. SEE SHEETS C58 AND C47-C48 FOR DITCH PLAN AND PROFILES.
9. CONSTRUCT SIDE DRAIN FEATURE. SEE SHEETS C65-C69 FOR DETAILS.
10. CONSTRUCT DROP INLET, SEE SHEET S6 AND S7.
11. INSTALL PIPE GATE. SEE SHEET C38.
12. CONSTRUCT MAINTENANCE ROAD-DECOMPOSED GRANITE SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST SIDE, SEE SHEET C13-C14.
14. CONSTRUCT INVERT PROTECTION BLANKET. SEE DETAILS HEREON.
15. INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.
16. INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1.
17. TEMPORARY BERM

REFERENCE NOTE:

1. FOR CROSS SECTIONS, SEE SHEET C25-C26.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

CHANNEL ℄ CURVE DATA.	
PI. STATION	102+68.78
△	9° 38'23"
R=	5,000'
L=	841.22'
T=	421.61'

NOTE:

1. EXISTING MULTI-PURPOSE TRAIL CHANNEL STA 186+20 TO STA 107+95

GRAPHIC SCALE
50 25 0 50 100FT
SCALE: 1" = 50'

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

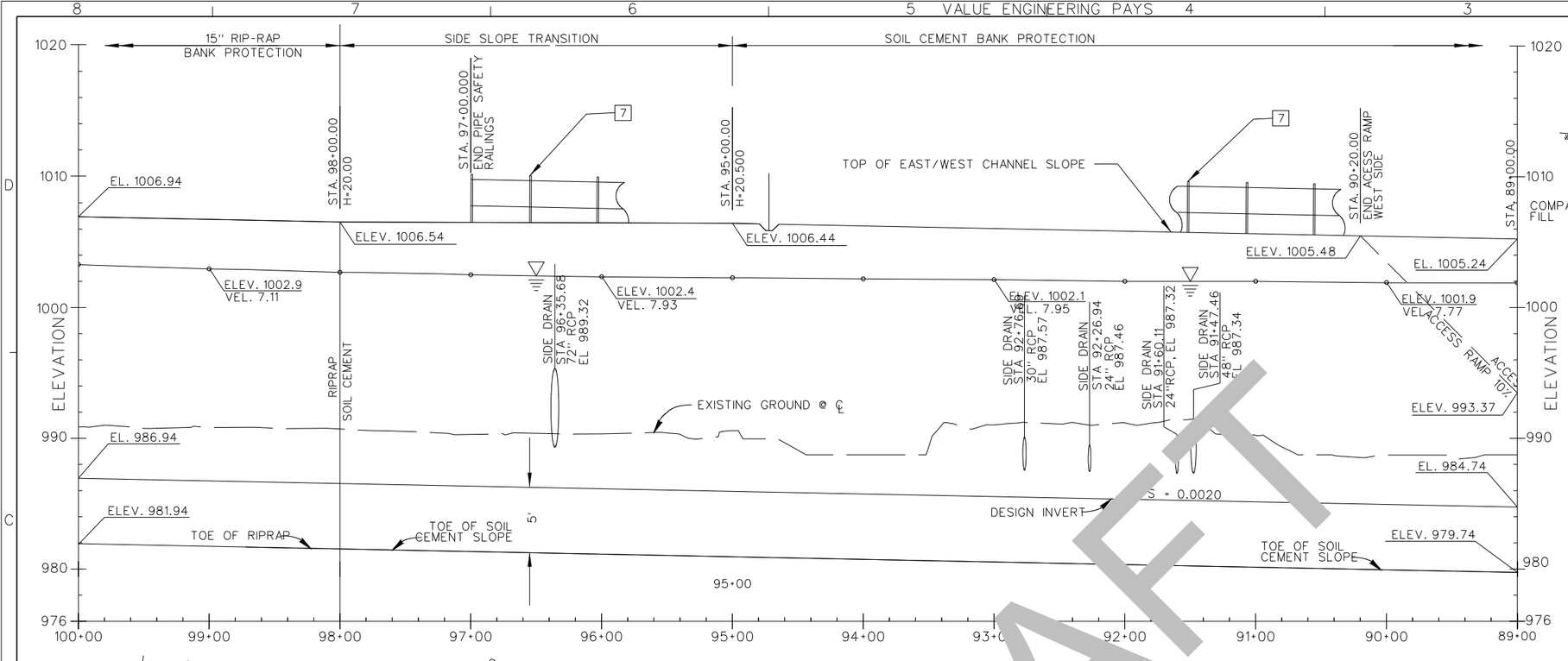
SANTA MARGARITA RIVER WATERSHED,
RIVERSIDE COUNTY, CALIFFORNIA
MURRIETA CREEK - PHASE 2
PLAN AND PROFILE
STA. 111+00 TO STA. 100+00

DESIGNED BY: J.G.R.
DRAWN BY: J.G.R.
CHECKED BY: S.H.V.
FILE NAME: C8.DGN
SUBMITTED BY: ARTHUR Y. JUNG, PE CHIEF, DESIGN BRANCH
U.S. ARMY ENGINEER DISTRICT LOS ANGELES CORPS OF ENGINEERS
DISTRICT FILE NO. 226/256
SPEC. NO. W912PL-13-B-0003
Scale: AS SHOWN
SHEET C8

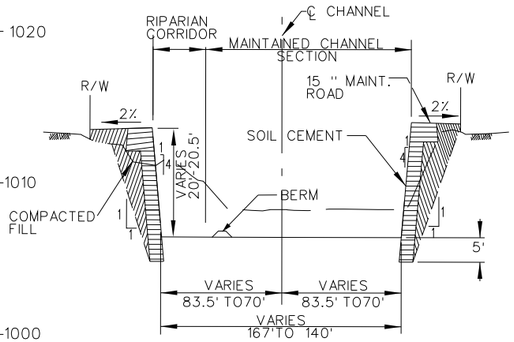
8 7 6 5 SAFETY! PAYS 4 3 2 1

Plot Date: $date$

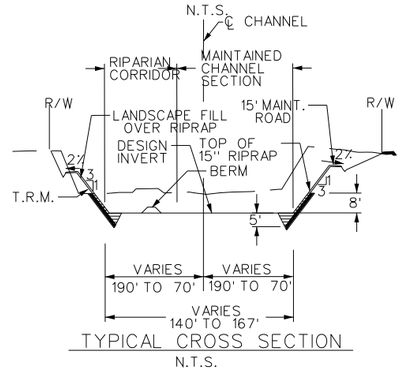
VALUE ENGINEERING PAYS



PROFILE
VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.



TYPICAL CROSS SECTION



TYPICAL CROSS SECTION
N.T.S.

LEGEND

(2) PROTECT IN PLACE.

CONSTRUCTION NOTES:

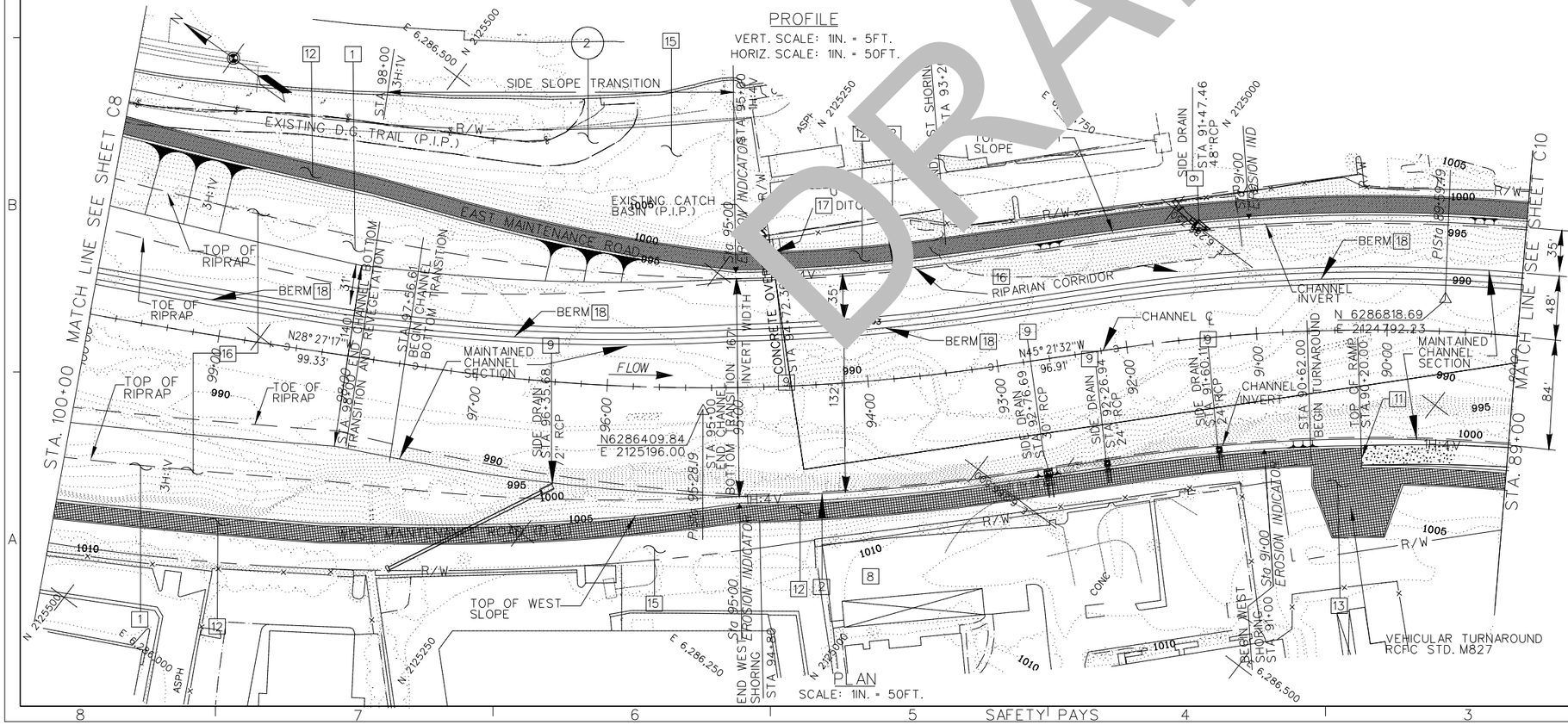
1. CONSTRUCT CHANNEL SECTION WITH RIPRAP SLOPE PROTECTION. SEE SHEET C13 FOR TYPICAL SECTIONS.
2. CONSTRUCT CHANNEL SECTION WITH SOIL CEMENT EMBANKMENT. SEE SHEET C14 FOR TYPICAL SECTIONS.
7. POST AND CABLE FENCE, SEE SHEET C14 FOR DETAILS.
8. CONSTRUCT V-DITCH. SEE SHEETS C58-C59 AND C48-C49 FOR DITCH PLAN AND PROFILES.
9. CONSTRUCT SIDE DRAIN FEATURE, SEE SHEETS C65-C69 FOR DETAILS.
10. CONSTRUCT DROP INLET, SEE SHEET S6 & S7.
11. INSTALL PIPE GATE. SEE SHEET C38.
12. CONSTRUCT MAINTENANCE ROAD- DECOMPOSED GRANITE SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST SIDE, SEE SHEET C13-C14.
13. CONSTRUCT VEHICLE TURN AROUND, SEE SHEET M1.
15. INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.
16. INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1..
17. INSTALL CONCRETE OVERFLOW, SEE SHEET M-2.
18. TEMPORARY BERM

REFERENCE NOTE:

1. FOR CROSS SECTIONS, SEE SHEET C26, C27 AND C28.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

CHANNEL ℄ CURVE DATA.		
PI. STATION	95+28.19	89+59.49
△	16° 54'15"	21° 22'41"
R=	1,500'	1,350'
L=	442.55'	503.71'
T=	222.9'	254.82'

GRAPHIC SCALE
50 25 0 50 100FT
SCALE: 1"= 50'



PLAN
SCALE: 1IN. = 50FT.

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED,
RIVERSIDE COUNTY, CALIFORNIA
MURRIETA CREEK - PHASE 2
PLAN AND PROFILE
STA. 100+00 TO STA. 89+00

DESIGNED BY: J.G.R.
DRAWN BY: J.G.R.
CHECKED BY: S.H.V.
FILE NAME: C9.DGN

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

DISTRICT FILE NO. 226/257
SPEC. NO. W912PL-13-B-0003

Scale: AS SHOWN
SHEET
C9

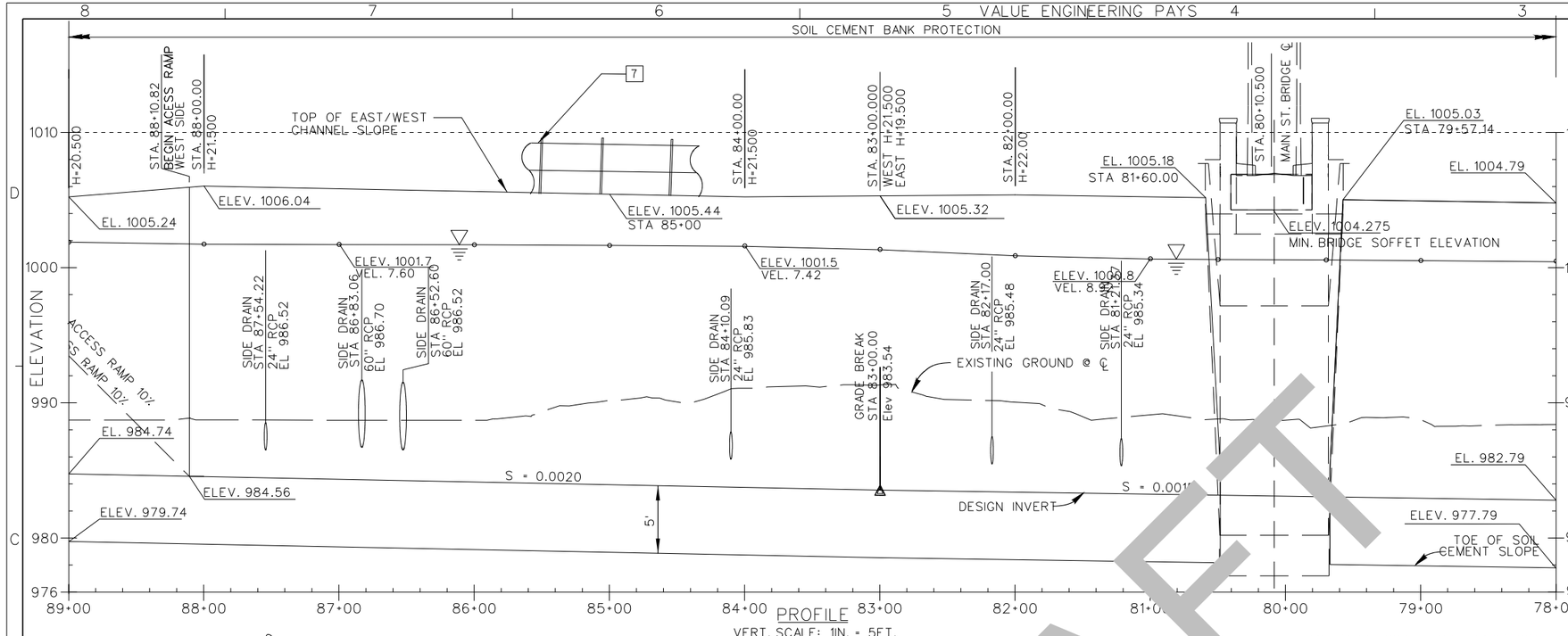
C09.DGN

SAFETY! PAYS

Plot Date: $date$

VALUE ENGINEERING PAYS

SAFETY! PAYS

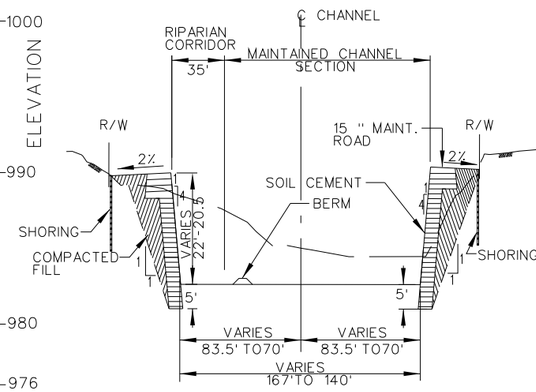


PROFILE
VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.

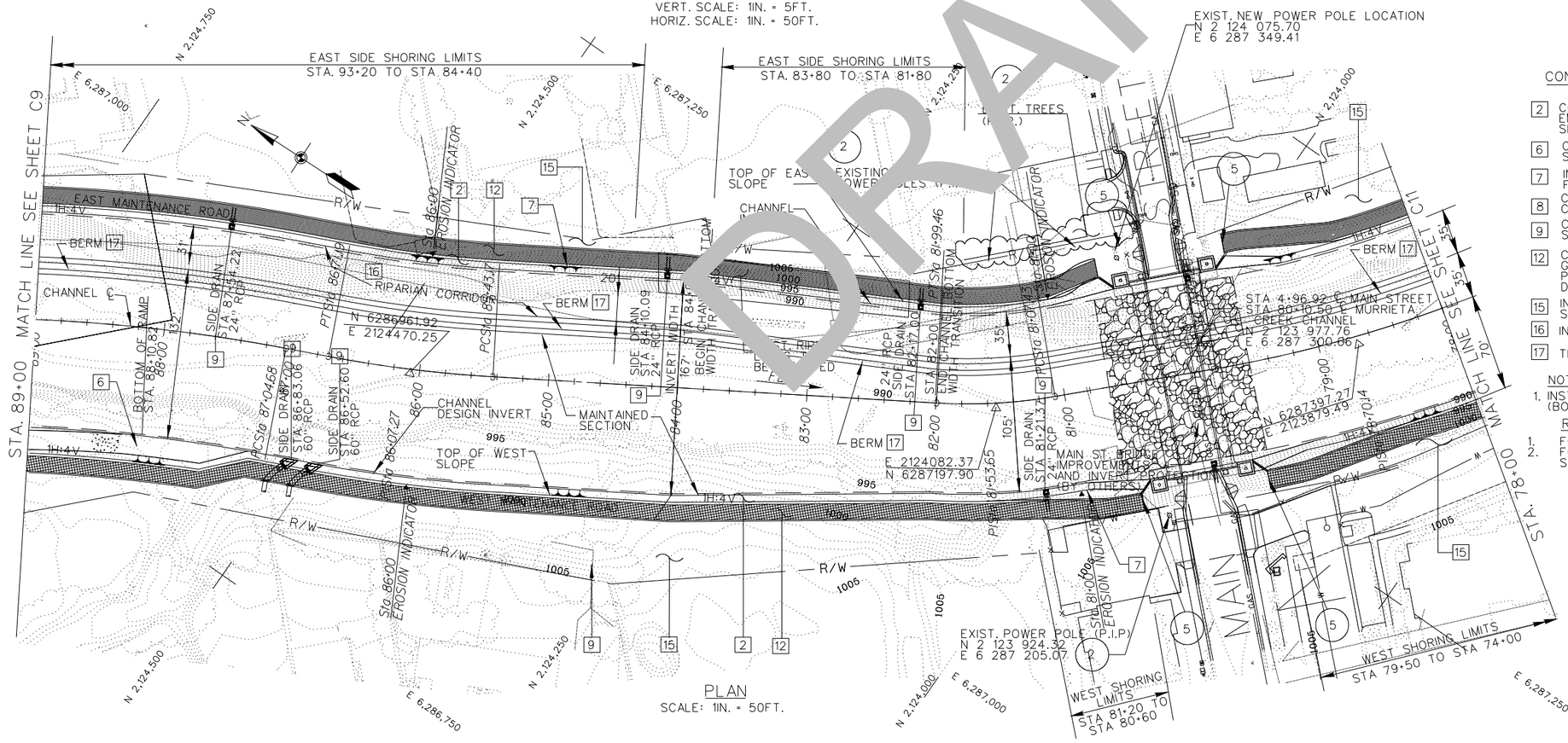
LEGEND

(2) PROTECT IN PLACE

(5) JOIN EXISTING WORK.



TYPICAL CROSS SECTION
N.T.S.



PLAN
SCALE: 1IN. = 50FT.

CONSTRUCTION NOTES:

[2] CONSTRUCT CHANNEL SECTION WITH SOIL CEMENT EMBANKMENT. SEE SHEET C14 FOR TYPICAL SECTIONS.

[6] CONSTRUCT RAMP TO INVERT. SEE SHEET C41 FOR DETAILS.

[7] INSTALL POST AND CABLE FENCE, SEE SHEET C14 FOR DETAIL.

[8] CONSTRUCT V-DITCH. SEE SHEETS C59-C60 AND C49-C50 FOR DITCH PLAN AND PROFILES.

[9] CONSTRUCT SIDE DRAIN FEATURE. SEE SHEETS C65-C69 FOR DETAILS.

[12] CONSTRUCT MAINTENANCE ROAD-DECOMPOSED GRANITE SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST SIDE, SEE SHEET C14 FOR DETAILS.

[15] INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.

[16] INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1.

[17] TEMPORARY BERM

NOTE:

1. INSTALL POST AND CABLE FENCE ATOP CHANNEL WALL (BOTH SIDES) AT STA 59+00 TO 97+00.

REFERENCE NOTE:

1. FOR CROSS SECTIONS, SEE SHEET C28 AND C29.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

CHANNEL ℄ CURVE DATA.			
PI. STATION	86+07.27	81+53.65	78+70.14
△	7° 20'05"	13° 11'00"	12° 46'47"
R=	1,000'	400'	1,000'
L=	128.01'	92.04'	223.05'
T=	64.09.9'	46.22	111.99'

GRAPHIC SCALE
50 25 0 50 100FT
SCALE: 1"= 50'

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED, RIVERSIDE COUNTY, CALIFFORNIA
MURRIETA CREEK - PHASE 2
PLAN AND PROFILE
STA. 89+00 TO STA. 78+00

DESIGNED BY: J.G.R.
DRAWN BY: J.G.R.
CHECKED BY: S.H.V.
FILE NAME: C10.DGN

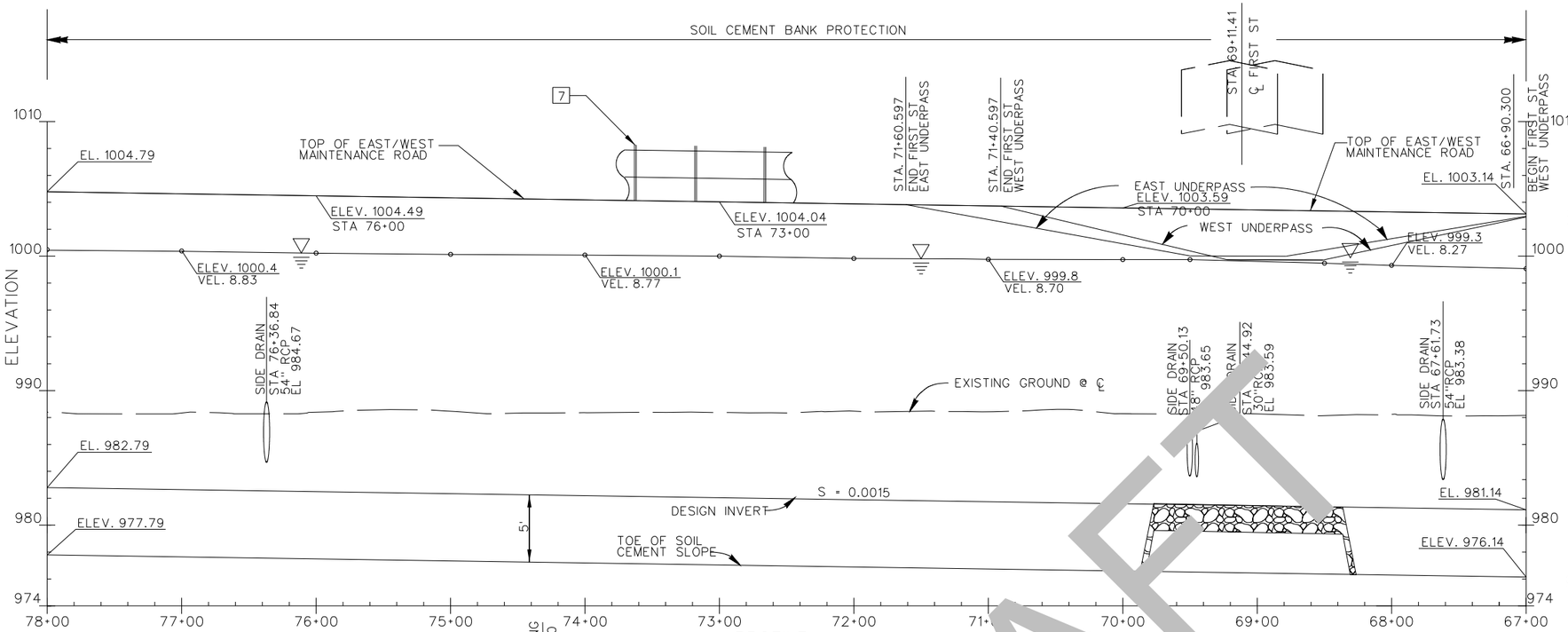
U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

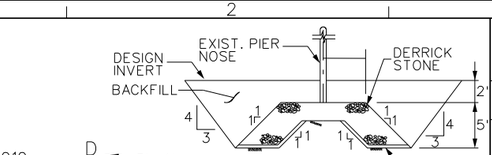
SPEC. NO. W912PL-13-B-0003
DISTRICT FILE NO. 226/258

Scale: AS SHOWN
SHEET C10 C10

Plot Date: $date$



PROFILE
VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.



SECTION D-D
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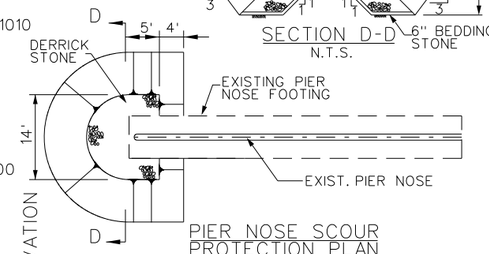
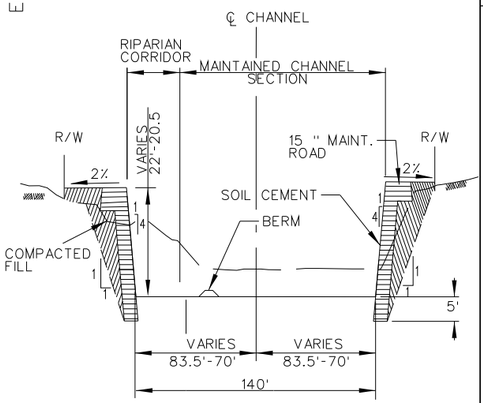
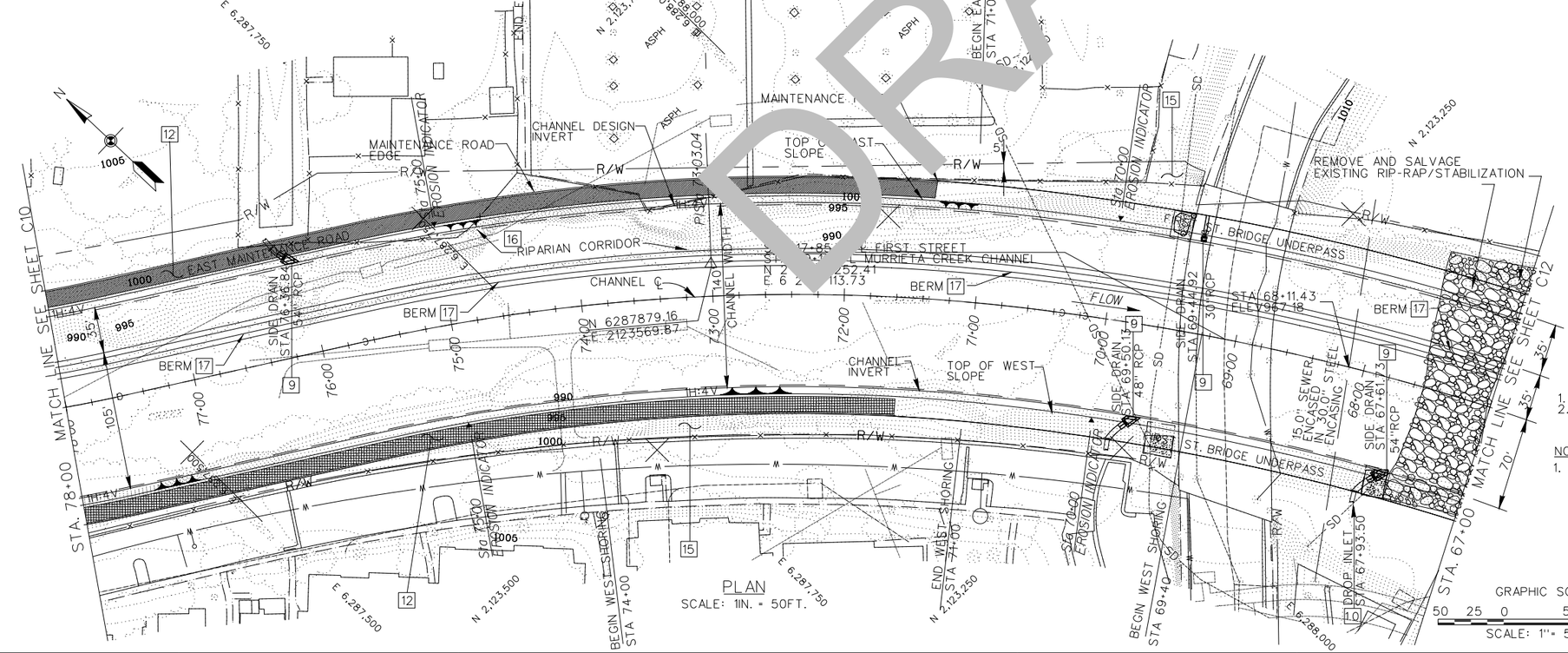


PIER NOSE SCOUR PROTECTION PLAN
N.T.S.



TYPICAL CROSS SECTION
N.T.S.



PLAN
SCALE: 1IN. = 50FT.

CONSTRUCTION NOTES:

7 INSTALL POST AND CABLE FENCE, SEE SHEET C14 FOR DETAIL.

8 CONSTRUCT V-DITCH, SEE SHEET C60-C61 AND C50-C51 FOR DITCH PLAN AND PROFILES.

9 CONSTRUCT SIDE DRAIN FEATURE, SEE SHEETS C65-C69 FOR DETAILS.

10 CONSTRUCT DROP INLET, SEE SHEET S6 AND S7.

12 CONSTRUCT MAINTENANCE ROAD-DECOMPOSED SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST SIDE, SEE SHEET C13-C14.

15 INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.

16 INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1.

17 TEMPORARY BERM

REFERENCE NOTE:

1. FOR CROSS SECTIONS, SEE SHEET C29 & C30.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

NOTE:

1. INSTALL POST AND CABLE FENCE ATOP CHANNEL WALL (BOTH SIDE) AT STA 59+00 TO 97+00

CHANNEL ℄ CURVE DATA.	
PI. STATION	73+03.04
△	20° 21'55"
R=	1,500'
L=	533.16'
T=	269.42'

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED, RIVERSIDE COUNTY, CALIFORNIA
MURRIETA CREEK - PHASE 2
PLAN AND PROFILE
STA. 78+00 TO STA. 67+00

U.S. ARMY ENGINEER DISTRICT LOS ANGELES CORPS OF ENGINEERS

DESIGNED BY:	DRAWN BY:	CHECKED BY:	FILE NAME: C11.DGN
J.G.R.	J.G.R.	S.H.V	

SUBMITTED BY: ARTHUR Y. JUNG, PE, CHIEF, DESIGN BRANCH
DISTRICT FILE NO. 226/259 | SPEC. NO. W912PL-13-B-0003
Scale: AS SHOWN
SHEET C11

C11.DGN

Plot Date: $date$

SOIL CEMENT BANK PROTECTION

STA. 66+90.300 BEGIN FIRST ST WEST UNDERPASS
STA. 66+89.360 BEGIN FIRST ST EAST UNDERPASS
STA. 65+50.00 H+22.00
STA. 63+50.00 H+22.500
STA. 61+00.00 H+22.500
STA. 59+00.00 WEST H+28.00 EAST H+21.00

TOP OF EAST/WEST CHANNEL SLOPE
TOP OF WEST SLOPE
TOP OF EAST SLOPE
TOP OF SOIL CEMENT SLOPE
EXISTING GROUND @ ℄
TOE OF SOIL CEMENT SLOPE
DESIGN INVERT
S = 0.0015
5'

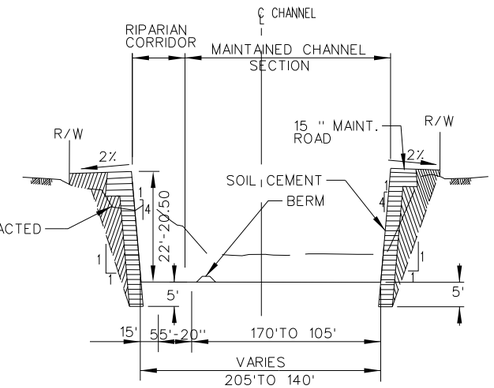
EL. 1007.94
EL. 1002.94
EL. 1003.14
ELEV. 1002.91
ELEV. 1002.73
ELEV. 998.8 VEL. 8.53
ELEV. 1003.11
ELEV. 998.9 VEL. 6.47
ELEV. 998.8 VEL. 5.57
ELEV. 987.0
EL. 981.14
ELEV. 976.14
ELEV. 974.94

SIDE DRAIN STA. 60+97.38 2-72" RCP EL 984.42

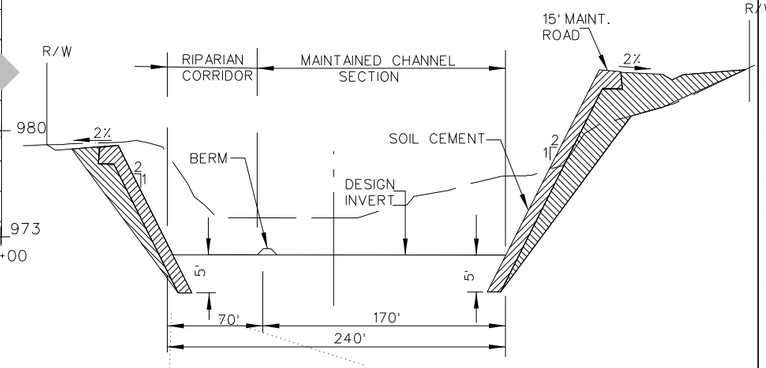
ELEVATION
1020 1010 1000 990 980 973

67+00 66+00 65+00 64+00 63+00 62+00 61+00 60+00 59+00 58+00

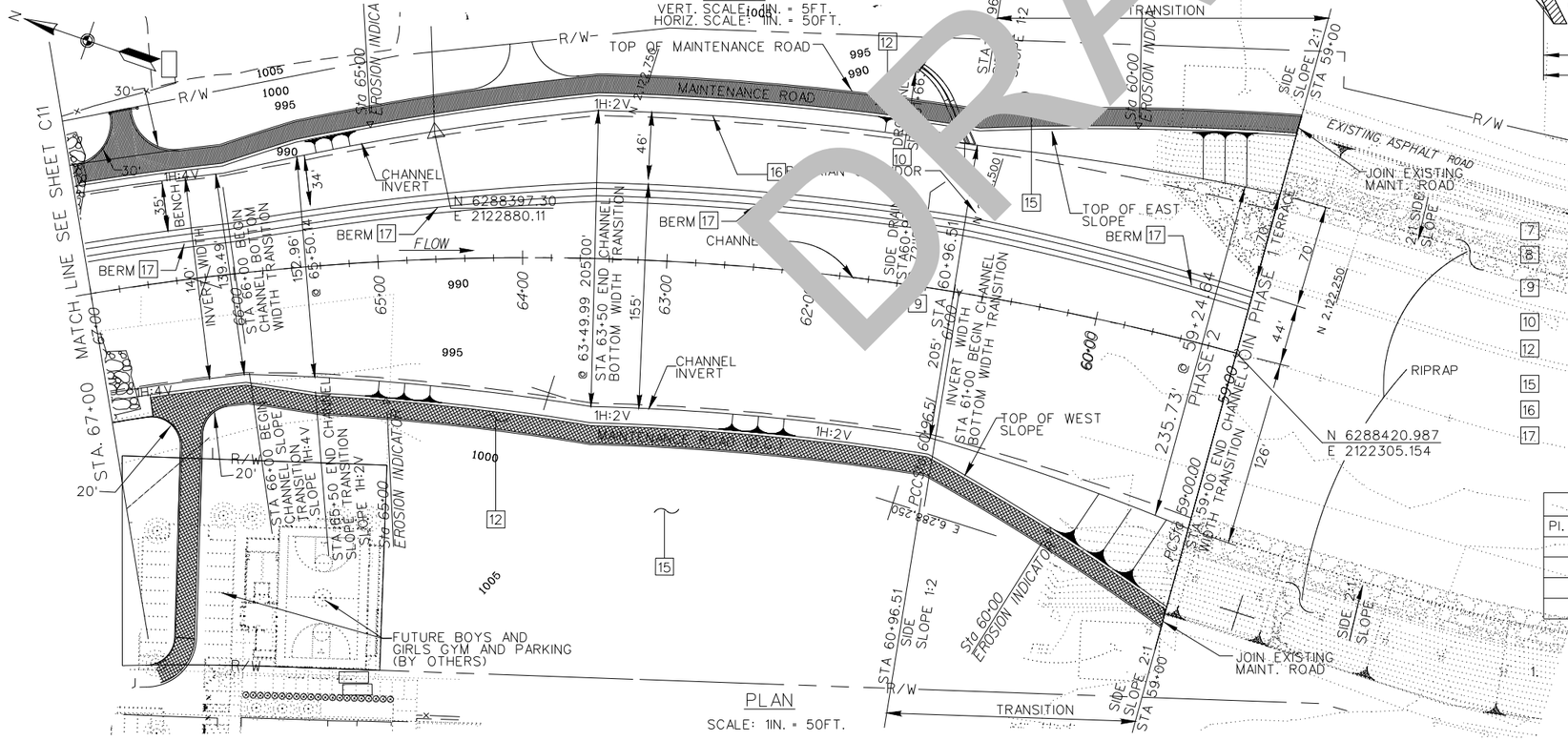
PROFILE
VERT. SCALE: 1IN. = 5FT.
HORIZ. SCALE: 1IN. = 50FT.



TYPICAL CROSS SECTION
N.T.S.



CROSS SECTION @ STA 59+00
N.T.S.



PLAN
SCALE: 1IN. = 50FT.

CONSTRUCTION NOTES:

7 INSTALL POST AND CABLE FENCE, SEE SHEET C14 FOR DETAIL.
8 CONSTRUCT V-DITCH. SEE SHEETS C61 AND C51 FOR DITCH PAN AND PROFILES.
9 CONSTRUCT SIDE DRAIN FEATURE. SEE SHEETS C65-C69 FOR DETAILS.
10 CONSTRUCT DROP INLET, SEE SHEET S6 & S7.
12 CONSTRUCT MAINTENANCE ROAD-DECOMPOSED GRANITE SURFACING ON WEST SIDE, ASPHALT PAVING ON EAST SIDE, SEE SHEET C13-C14.
15 INSTALL TOP OF BANK LANDSCAPING, SEE L SHEETS.
16 INSTALL CHANNEL REVEGETATION, SEE SHEET LCR-1..
17 TEMPORARY BERM

CHANNEL ℄ CURVE DATA.	
PI. STATION	64+75.45
△	28° 28'15"
R=	1,850'
L=	919.28'
T=	469.34'

REFERENCE NOTE:
1. FOR CROSS SECTIONS, SEE SHEET C31.
2. FOR SIDE DRAINS INFORMATION, SEE SHEETS C70, C70.

GRAPHIC SCALE
50 25 0 50 100FT
SCALE: 1"= 50'

NOTE:
INSTALL POST AND CABLE FENCE ATOP CHANNEL WALLS (BOTH SIDES) AT STA 59+00 TO 97+00.

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED, RIVERSIDE COUNTY, CALIFFORNIA
MURRIETA CREEK - PHASE 2

PLAN AND PROFILE
STA. 67+00 TO STA. 59+00

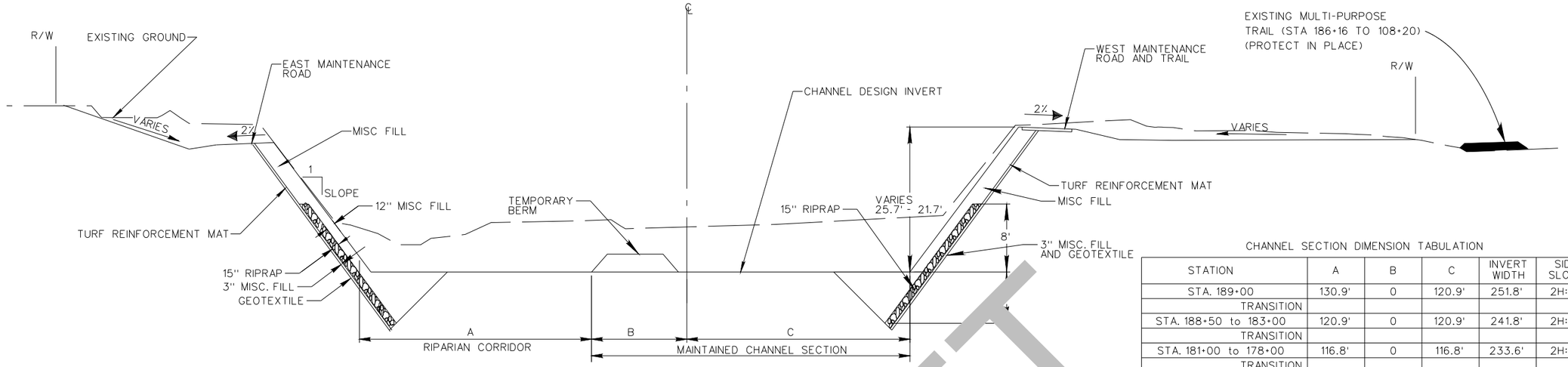
U.S. ARMY ENGINEER DISTRICT LOS ANGELES CORPS OF ENGINEERS

SUBMITTED BY: ARTHUR Y. JUNG, PE, CHIEF, DESIGN BRANCH

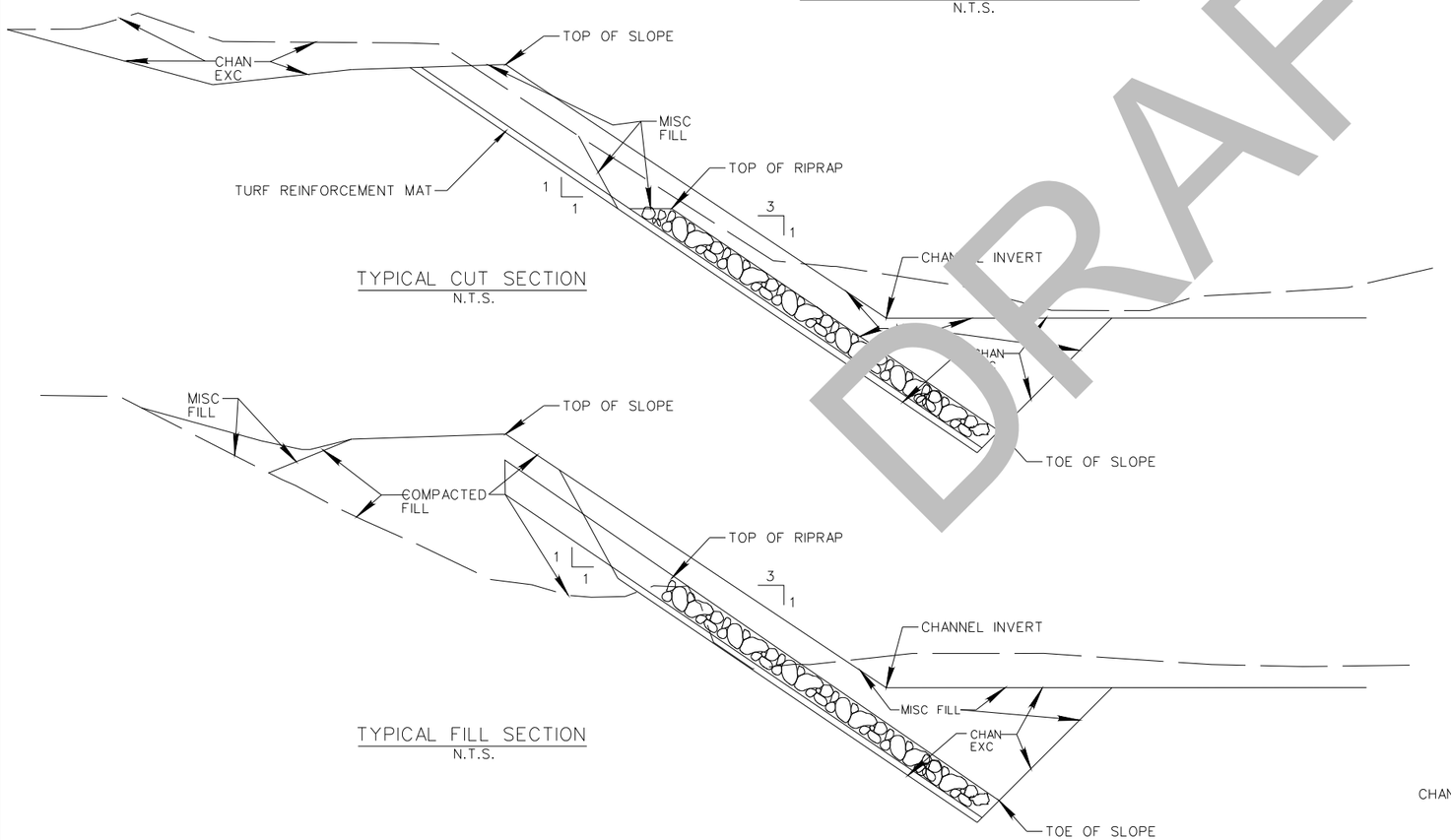
DESIGNED BY:	DRAWN BY:	CHECKED BY:
J.G.R.	J.G.R.	S.H.V.

FILE NAME: C12.DGN
SPEC. NO. W912PL-13-B-0003
DISTRICT FILE NO. 226/260
Scale: AS SHOWN
SHEET C12

Plot Date: $date$



TYPICAL SECTION (LOOKING D/S)
N.T.S.

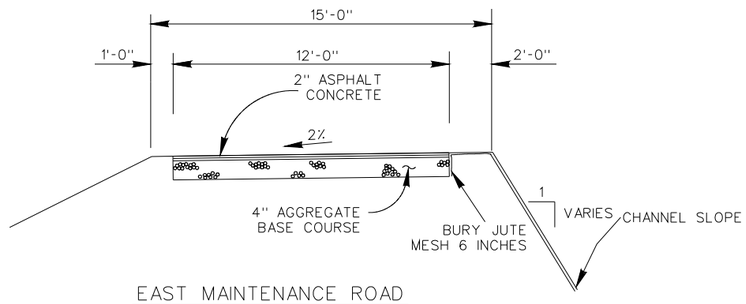


TYPICAL CUT SECTION
N.T.S.

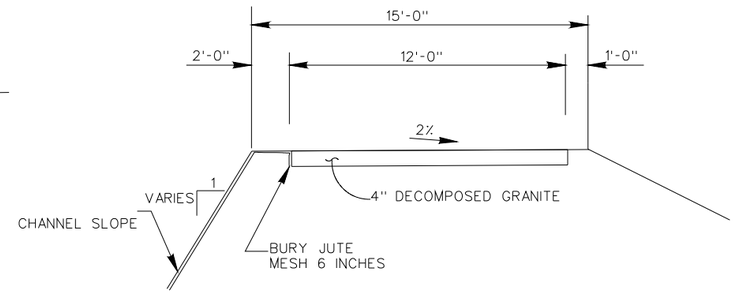
TYPICAL FILL SECTION
N.T.S.

CHANNEL SECTION DIMENSION TABULATION

STATION	A	B	C	INVERT WIDTH	SIDE SLOPE
STA. 189+00	130.9'	0	120.9'	251.8'	2H:1V
TRANSITION					
STA. 188+50 to 183+00	120.9'	0	120.9'	241.8'	2H:1V
TRANSITION					
STA. 181+00 to 178+00	116.8'	0	116.8'	233.6'	2H:1V
TRANSITION					
STA. 176+00 to 170+00	119.6'	0	119.6'	239.2'	2H:1V
TRANSITION					
STA. 168+00 to 151+00	124.3'	0	124.3'	248.6'	3H:1V
TRANSITION					
STA. 143+00 to 137+00	150'	31.8'	181.8'	363.6'	3H:1V
TRANSITION					
STA. 129+00 to 113+50	100'	16.8'	116.8'	233.6'	3H:1V
TRANSITION					
STA. 113+00	65'	60'	125'	250'	3H:1V
TRANSITION					
STA. 109+00 to 102+50	65'	37.5'	102.5'	205'	3H:1V
TRANSITION					
STA. 98+00	35'	35'	70'	140'	3H:1V



EAST MAINTENANCE ROAD
N.T.S.



WEST MAINTENANCE ROAD DETAIL
N.T.S.

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE	APPROVAL
	REVISIONS		

SANTA MARGARITA RIVER WATERSHED,
RIVERSIDE COUNTY, CALIFFORNIA
MURRIETA CREEK - PHASE 2

CHANNEL TYPICAL SECTIONS

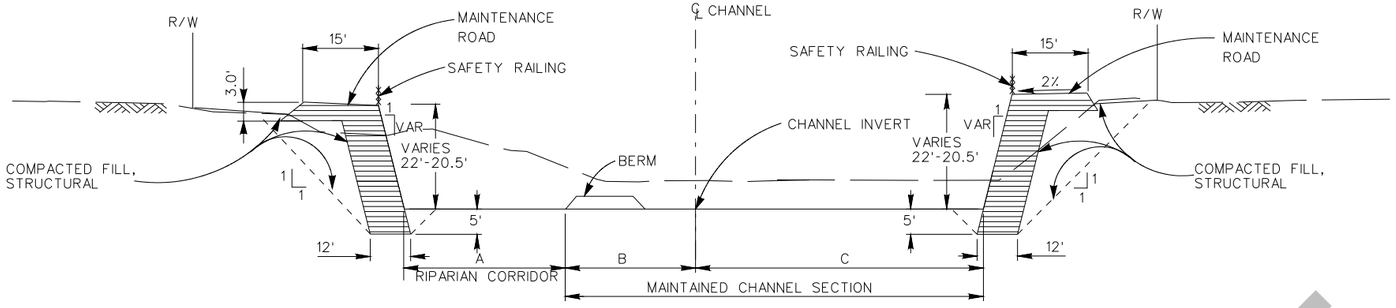
U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

DESIGNED BY: J.G.R.	DRAWN BY: J.G.R.	CHECKED BY: S.H.V.	FILE NAME: C13.DGN
DISTRICT FILE NO. 226/261		SPEC. NO. W912PL-13-B-0003	

Scale:
SHEET
C13

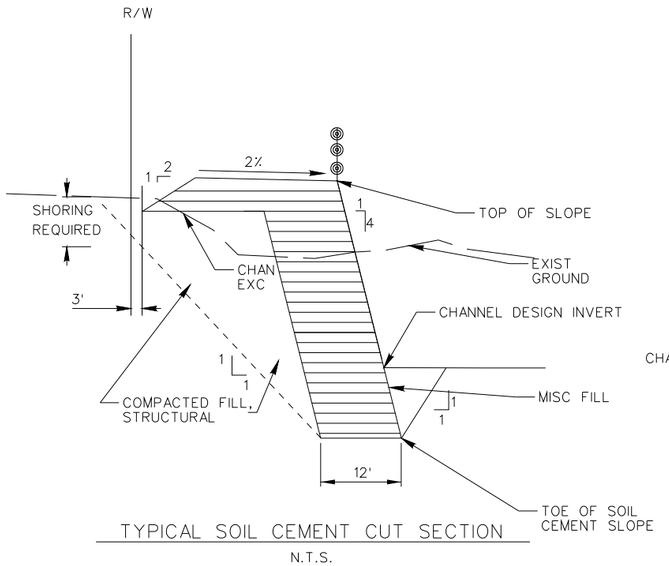
Plot Date: $date$



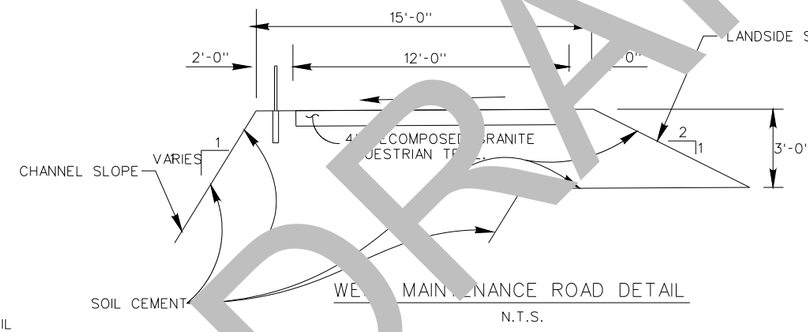
TYPICAL SOIL CEMENT CHANNEL SECTION
(LOOKING D/S)
N.T.S.

CHANNEL SECTION DIMENSION TABULATION					
STATION	A	B	C	INVERT WIDTH	SIDE SLOPE
STA. 98+00	35'	35'	70'	140'	3H:1V
TRANSITION					
STA. 95+00 to 84+00	35'	48.5'	83.5'	167'	1H:4V
TRANSITION					
STA. 82+00 to 66+00	35'	35'	70'	140'	1H:4V
TRANSITION					
STA. 65+50	38'	38.5'	76.5'	153'	1H:2V
TRANSITION					
STA. 63+50 to 61+00	50'	52.5'	102.5'	205'	1H:2V
TRANSITION					
STA. 59+00	70'	44'	126'	240'	2H:1V

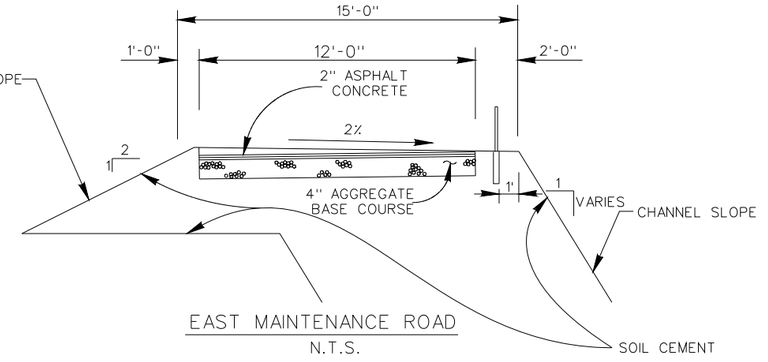
SHORING LIMITS
EAST SIDE STATIONING
STA. 93+20 to 84+40
STA. 83+80 to 81+80
STA. 74+40 to 71+00
WEST SIDE STATIONING
STA. 94+80 to 91+00
STA. 81+20 to 80+60
STA. 79+50 to 74+00
STA. 71+00 to 69+60



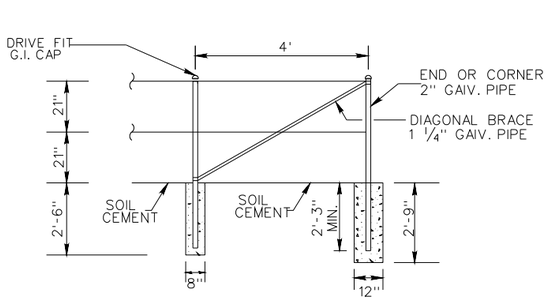
TYPICAL SOIL CEMENT CUT SECTION
N.T.S.

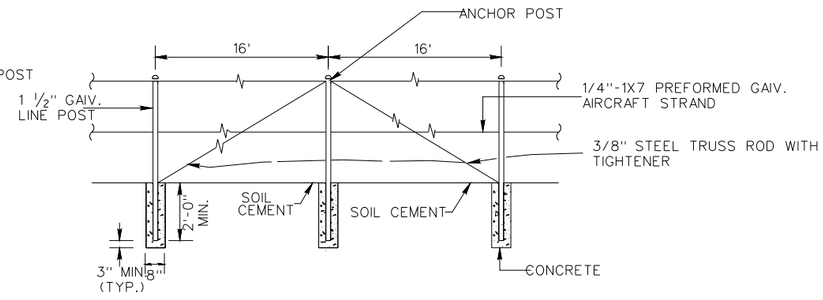


WEST MAINTENANCE ROAD DETAIL
N.T.S.

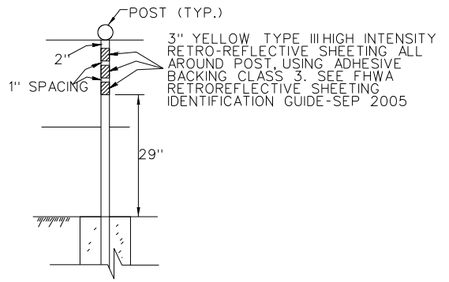


EAST MAINTENANCE ROAD
N.T.S.





POST AND CABLE FENCE
NOT TO SCALE



RETRO-REFLECTIVE MARKER
NOT TO SCALE

95% DRAFT
NOT FOR CONSTRUCTION

SYMBOL	DESCRIPTIONS	DATE APPROVAL
	REVISIONS	

SANTA MARGARITA RIVER WATERSHED, RIVERSIDE COUNTY, CALIFORNIA
MURRIETA CREEK - PHASE 2
TYPICAL SOIL CEMENT CHANNEL SECTIONS AND POST AND CABLE FENCE DETAILS

DESIGNED BY: J.G.R.
DRAWN BY: J.G.R.
CHECKED BY: S.H.V.
FILE NAME: C14.DGN

U.S. ARMY ENGINEER DISTRICT
LOS ANGELES
CORPS OF ENGINEERS

SUBMITTED BY:
ARTHUR Y. JUNG, PE
CHIEF, DESIGN BRANCH

SPEC. NO. W912PL-13-B-0003
DISTRICT FILE NO. 226/262

Scale:
SHEET
C14

Plot Date: $date$

APPENDIX C

404(b)(1) Analysis

SECTION 404(b)(1) SUPPLEMENTAL EVALUATION

1.0 Section 404(b)(1) Regulatory Background

Section 404 of the Clean Water Act (CWA) authorizes the U.S Army Corps of Engineers (USACE) to issue permits for the discharge of dredged or fill materials into waters of the United States (waters of the U.S.), including wetlands (33 United States Code [U.S.C.] 1344). Waters of the U.S., defined at 33 Code of Federal Regulations (C.F.R). Part 328, include coastal and inland waters, lakes, rivers, and streams, including adjacent wetlands and tributaries. The U.S. Environmental Protection Agency (USEPA) Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230 et seq.) are the substantive environmental criteria used by the USACE to evaluate permit applications. Under these guidelines, an analysis of practicable alternatives is the primary tool used to determine whether a proposed discharge can be authorized. The Section 404(b)(1) Guidelines prohibit discharges of dredged or fill material into waters of the U.S. if a practicable alternative to the proposed discharge exists that would have less adverse impacts on the aquatic ecosystem, including wetlands, as long as the alternative does not have other significant adverse environmental impacts (40 C.F.R. Part 230[a]). An alternative is considered practicable if it is available and capable of being implemented after considering cost, existing technology, and logistics in light of overall project purpose (40 C.F.R. Part 230[a][2]). The Section 404(b)(1) Guidelines suggest a sequential approach to project planning that considers mitigation measures only after the project proponent shows no practicable alternatives are available to achieve the overall project purpose with less environmental impacts. Once it is determined that no practicable alternatives are available, the guidelines then require that appropriate and practicable steps be taken to minimize potential adverse effects on the aquatic ecosystem (40 C.F.R. Part 230.10[d]). Such steps may include actions controlling discharge location, material to be discharged, the fate of material after discharge or method of dispersion, and actions related to technology, plant and animal populations, or human use (40 C.F.R. Parts 230.70-230.77).

Beyond the requirement for demonstrating that no practicable alternatives to the proposed discharge exist, the Section 404(b)(1) Guidelines also require the USACE to compile findings related to the environmental impacts of discharge of dredged or fill material. The USACE must make findings concerning the anticipated changes caused by the discharge to the physical and chemical substrate and to the biological and human use characteristics of the discharge site.

These guidelines also indicate that the level of effort associated with the preparation of the alternatives analysis be commensurate with the significance of the impact and/or discharge activity (40 C.F.R. Part 230.6(b)). The following draft section 404(b)(1) alternatives analysis shows that discharges into waters of the U.S. associated with all of the alternatives, including the proposed Project, are relatively minor and, with the exception of the No Federal Action Alternative, all of the alternatives would result in similar and insignificant discharges of fill material in waters of the U.S. Based on the detailed analysis in the Final EIS/EIR, neither the proposed Project nor any of the alternatives that involve in-water discharges would result in significant adverse effects to the aquatic ecosystem.

2.0 Basic and Overall Project Purpose

Basic Project Purpose

The basic project purpose comprises the fundamental, essential, or irreducible purpose of the proposed project, and is used by the USACE to determine whether the applicant's project is water-dependent. The Section 404(b)(1) Guidelines state that if an activity associated with the discharge proposed for a water body does not require access or proximity to, or siting within, water to fulfill its basic purpose, the activity is not water-dependent.

The Basic Project Purpose is water conveyance and riparian ecosystem restoration.

Overall Project Purpose

The overall project purpose serves as the basis for the USACE's section 404(b)(1) alternatives analysis and is determined by further defining the basic project purpose in a manner that more specifically describes the applicant's goals and accounts for logistical considerations for the project, and which allows a reasonable range of alternatives to be analyzed. It is critical that the overall project purpose be defined to provide for a meaningful evaluation of alternatives. It should not be so narrowly defined as to give undue deference to the applicant's wishes, thereby unreasonably limiting the consideration of alternatives.
Conversely, it should not be so broadly defined as to render the evaluation unreasonable and meaningless.

The overall project purpose is to provide a 100-year level of flood protection to flood prone areas within the city of Temecula.

3.0 Alternatives Considered

The 2000 Final EIS/EIR considered six alternatives. The six alternatives entailed combinations of structural and nonstructural measures to minimize flooding and provide a high functioning riparian environment within Murrieta Creek. The 404(b)(1) evaluation conducted in association with the 2000 Final EIS/EIR determined that Alternative 6 was the least environmentally damaging practicable alternative (LEDPA). Alternative 6 entailed a four-phased project. Construction of Phase I is complete. During the design of Phase II, a number of design modifications and refinements were made. Because Alternative 6, including the Original Phase II Plan was deemed to be the LEDPA, this supplemental 404(b)(1) evaluation characterizes the differences between the Original Phase II Plan, and the Modified Phase II Plan with respect to their respective impacts to the aquatic ecosystem associated with the discharge of fill in waters of the United States.

The Original Phase II Plan includes channel modification throughout the Phase II area (from 200 feet upstream of Winchester Road Bridge to 1000 feet downstream of 1st Street Bridge), including channel widening and deepening. Other features include construction of a drop structure, construction of gabions as slope protection through the Old Town Temecula section, and construction of maintenance roads and recreation trails along the channel banks. The Original Phase II Plan would also include establishment of a vegetated corridor on a terrace or bench feature extending the length of the Phase II area, ranging in width from 20 to 50 feet, which would result in about 9 to 10 acres of riparian vegetation. Operation and maintenance

requirements would consist of periodic inspections and repairs to channel side slopes, gabions, riprap, and the service roads. Regular annual vegetation management (mowing) and periodic sediment management (approximately once every 5 to 12 years) would be required for maintaining flood flow conveyance. Sediment removal between 6th Street to 1,300 feet downstream of Main Street would be performed on a more frequent basis than the other channel segments (every 1 to 5 years) due to the constricted nature of this reach.

The Modified Phase II Plan would include essentially the same design and operation and maintenance requirements as the Original Phase II Plan from 200 feet upstream of Winchester Road to 1,000 feet downstream of 1st Street. Key distinctions include the following:

- Replacement of gabions with approximately 68,650 cubic yards of soil cement in areas with less than a 2:1 slope and 35,109 cubic yards of buried riprap in areas with a 2:1 and 3:1 slope.
- Addition of five maintenance access ramps.
- Placement of fourteen drop inlets (manholes) along the maintenance road path to allow drainage into the creek.
- Removal of Via Montezuma Road dip crossing.
- Placement of one temporary and 3 permanent grade control or stabilizer structures instead of 1 permanent.
- Creation of approximately 23.67 acres of unmaintained riparian/low-flow corridor, ranging in width between 35 to 150 feet, with removal of the terrace or bench feature.

With or without the proposed modifications, the authorized project remains the LEDPA. Although updated calculations indicate that the proposed project footprint would have a slightly greater impact to waters of the U.S. than identified in the 2000 EIS/EIR (an additional one acre of permanent impact, approximately), this impact would likely have occurred from an unmodified project. Discrepancies are due primarily to the addition of access ramps and other features that would be required to adequately operate and maintain the project, whichever alternative was selected. GIS-based mapping conducted for the current analysis also allowed for a more detailed evaluation. Moreover, impacts to function and habitat values within waters of the U.S. have been reduced by the project modifications, as the unmaintained riparian/low-flow corridor has been widened significantly compared to the Original Phase II Plan and designed to encourage low flows through this area for the opportunity for aquatic habitat to establish. The Modified Phase II Plan would result in an increase of approximately 13 acres of riparian and aquatic habitat compared to the Original Phase II Plan. Additionally, the Modified Phase II Plan would result in less regular vegetation maintenance compared to the Original Phase II Plan. The Modified Phase II Plan would also include the removal of the Via Montezuma dip crossing and does not include the bridge replacement at Main Street. Overall, the Modified Phase II Plan would be less damaging compared to the Original Phase II Plan.

4.0 Environmental Effects of Alternatives on Aquatic Resources

4.1 Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C)

Substrate

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would discharge approximately 100,000 cubic yards of riprap within the gabion embankment. The Phase II project reach is approximately 70 acres in size (waters of the U.S.). In some sections of the project reach, the embankments would be constructed towards the uplands thus increasing the acreage of waters of the United States; in other sections the embankments would be constructed within waters of United States, thus decreasing the acreage of waters of United States. Concrete and riprap to be discharged for the construction of two 50-foot-long by 225-foot-long drop structures would permanently impact approximately 0.5 acre a waters of United States. Additionally, there would be concrete discharged for bridge piers and abutments for the replacement of the Main Street Bridge. Permanent impacts to waters of the United States are estimated to be less than 0.2 acre. Earthen fill would be discharged to construct an approximately 20 to 50 foot wide terrace to support the vegetation corridor. Therefore, the discharge of non-earthen fill material would permanently impact approximately 0.7 acre of waters of United States.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would discharge approximately 100,000 cubic yards of soil cement and riprap for the soil cement embankment. In particular, approximately 68,650 cubic yards of soil cement, and 35,109 cubic yards of riprap would be discharged. Approximately 90% of the fill would be composed of native alluvium from the excavated channel. The Phase II project reach is approximately 70 acres in size (waters of U.S.). However, the soil cement structure would minimally encroach onto water of the U.S. since the banks and a portion of the uplands would be excavated and removed for the installation of the embankments. In some sections of the project reach, the embankments would be constructed towards the uplands thus increasing the acreage of waters of the U.S.; in other sections the embankments would be constructed within waters of U.S., thus decreasing the acreage of waters of United States. Concrete and riprap to be discharged for the construction of 3 permanent control structures would permanently impact approximately 0.3 acres of waters of U.S. In addition, earthen and non-earthen fill associated with the consumption of five access ramps would be discharged into the channel. The acreage of impacts associated with the maintenance roads and access ramps is approximately 1 acre. Therefore, the discharge of non-earthen fill material would permanently impact approximately 1.3 acres of waters of U.S., which is about an acre more than the Original Phase II Plan. The amount of earthen fill discharged under the Modified Phase II Plan compared to the Original Phase II Plan would decrease due to the removal of the terrace or bench feature from the Modified Phase II Plan.

The increase of impacts is attributable to the addition of 5 access ramps under the Modified Phase II Plan in conjunction with the maintenance roads also identified for under the Original

Phase II Plan. Access ramps are standard design features of designed flood risk management channels and are required to provide access into the channel for completing inspections and regular maintenance activities required for long term operation and maintenance of the project. Access ramps would have been required under the Original Phase II Plan even though it was not specifically identified in the 2000 EIS/EIR.

Based on the above, the implementation of changes in the Modified Phase II Plan would not result in additional impacts compared to the Original Phase II Plan.

Suspended Particulates and Turbidity

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would involve substantial grading and excavation over 70 acres to widen and deepen the channel. In addition, the earthen embankments would need to be excavated for the installation of embankments. As a result, there would be a number of earth moving equipment working within the channel invert. Furthermore, there would be a number of on road dump trucks accessing the worksite to transport excess fill material off-site. As a result, there would be substantial disturbance to substrate during construction that could impact water quality. However, all construction and maintenance activities will not be conducted from December 1 through February 28 in order to avoid winter rains and to correspondingly reduce the potential for water quality impacts. Furthermore, work areas would be isolated from active flows to prevent or minimize turbidity during construction. There would be a temporary increase in turbidity when initial water flows across disturbed areas introduce unconsolidated or loose topsoil into the water column. However, since most of the substrate is alluvial, sand and gravel are expected to quickly settle out of the water column. Moreover, all terms and conditions of the 401Water Quality Certification would be implemented.

Modified Phase II Plan (Preferred Alternative)

The acreage of channel invert that would be disturbed would be slightly larger since the length of the channel being modified would be extended by approximately 200 feet. Due to the steeper 2:1 slopes allowed by the use of soil cement embankment, the channel would be slightly wider, and therefore the volume of material excavated from the channel would be less. In particular, Modified Phase II Plan would decrease the volume of excavation by 148,481 cubic yards, resulting in a decrease of approximately 13.5% when compared to the Original Phase II Plan. Though there are minor differences between the Modified Phase II Plan and the Original Phase II Plan, potential impacts to turbidity would likely remain the same. Modified Phase II Plan would involve substantial grading and excavation to widen and deepen the channel. In addition, the earthen embankments would need to be excavated for the installation of gabion/riprap embankments. As a result, there will be a number of earth moving equipment working within the channel invert. Furthermore, there would be a number of on road dump trucks accessing the worksite to transport excess fill material off-site. As a result, there would be substantial disturbance to substrate during construction that could impact water quality. However, all construction and maintenance activities will not be conducted from December 1 through February 28 in order to avoid winter rains and to correspondingly reduce the potential for water quality impacts. Furthermore, work areas would be isolated from active flows to prevent or minimize turbidity during construction. There would be a temporary increase in turbidity when initial water flows across disturbed areas introduce unconsolidated or loose topsoil into the water column. However, since most of the substrate is alluvial, sand and gravel are expected to quickly

settle out of the water column. The use of earth moving equipment within the channel could impact water quality by introducing oils and solvents to the work area.
However, the implementation of best management practices listed below would minimize the potential for accidental releases and spills. Moreover, all terms and conditions of the 401Water Quality Certification would be implemented.

Based on the above, the implementation of changes in the Modified Phase II Plan would not result in additional impacts compared to the Original Phase II Plan.

Contaminants

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would discharge approximately 100,000 cubic yards of riprap within the gabion embankment. The Phase II project reach is approximately 70 acres in size. In some sections of the project reach, the embankments would be constructed towards the uplands thus increasing the acreage of waters of the United States; in other sections the embankments would be constructed within waters of United States, thus decreasing the acreage of waters of United States. Concrete and riprap to be discharged for the construction of two 50-foot-long by 225-foot-long drop structures would permanently impact approximately 0.5 acre a waters of United States. Additionally, there would be concrete discharged for bridge piers and abutments for the replacement of the Main Street Bridge. Permanent impacts to waters of the United States are estimated to be less than 0.2 acre. Earthen fill would be discharged to construct an approximately 20 to 60 foot wide terrace to support the vegetation corridor. Therefore, the discharge of non-earthen fill material would permanently impact approximately 0.7 acre of waters of United States. With the exception of concrete, fill material would be composed of native alluvium and rocks. Furthermore, all material to be discharged within waters of United States are chemically inert and would not introduce contaminants into the water column.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would discharge approximately 100,000 cubic yards of soil cement and riprap for the soil cement embankment. In particular, approximately 68,650 cubic yards of soil cement, and 35,109 cubic yards of riprap would be discharged. Approximately 90% of the fill would be composed of native alluvium from the excavated channel. The Phase II project reach is approximately 70 acres in size. However, the soil cement structure would minimally encroach onto water of the United States since the banks and a portion of the uplands would be excavated and removed for the installation of the embankments. In some sections of the project reach, the embankments would be constructed towards the uplands thus increasing the acreage of waters of the United States; in other sections the embankments would be constructed within waters of United States, thus decreasing the acreage of waters of United States. Concrete and riprap to be discharged for the construction of two 50-foot-long by 225-foot-long grade control structures would permanently impact approximately 0.5 acre a waters of United States. In addition, earthen fill associated with the consumption of five access ramps would be discharged into the channel. The acreage of impacts associated with the access ramps is approximately 2 acres. Earthen fill would be discharged to construct an approximately 20 to 125 foot wide terrace to support the vegetation corridor. Fherefore, the discharge of non-earthen fill material would permanently impact approximately 0.7 acre of waters of United States. Therefore, the amount of earthen fill discharged under the Modified Phase II Plan would increase due to the construction of a wider terrace for the vegetated corridor and construction of five access ramps.

The amount of non-earthen fill discharged under the Modified Phase II Plan would remain unchanged. With the exception of concrete, fill material would be composed of native alluvium and rocks. Furthermore, all material to be discharged within waters of United States are chemically inert and would not introduce contaminants into the water column. Based on above, there will be less insignificant next to contaminants within the water column.

Based on the above, the implementation of changes in the Modified Phase II Plan would not result in additional impacts compared to the Original Phase II Plan.

Water

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would involve substantial grading and excavation over 70 acres to widen and deepen the channel. In addition, the earthen embankments would need to be excavated for the installation of embankments. As a result, there would be a number of earth moving equipment working within the channel invert. Furthermore, there would be a number of on road dump trucks accessing the worksite to transport excess fill material off-site. As a result, there would be substantial disturbance to substrate during construction that could impact water quality. However, all construction and maintenance activities will not be conducted from December 1 through February 28 in order to avoid winter rains and to correspondingly reduce the potential for water quality impacts. Furthermore, work areas would be isolated from active flows to prevent or minimize turbidity during construction. There would be a temporary increase in turbidity when initial water flows across disturbed areas introduce unconsolidated or loose topsoil into the water column. However, since most of the substrate is alluvial, sand and gravel are expected to quickly settle out of the water column. With the exception of concrete, fill material would be composed of native alluvium and rocks. Furthermore, all material to be discharged within waters of United States are chemically inert and would not introduce contaminants into the water column. The use of earth moving equipment within the channel could impact water quality by introducing oils and solvents to the work area. However, the implementation of best management practices listed below would minimize the potential for accidental releases and spills. Moreover, all terms and conditions of the 401Water Quality Certification would be implemented.

Modified Phase II Plan (Preferred Alternative)

Due to the steeper 2:1 slopes allowed by the use of soil cement embankment, the channel would be slightly wider, and therefore the volume of material excavated from the channel would be less. In particular, Modified Phase II Plan would decrease the volume of excavation by 148,481 cubic yards, resulting in a decrease of approximately 13.5% when compared to the Original Phase II Plan. Though there are minor differences between the Modified Phase II Plan and the Original Phase II Plan, potential impacts to turbidity would likely remain the same. Modified Phase II Plan would involve substantial grading and excavation to widen and deepen the channel. In addition, the earthen embankments would need to be excavated for the installation of gabion/riprap embankments. As a result, there will be a number of earth moving equipment working within the channel invert. Furthermore, there would be a number of on road dump trucks accessing the worksite to transport excess fill material off-site. As a result, there would be substantial disturbance to substrate during construction that could impact water quality. However, all construction and maintenance activities will not be conducted during significant rain events in order to avoid winter rains and to correspondingly reduce the potential for water

quality impacts. Furthermore, work areas would be isolated from active flows to prevent or minimize turbidity during construction. There would be a temporary increase in turbidity when initial water flows across disturbed areas introduce unconsolidated or loose topsoil into the water column. However, since most of the substrate is alluvium, sand and gravel are expected to quickly settle out of the water column. With the exception of concrete, fill material would be composed of native alluvium and rocks. Furthermore, all material to be discharged within waters of United States are chemically inert and would not introduce contaminants into the water column. The use of earth moving equipment within the channel could impact water quality by introducing oils and solvents to the work area. However, the implementation of best management practices listed below would minimize the potential for accidental releases and spills. Moreover, all terms and conditions of the 401Water Quality Certification would be implemented. With the exception of the temporary increase in turbidity subsequent to construction, there would be no long-term impacts to water quality parameters such as temperature, salinity, density, hydrogen ion concentration, and levels of dissolved oxygen.

Based on the above, the implementation of changes in the Modified Phase II Plan would not result in additional impacts compared to the Original Phase II Plan.

Current patterns and water circulation

Original Phase II Plan (No Action Alternative)

The Original Phase II Plan would entail the construction of soil cement embankments along the Phase II reach. Creek flows would be temporarily be diverted around project area. Thus, there would be temporary changes to current pattern during construction. Subsequent to the completion of construction, pre-project current patterns and water circulation would be restored. Because the structures would be located along the banks of the channel, current patterns and water circulation would remain largely unaffected. The replacement of a vegetated earthen embankment with an engineered embankment would initially reduce the channel roughness at the water-embankment interface. However, upon reestablishment of the vegetation on the embankments, the pre-project water-embankment interactions would be restored.

Modified Phase II Plan (Preferred Alternative)

The Original Phase II Plan would entail the construction of soil cement embankments along the Phase II reach. Creek flows would be temporarily be diverted around project area. Thus, there would be temporary changes to current pattern during construction. Subsequent to the completion of construction, pre-project current patterns and water circulation would be restored. Because the structures would be located along the banks of the channel, current patterns and water circulation would remain largely unaffected. The replacement of a vegetated earthen embankment with an engineered embankment would initially reduce the channel roughness at the water-embankment interface. However, upon reestablishment of the vegetation on the embankments, the pre-project water-embankment interactions would be restored. The grade control structures would cause temporary pooling of water and structure. However, as sedimentation behind the grade control structure raises elevation of invert to grade, pooling would be eliminated. The presence of five access ramps in the channel would change the current patterns within the immediate vicinity of the structures. However, the overall current patterns of the Phase II reach would remain largely unaffected. Overall, water within the Phase II project reach would continue to maintain its pre-project current patterns.

Based on the above, the implementation of changes in the Modified Phase II Plan would not result in additional impacts compared to the Original Phase II Plan.

Normal water fluctuations

Murrieta Creek is an ephemeral waterway that is not subject to tidal fluctuations. The discharges of fill would entail construction of embankments, grade control structures, and access ramps within the waterway. The structures would not change the ephemeral flow regime of the water body. Therefore, the discharge of fill would not impact normal water fluctuations.

4.2 Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart D)

Threatened and endangered species

Original Phase II Plan (No Action Alternative)

Four federally or state listed threatened or endangered wildlife species have moderate to high potential to occur or are present within the Phase II project area. These include least Bell's vireo (*Vireo bellii pusillus*) (Federally Endangered, State Endangered), coastal California gnatcatcher (*Polioptila californica californica*) (Federally Threatened), southwestern willow flycatcher (*Empidonax traillii extimus*) (Federally Endangered, State Endangered), and Swainson's hawk (*Buteo swainsoni*) (State Threatened). Of these species, the least Bell's vireo (LBVI) has been observed in the project area. The coastal California gnatcatcher (CAGN) has been observed foraging downstream of the project area, and critical habitat occurs west of the project area ranging from 0.15 to 1.15 miles away.

Construction activities associated with the proposed project would directly and indirectly affect LBVI, nest sites, and occupied habitat in the Phase II project area. This disturbance would be caused primarily by removal of vegetation in the project area, as well as construction and drilling equipment, pile driving, and haul trucks and other vehicles that would be frequently driving through and around the project area. The increased level of noise and activity may displace some individuals and prevent them from nesting, or attempted nests may be abandoned. However, construction activity will be temporary and this project would not jeopardize the species as a whole or even the entire regional population.

Construction activities would result in temporary, direct loss of 21.6 acres and permanent loss of 2.6 acres of riparian habitat that may be used for nesting and foraging. Timing of vegetation removal activities outside the breeding season would prevent impacts to active nests, loss of eggs, and impacts to reproductive rates.

Construction of activities may result in indirect effects to LBVI, including increased levels of light and noise, accumulation of dust, and the introduction of non-native invasives. Increased noise levels may impact vocalizations and potential active nests in any adjacent habitat, which may temporarily depress breeding in the immediate vicinity of the project. Displacement of birds from the project area may also result in increased competition as they seek mates and resources in adjacent territories.

Timing of construction activities outside the breeding season and the use of qualified biological monitors would minimize impacts to nesting birds. During construction, additional suitable habitat would be available on the Phase I mitigation's riparian terrace. Habitat is also present just downstream of the Phase I site and further downstream near the confluence with Temecula Creek, where LBVI have been detected during recent protocol surveys.

Furthermore, the proposed project would mitigate impacts by restoring an approximately 24 acre unmaintained riparian terrace that would provide higher quality habitat after construction. This terrace would be planted and weeded after construction to allow for establishment of native riparian habitat. Based on established mitigation at the Phase I site, it is expected that suitable LBVI habitat would be available in Phase II within 5 years after construction.

The Corps is coordinating with the USWFS and CDFG to ensure that the proposed mitigation measures and environmental commitments discussed in this SEA/EIR addendum will adequately avoid or minimize project related impacts to LBVI. The Corps will formally consult with the USFWS under Section 7 of the Endangered Species Act (ESA) to ensure that any adverse effects do not jeopardize the species.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would entail similar interests to threatened and endangered species as the Original Phase II Plan.

Based on above, the implementation of mitigation measures identified in the environmental assessment, and implementation of the terms and conditions identified in the Section 7 consultation process with the U.S. Fish and Wildlife Service, the changes in the Modified Phase II Plan would entail less than significant impacts to threatened and endangered species.

Fish, crustaceans, mollusks, and other aquatic organisms in the food web

Murrieta Creek is an ephemeral waterway that is not subject to tidal fluctuations. Aquatic organisms associated with the Marine and the environment such as crustaceans and mollusks are not present within the project reach. Furthermore, due to its ephemeral flow regime, no fish are present within the waterway. Based on the above, there will be no impacts to fish, crustaceans, and other aquatic organisms.

Other wildlife

Original Phase II Plan (No Action Alternative)

The Modified Phase II Plan would entail earthwork over approximately 70 acres of the channel invert associated with the widening and deepening of the channel. The primary impacts of the proposed project on wildlife species are the disruption of habitat and the temporary displacement of wildlife. Other elements of the proposed project that could potentially affect wildlife and wildlife habitat, include construction-related noise disturbance, disruption of movement, and potential wildlife mortality (for any individuals that do not or cannot evacuate the construction zone).

Short-term effects of construction on wildlife resources would result from wildlife avoidance of the immediate construction zone. Noise and other disturbances caused by heavy equipment and construction crews may cause wildlife to move away from the construction zone.

Vegetation clearing and soil excavation could result in the mortality of individual small reptiles/mammals. Species with limited mobility or that occupy burrows within the construction zones could be crushed during clearing and grading activities. Riparian vegetation provides necessary foraging, shelter, and nesting habitat for many bird species. The project area contains suitable foraging and nesting habitat for both resident and migratory birds. Ground-disturbing activities have the potential to disturb vegetation utilized by wildlife, including nesting birds. Construction noise could also disrupt breeding birds by interfering with their ability to hear vocalizations when seeking mates, establishing territories, or warning of predators. Excessive noise and human presence could also cause some individuals to abandon their nests.
With the exception of a few non-native birds, such as European starling, any active nest is fully protected against take pursuant to the Migratory Bird Treaty Act (MBTA) and relevant U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) codes. With the incorporation of mitigation measures identified in the environmental assessment, impacts to wildlife would be less than significant.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would entail similar interests to threatened and endangered species as the Original Phase II Plan.

Based on above, the implementation of mitigation measures identified in the environmental assessment, and implementation of the terms and conditions identified in the Section 7 consultation process with the U.S. Fish and Wildlife Service, the changes in the Modified Phase II Plan would entail less than significant impacts to other wildlife.

4.3 Potential Impacts on Special Aquatic Sites (Subpart E)

Sanctuaries and refuges

The Phase II project reach is not located within sanctuaries or refuges designated under state or federal laws. Therefore, there would be no impacts to sanctuaries or refuges.

Wetlands

Original Phase II Plan (No Action Alternative)

Implementation of the proposed project would temporarily impact approximately 66.96 acres of native riparian and marsh vegetation and open channel. To minimize and compensate for the effects of the proposed project on jurisdictional waters, the Corps would implement mitigation measures which requires the restoration of disturbed areas at the conclusion of construction. To restore lost functions, the Corps would restore degraded vegetation communities present in the project area, including 41.11 acres of marsh and open channel habitats, and establish 24.62 acres of riparian terrace habitat and 20.40 acres of coastal sage scrub within the proposed project limits. Adherence to the identified mitigation measures would reduce impacts to less than significant levels. With the incorporation of compensatory mitigation measures identified above, and in the environmental assessment, impacts to wetlands would be less than significant.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would entail similar impacts to threatened and endangered species as the Original Phase II Plan.

Based on above, the implementation of mitigation measures identified in the environmental assessment, and implementation of the terms and conditions identified in the Section 7 consultation process with the U.S. Fish and Wildlife Service, the changes in the Modified Phase II Plan would entail less than significant impacts to wetlands.

Riffle and pool complexes

Murrieta Creek is not perennial, meandering waterway. Instead, it is an ephemeral, linear waterway. Furthermore, the channel is disturbed from past operations and maintenance activities. Therefore, large, natural riffle and pool complexes are absent from the project area. Within Murrieta Creek, fresh water marshlands are located in certain areas along the width of the channel that contain small pools forming in areas where cobble and vegetation have resulted in the development of small natural weirs. However, Murrieta Creek is an ephemeral water body. Therefore there is no resident fish population within the Phase II project area that could benefit from riffle and pool complexes. Based on the above, there would be no impacts to riffle and pool complexes.

4.4 Potential Effects on Human Use Characteristics (Subpart F)

Municipal and Private Water Supplies

Original Phase II Plan (No Action Alternative)

Various water supply pipes are located within the larger Murrieta Creek study area. In addition, there are a potable water and chlorination facility on the west side of Murrieta Creek just north of the Rancho California Road bridge. Water and other utility lines are also located under north of Winchester Road, just outside the project limits. There are no private wells within the invert of the Phase II reach.

The Original Phase II Plan would involve excavating and grading approximately 70 acres of Murrieta Creek. Approximately, 1,100,481 cubic yards of alluvial substrate would be removed from the channel invert to lower the invert elevation by approximately 3 to 8 feet. The substantial excavation and grading activities could occur within the vicinity of water lines. The Corps and RCFCWCD would implement all mitigation measures listed in the EA to ensure that there would be no disruption of water supply services during construction.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would entail similar impacts as the Original Phase II Plan. Therefore, the changes in the Modified Phase II Plan would entail less than significant impacts to municipal and private water supplies.

Recreational and commercial fisheries

Murrieta Creek is an ephemeral water body with no resident fish population. There are no recreational or commercial fisheries in Murrieta Creek. Therefore, there would be no impacts to recreational or commercial fisheries.

Water-Related Recreation

Murrieta Creek is an ephemeral water body. There are no official recreational opportunities within the creek itself, nor are there any plans to allow for such recreational use. Therefore, there would be no impacts to water-related recreation.

Aesthetics

Original Phase II Plan (No Action Alternative)

The viewscape within Murrieta Creek is composed of a wide, sandy, and vegetated channel. The embankments are earthen embankment covered with vegetation. There are some areas of the embankment where concrete has been discharged from the top of slope to the channel. Debris is present in the some parts of the channel, particularly near bridges. Numerous tire tracks traverse the creek, indicating the use of vehicles. The normal water flow from the creek is relatively small compared to the entire width of the channel and the water course meanders slightly. In some locations the creek supports vegetation and wildlife.

There would be temporary impacts to the viewscape within the channel during construction. Prior to earthmoving activities within the channel, vegetation within the project footprint would be cleared. During construction, earthmoving equipment would be operating within the channel to widen and deepen the channel to design specifications. Therefore, the work area would be devoid of vegetation for the duration of construction. Upon completion of construction a barren, soft-bottom engineered channel with gabion embankments would be the dominant visual elements within the viewscape. Because the gabions would be filled with rocks, the channel embankments would exhibit a gray hue, instead of earth tones associated with earthen embankments. Over time, vegetation would be reintegrated into the viewscape within the channel upon planting and maturation of vegetation on the vegetated corridor.

Modified Phase II Plan (Preferred Alternative)

The Modified Phase II Plan would entail the same impacts as the Original Phase II Plan with the exception of the following changes. First, the Modified Phase II Plan would incorporate a larger vegetated corridor within the channel invert. Whereas the Original Phase II Plan would construct a vegetated corridor that would range in width from 20 to 60 feet, the range in width of the vegetated corridor in the Modified Phase II Plan would be approximately 20 to 125 feet. Therefore, there would be a slight increase in vegetation within the viewscape of the channel. Second, the gabion embankments from the Original Phase II project would be replaced with soil cement embankment in the Modified Phase II Plan. The texture and color of the soil cement embankment would more closely match the existing surrounding and have a less engineered appearance.

The Modified Phase II Plan would entail similar impacts as the Original Phase II Plan. Therefore, the changes in the Modified Phase II Plan would entail less than significant impacts to municipal and private water supplies.

Parks, national and historical monuments, national seashores, wilderness areas, research sites.

The Phase II reach is adjacent to two parks. Rotary Park, a small neighborhood park is located north of Winchester Street and adjacent to the western side of Murrieta Creek. Sam Hick Monument Park is located south of Winchester Street and adjacent to the eastern side of Murrieta Creek. These parks would be affected by construction. Therefore, there would be no impacts on parks.

There are no national and historical monuments, national seashores, wilderness areas, research sites, and similar sites designated under state or federal laws located within the vicinity of the Phase II reach. Therefore, there would no impacts to these resources.

APPENDIX D

Air Quality Emission Calculations

Murrieta Creek Phase II

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	1	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	31		

1.3 User Entered Comments

Project Characteristics - Murrieta Creek Phase II is a flood control project located in the the City of Temecula, in southwestern Riverside County, California

Land Use - Murrieta Creek Phase II is a flood control project, and is defined as industrial land use type. The project area (worse case scenario) is 120 acres. There is no population living within the construction project area.

Construction Phase - Construction work to occur in years 2013 and 2014 with approx. under two years to complete. The operational year is 2015. Phases includes Demo., Site Prep., Grading, Construction, and Paving. Since Murrieta Creek Phase II project is a flood control project, there are no buildings being built; therefore, no requirement for Architectural Coating phase.

Grading - Grading would cover 120 acres, the total (worse case scenario) construction project area.

Vehicle Trips - Operational and Maintenance (O&M) work using vehicle equipment/machinery (i.e., one dump truck with 20 cy capacity per load and one dozer with bucket/trawler] would occur once a week throughout the year annually post project construction completion with sediment removal in Murrieta Creek to the invert to maintain project (free of sediment build-up).

Energy Use -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2013	11.98	97.62	54.22	0.10	18.34	4.60	22.29	9.93	4.60	13.88	0.00	11,086.97	0.00	1.07	0.00	11,109.51
2014	5.30	32.19	23.20	0.04	0.23	2.74	2.97	0.00	2.74	2.75	0.00	4,040.61	0.00	0.48	0.00	4,050.65
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2013	11.98	97.62	54.22	0.10	18.08	4.60	22.02	9.93	4.60	13.88	0.00	11,086.97	0.00	1.07	0.00	11,109.51
2014	5.30	32.19	23.20	0.04	0.01	2.74	2.75	0.00	2.74	2.75	0.00	4,040.61	0.00	0.48	0.00	4,050.65
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.50		0.00		0.50
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.50**		**0.00**	**0.00**	**0.50**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.50		0.00		0.50
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.50**		**0.00**	**0.00**	**0.50**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**		**3.50**	**3.50**		**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.11	1.03	0.00	0.23	0.01	0.24	0.00	0.01	0.01		172.73		0.01		172.95
Total	**0.10**	**0.11**	**1.03**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**172.73**		**0.01**		**172.95**

3.2 Demolition - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50	0.00	7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**		**3.50**	**3.50**		**3.50**	**3.50**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.11	1.03	0.00	0.01	0.01	0.02	0.00	0.01	0.01		172.73		0.01		172.95
Total	**0.10**	**0.11**	**1.03**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**172.73**		**0.01**		**172.95**

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93		7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**18.07**	**3.93**	**22.00**	**9.93**	**3.93**	**13.86**		**7,997.69**		**0.89**		**8,016.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.13	1.24	0.00	0.28	0.01	0.29	0.00	0.01	0.01		207.28		0.01		207.54
Total	**0.12**	**0.13**	**1.24**	**0.00**	**0.28**	**0.01**	**0.29**	**0.00**	**0.01**	**0.01**		**207.28**		**0.01**		**207.54**

3.3 Site Preparation - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93	0.00	7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**18.07**	**3.93**	**22.00**	**9.93**	**3.93**	**13.86**	**0.00**	**7,997.69**		**0.89**		**8,016.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.12	0.13	1.24	0.00	0.01	0.01	0.02	0.00	0.01	0.01		207.28		0.01		207.54
Total	**0.12**	**0.13**	**1.24**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**207.28**		**0.01**		**207.54**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.91	0.00	8.91	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59		10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**8.91**	**4.59**	**13.50**	**3.31**	**4.59**	**7.90**		**10,856.66**		**1.06**		**10,878.90**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.15	1.38	0.00	0.31	0.01	0.32	0.00	0.01	0.01		230.31		0.01		230.60
Total	**0.13**	**0.15**	**1.38**	**0.00**	**0.31**	**0.01**	**0.32**	**0.00**	**0.01**	**0.01**		**230.31**		**0.01**		**230.60**

3.4 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.91	0.00	8.91	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59	0.00	10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**8.91**	**4.59**	**13.50**	**3.31**	**4.59**	**7.90**	**0.00**	**10,856.66**		**1.06**		**10,878.90**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.15	1.38	0.00	0.01	0.01	0.02	0.00	0.01	0.01		230.31		0.01		230.60
Total	**0.13**	**0.15**	**1.38**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**230.31**		**0.01**		**230.60**

3.5 Building Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28		4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**		**4,040.62**		**0.46**		**4,050.31**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28	0.00	4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**	**0.00**	**4,040.62**		**0.46**		**4,050.31**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02	0.00	4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74		2,917.65		0.47		2,927.48
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.20**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**		**2,917.65**		**0.47**		**2,927.48**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.10	0.95	0.00	0.23	0.01	0.24	0.00	0.01	0.01		169.66		0.01		169.86
Total	**0.09**	**0.10**	**0.95**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**169.66**		**0.01**		**169.86**

3.6 Paving - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74	0.00	2,917.65		0.47		2,927.48
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.20**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**	**0.00**	**2,917.65**		**0.47**		**2,927.48**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.10	0.95	0.00	0.01	0.01	0.02	0.00	0.01	0.01		169.66		0.01		169.86
Total	**0.09**	**0.10**	**0.95**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**169.66**		**0.01**		**169.86**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.50		0.00		0.50
Unmitigated	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.50		0.00		0.50
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	2.00	0.00	0.00		
Total	2.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
User Defined Industrial	8.90	13.30	7.40	0.00	100.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Murrieta Creek Phase II

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	1	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	31		

1.3 User Entered Comments

Project Characteristics - Murrieta Creek Phase II is a flood control project located in the the City of Temecula, in southwestern Riverside County, California

Land Use - Murrieta Creek Phase II is a flood control project, and is defined as industrial land use type. The project area (worse case scenario) is 120 acres. There is no population living within the construction project area.

Construction Phase - Construction work to occur in years 2013 and 2014 with approx. under two years to complete. The operational year is 2015. Phases includes Demo., Site Prep., Grading, Construction, and Paving. Since Murrieta Creek Phase II project is a flood control project, there are no buildings being built; therefore, no requirement for Architectural Coating phase.

Grading - Grading would cover 120 acres, the total (worse case scenario) construction project area.

Vehicle Trips - Operational and Maintenance (O&M) work using vehicle equipment/machinery (i.e., one dump truck with 20 cy capacity per load and one dozer with bucket/trawler] would occur once a week throughout the year annually post project construction completion with sediment removal in Murrieta Creek to the invert to maintain project (free of sediment build-up).

Energy Use -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2013	11.98	97.60	54.33	0.10	18.34	4.60	22.29	9.93	4.60	13.88	0.00	11,108.78	0.00	1.07	0.00	11,131.33
2014	5.29	32.18	23.20	0.04	0.23	2.74	2.97	0.00	2.74	2.75	0.00	4,040.61	0.00	0.48	0.00	4,050.66
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2013	11.98	97.60	54.33	0.10	18.08	4.60	22.02	9.93	4.60	13.88	0.00	11,108.78	0.00	1.07	0.00	11,131.33
2014	5.29	32.18	23.20	0.04	0.01	2.74	2.75	0.00	2.74	2.75	0.00	4,040.61	0.00	0.48	0.00	4,050.66
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.52		0.00		0.52
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.52**		**0.00**	**0.00**	**0.52**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Mobile	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.52		0.00		0.52
Total	**0.00**	**0.01**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.52**		**0.00**	**0.00**	**0.52**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50		7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**		**3.50**	**3.50**		**3.50**	**3.50**		**7,510.81**		**0.80**		**7,527.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.10	1.12	0.00	0.23	0.01	0.24	0.00	0.01	0.01		189.09		0.01		189.32
Total	**0.09**	**0.10**	**1.12**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**189.09**		**0.01**		**189.32**

3.2 Demolition - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.86	70.71	42.55	0.07		3.50	3.50		3.50	3.50	0.00	7,510.81		0.80		7,527.57
Total	**8.86**	**70.71**	**42.55**	**0.07**		**3.50**	**3.50**		**3.50**	**3.50**	**0.00**	**7,510.81**		**0.80**		**7,527.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.10	1.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01		189.09		0.01		189.32
Total	**0.09**	**0.10**	**1.12**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**189.09**		**0.01**		**189.32**

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93		7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**18.07**	**3.93**	**22.00**	**9.93**	**3.93**	**13.86**		**7,997.69**		**0.89**		**8,016.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.11	1.34	0.00	0.28	0.01	0.29	0.00	0.01	0.01		226.91		0.01		227.19
Total	**0.11**	**0.11**	**1.34**	**0.00**	**0.28**	**0.01**	**0.29**	**0.00**	**0.01**	**0.01**		**226.91**		**0.01**		**227.19**

3.3 Site Preparation - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.90	79.99	45.35	0.07		3.93	3.93		3.93	3.93	0.00	7,997.69		0.89		8,016.38
Total	**9.90**	**79.99**	**45.35**	**0.07**	**18.07**	**3.93**	**22.00**	**9.93**	**3.93**	**13.86**	**0.00**	**7,997.69**		**0.89**		**8,016.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.11	1.34	0.00	0.01	0.01	0.02	0.00	0.01	0.01		226.91		0.01		227.19
Total	**0.11**	**0.11**	**1.34**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**226.91**		**0.01**		**227.19**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.91	0.00	8.91	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59		10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**8.91**	**4.59**	**13.50**	**3.31**	**4.59**	**7.90**		**10,856.66**		**1.06**		**10,878.90**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.13	1.49	0.00	0.31	0.01	0.32	0.00	0.01	0.01		252.12		0.01		252.43
Total	**0.13**	**0.13**	**1.49**	**0.00**	**0.31**	**0.01**	**0.32**	**0.00**	**0.01**	**0.01**		**252.12**		**0.01**		**252.43**

3.4 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.91	0.00	8.91	3.31	0.00	3.31						0.00
Off-Road	11.85	97.47	52.85	0.10		4.59	4.59		4.59	4.59	0.00	10,856.66		1.06		10,878.90
Total	**11.85**	**97.47**	**52.85**	**0.10**	**8.91**	**4.59**	**13.50**	**3.31**	**4.59**	**7.90**	**0.00**	**10,856.66**		**1.06**		**10,878.90**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.13	0.13	1.49	0.00	0.01	0.01	0.02	0.00	0.01	0.01		252.12		0.01		252.43
Total	**0.13**	**0.13**	**1.49**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**252.12**		**0.01**		**252.43**

3.5 Building Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28		4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**		**4,040.62**		**0.46**		**4,050.31**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.17	34.66	23.45	0.04		2.28	2.28		2.28	2.28	0.00	4,040.62		0.46		4,050.31
Total	**5.17**	**34.66**	**23.45**	**0.04**		**2.28**	**2.28**		**2.28**	**2.28**	**0.00**	**4,040.62**		**0.46**		**4,050.31**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02	0.00	4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74		2,917.65		0.47		2,927.48
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.20**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**		**2,917.65**		**0.47**		**2,927.48**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.09	1.03	0.00	0.23	0.01	0.24	0.00	0.01	0.01		185.76		0.01		185.98
Total	**0.09**	**0.09**	**1.03**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**185.76**		**0.01**		**185.98**

3.6 Paving - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.20	32.09	20.70	0.03		2.74	2.74		2.74	2.74	0.00	2,917.65		0.47		2,927.48
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**5.20**	**32.09**	**20.70**	**0.03**		**2.74**	**2.74**		**2.74**	**2.74**	**0.00**	**2,917.65**		**0.47**		**2,927.48**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.09	1.03	0.00	0.01	0.01	0.02	0.00	0.01	0.01		185.76		0.01		185.98
Total	**0.09**	**0.09**	**1.03**	**0.00**	**0.01**	**0.01**	**0.02**	**0.00**	**0.01**	**0.01**		**185.76**		**0.01**		**185.98**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.52		0.00		0.52
Unmitigated	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.52		0.00		0.52
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	2.00	0.00	0.00		
Total	2.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
User Defined Industrial	8.90	13.30	7.40	0.00	100.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	lb/day										lb/day					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**	**0.00**	**0.00**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Murrieta Creek Phase II

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
User Defined Industrial	1	User Defined Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Utility Company**	Southern California Edison
Climate Zone	10	**Precipitation Freq (Days)**	31		

1.3 User Entered Comments

Project Characteristics - Murrieta Creek Phase II is a flood control project located in the the City of Temecula, in southwestern Riverside County, California

Land Use - Murrieta Creek Phase II is a flood control project, and is defined as industrial land use type. The project area (worse case scenario) is 120 acres. There is no population living within the construction project area.

Construction Phase - Construction work to occur in years 2013 and 2014 with approx. under two years to complete. The operational year is 2015. Phases includes Demo., Site Prep., Grading, Construction, and Paving. Since Murrieta Creek Phase II project is a flood control project, there are no buildings being built; therefore, no requirement for Architectural Coating phase.

Grading - Grading would cover 120 acres, the total (worse case scenario) construction project area.

Vehicle Trips - Operational and Maintenance (O&M) work using vehicle equipment/machinery (i.e., one dump truck with 20 cy capacity per load and one dozer with bucket/trawler] would occur once a week throughout the year annually post project construction completion with sediment removal in Murrieta Creek to the invert to maintain project (free of sediment build-up).

Energy Use -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	1.16	9.22	5.40	0.01	1.41	0.46	1.86	0.73	0.46	1.19	0.00	892.36	892.36	0.09	0.00	894.35
2014	0.57	3.82	2.74	0.01	0.00	0.25	0.25	0.00	0.25	0.25	0.00	427.48	427.48	0.05	0.00	428.45
Total	**1.73**	**13.04**	**8.14**	**0.02**	**1.41**	**0.71**	**2.11**	**0.73**	**0.71**	**1.44**	**0.00**	**1,319.84**	**1,319.84**	**0.14**	**0.00**	**1,322.80**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2013	1.16	9.22	5.40	0.01	1.38	0.46	1.84	0.73	0.46	1.19	0.00	892.36	892.36	0.09	0.00	894.35
2014	0.57	3.82	2.74	0.01	0.00	0.25	0.25	0.00	0.25	0.25	0.00	427.48	427.48	0.05	0.00	428.45
Total	**1.73**	**13.04**	**8.14**	**0.02**	**1.38**	**0.71**	**2.09**	**0.73**	**0.71**	**1.44**	**0.00**	**1,319.84**	**1,319.84**	**0.14**	**0.00**	**1,322.80**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.06
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.06**	**0.00**	**0.00**	**0.06**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.06
Waste						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.06**	**0.06**	**0.00**	**0.00**	**0.06**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Demolition - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.18	1.45	0.87	0.00		0.07	0.07		0.07	0.07	0.00	139.64	139.64	0.01	0.00	139.95
Total	**0.18**	**1.45**	**0.87**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**139.64**	**139.64**	**0.01**	**0.00**	**139.95**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30	3.30	0.00	0.00	3.31
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.30**	**3.30**	**0.00**	**0.00**	**3.31**

3.2 Demolition - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.18	1.45	0.87	0.00		0.07	0.07		0.07	0.07	0.00	139.64	139.64	0.01	0.00	139.95
Total	**0.18**	**1.45**	**0.87**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**139.64**	**139.64**	**0.01**	**0.00**	**139.95**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.30	3.30	0.00	0.00	3.31
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.30**	**3.30**	**0.00**	**0.00**	**3.31**

3.3 Site Preparation - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.18	0.00	1.18	0.65	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.65	5.24	2.97	0.00		0.26	0.26		0.26	0.26	0.00	475.10	475.10	0.05	0.00	476.21
Total	**0.65**	**5.24**	**2.97**	**0.00**	**1.18**	**0.26**	**1.44**	**0.65**	**0.26**	**0.91**	**0.00**	**475.10**	**475.10**	**0.05**	**0.00**	**476.21**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.08	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	12.66	12.66	0.00	0.00	12.68
Total	**0.01**	**0.01**	**0.08**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**12.66**	**12.66**	**0.00**	**0.00**	**12.68**

3.3 Site Preparation - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.18	0.00	1.18	0.65	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.65	5.24	2.97	0.00		0.26	0.26		0.26	0.26	0.00	475.10	475.10	0.05	0.00	476.21
Total	**0.65**	**5.24**	**2.97**	**0.00**	**1.18**	**0.26**	**1.44**	**0.65**	**0.26**	**0.91**	**0.00**	**475.10**	**475.10**	**0.05**	**0.00**	**476.21**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.66	12.66	0.00	0.00	12.68
Total	**0.01**	**0.01**	**0.08**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**12.66**	**12.66**	**0.00**	**0.00**	**12.68**

3.4 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.20	0.00	0.20	0.08	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.26	2.14	1.16	0.00		0.10	0.10		0.10	0.10	0.00	216.62	216.62	0.02	0.00	217.06
Total	**0.26**	**2.14**	**1.16**	**0.00**	**0.20**	**0.10**	**0.30**	**0.08**	**0.10**	**0.18**	**0.00**	**216.62**	**216.62**	**0.02**	**0.00**	**217.06**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.73	4.73	0.00	0.00	4.73
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.73**	**4.73**	**0.00**	**0.00**	**4.73**

3.4 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.20	0.00	0.20	0.08	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.26	2.14	1.16	0.00		0.10	0.10		0.10	0.10	0.00	216.62	216.62	0.02	0.00	217.06
Total	**0.26**	**2.14**	**1.16**	**0.00**	**0.20**	**0.10**	**0.30**	**0.08**	**0.10**	**0.18**	**0.00**	**216.62**	**216.62**	**0.02**	**0.00**	**217.06**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.73	4.73	0.00	0.00	4.73
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.73**	**4.73**	**0.00**	**0.00**	**4.73**

3.5 Building Construction - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.06	0.38	0.26	0.00		0.03	0.03		0.03	0.03	0.00	40.31	40.31	0.00	0.00	40.41
Total	**0.06**	**0.38**	**0.26**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**40.31**	**40.31**	**0.00**	**0.00**	**40.41**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.06	0.38	0.26	0.00		0.03	0.03		0.03	0.03	0.00	40.31	40.31	0.00	0.00	40.41
Total	**0.06**	**0.38**	**0.26**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**40.31**	**40.31**	**0.00**	**0.00**	**40.41**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.52	3.49	2.53	0.00		0.22	0.22		0.22	0.22	0.00	399.44	399.44	0.04	0.00	400.32
Total	**0.52**	**3.49**	**2.53**	**0.00**		**0.22**	**0.22**		**0.22**	**0.22**	**0.00**	**399.44**	**399.44**	**0.04**	**0.00**	**400.32**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.52	3.49	2.53	0.00		0.22	0.22		0.22	0.22	0.00	399.44	399.44	0.04	0.00	400.32
Total	**0.52**	**3.49**	**2.53**	**0.00**		**0.22**	**0.22**		**0.22**	**0.22**	**0.00**	**399.44**	**399.44**	**0.04**	**0.00**	**400.32**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.6 Paving - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.58	1.58	0.00	0.00	1.58
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.58**	**1.58**	**0.00**	**0.00**	**1.58**

3.6 Paving - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.21	0.00		0.03	0.03		0.03	0.03	0.00	26.46	26.46	0.00	0.00	26.55
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.21**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**26.46**	**26.46**	**0.00**	**0.00**	**26.55**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.58	1.58	0.00	0.00	1.58
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.58**	**1.58**	**0.00**	**0.00**	**1.58**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.06
Unmitigated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.00	0.00	0.06
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	2.00	0.00	0.00		
Total	2.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
User Defined Industrial	8.90	13.30	7.40	0.00	100.00	0.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NaturalGas Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
User Defined Industrial	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						0.00	0.00	0.00	0.00

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unmitigated	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
User Defined Industrial	0 / 0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					0.00	0.00	0.00	0.00
Unmitigated					0.00	0.00	0.00	0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
User Defined Industrial	0					0.00	0.00	0.00	0.00
Total						**0.00**	**0.00**	**0.00**	**0.00**

9.0 Vegetation

APPENDIX E

Letters and Correspondence

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

REPLY TO
ATTENTION OF

November 29, 2012

Office of the Chief
Planning Division

Karin Cleary-Rose
Inland Division Chief
U.S. Fish and Wildlife Service
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92220

Dear Ms. Cleary-Rose:

The U.S. Army Corps of Engineers, Los Angeles District (Corps) requests initiation of formal consultation with the U.S. Fish and Wildlife Service (USFWS), pursuant to Section 7 of the Endangered Species Act of 1973, as amended, for the construction and operation and maintenance of Phase II of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Temecula, Riverside County, California. The enclosed Draft Supplemental Environmental Assessment (SEA)/Environmental Impact Report (EIR), which serves as the Biological Assessment (BA), is provided for your review and determination.

The project was originally documented in the September 2000 Final Environmental Impact Statement (EIS)/Environmental Impact Report (EIR). This Draft SEA/EIR provides impact analyses for the modified project, which is not substantially different from the original plan (2000). Modifications and refinements from the Original Phase II Plan (2000 EIS/EIR) include use of soil cement in areas with a slope less than 2:1 and use of buried riprap in areas with a 2:1 and 3:1; construction of maintenance roads and access ramps; and establishment of an unmaintained riparian terrace/corridor ranging between 20 feet and 125 feet in width. Vegetation clearing for the proposed project is scheduled to begin in February 2013, and construction is expected to continue for approximately 12 to 18 months.

The Corps coordinated with the USFWS during development of the 2000 EIS/EIR and the USFWS provided two Planning Aid Reports and a Coordination Act Report. Surveys completed in August 2000 determined that there were no federally endangered or threatened species within the project area at that time.

Due to the recent presence of nesting least Bell's vireo (*Vireo bellii pusillus*) on Murrieta Creek, as documented in protocol surveys, and the temporary removal of nesting habitat as part of the proposed project, the Corps has determined that the proposed project may adversely affect least Bell's vireo. The Corps has determined that

the proposed project would not affect the southwestern willow flycatcher (*Empidonax traillii extimus*), coastal California gnatcatcher (*Polioptila californica californica*), or California red-legged frog (*Rana draytonii*).

The Corps met with Mr. Jon Avery of USFWS on site on October 15, 2012 to solicit input for the proposed project. The project has been designed to ensure no permanent net loss of suitable nesting habitat, and to minimize impacts to vireo and other native species.

The enclosed SEA/EIR includes a project description; detailed analysis of biological resources and discussion of effects to listed species; a description of direct, indirect, and cumulative effects; and conservation measures. The Corps is accepting public comments on the Draft SEA/EIR through January 16, 2013.

We look forward to continued cooperative efforts during the formal consultation. The Corps requests a meeting with your office within a few weeks of receipt of the Draft SEA/EIR to further discuss the project details. If you have any questions regarding the project, please contact the Project Environmental Coordinators, Ms. Tiffany Bostwick at (213) 452-3845 or Ms. Erin Jones at (213) 300-9723.

Sincerely,

Josephine R. Axt, Ph.D.
Chief, Planning Division

Enclosure

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P.O BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

August 27, 2007

REPLY TO
ATTENTION OF:

Office of the Chief
Environmental Resources Branch

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Office of Historic Preservation
P.O. Box 942896
Sacramento, California 94296-0001

Dear Mr. Donaldson:

This letter is in regard to the Murrieta Creek Flood Control and Ecosystem Restoration Project, Riverside County, California (COE030530A). The purpose of this letter is to request your concurrence with our determinations of National Register of Historic Places (NRHP) eligibility, and effect determinations for Phase II of the project. In accordance with 36 CFR 800.4(b), we are continuing to proceed in a phased approach to the compliance process. A total of four phases are proposed (enclosure 1).

Phase I was coordinated with your office in 2003 and was constructed (enclosure 2). Phase II, the subject of this letter, consists of channel widening and bank stabilization from the end of Phase I near First Street in the city of Temecula, upstream to Winchester Road. This phase is just a continuation of Phase 1. Project Design is similar in design and construction. The area of potential effects (APE) includes all areas within the construction right-of-way (enclosure 3).

An archaeological records and literature search, and field survey of 11 miles of Murrieta Creek was previously conducted by the Riverside County Flood Control and Water Conservation District. Jones and Stokes, Inc. conducted that survey in 1992 for a proposed flood control project that was not implemented (enclosure 4). The area they surveyed in 1992 overlaps the area of potential effects (APE) for the current project. In addition, the Corps conducted an updated archeological field survey to confirm the results of the 1992 survey (enclosure 5). In addition to the re-survey, and in accordance with your request as a result of coordination for Phase I, we have produced a geoarchaeological investigation of all phases of the project (enclosure 6). Our survey confirmed the lack of visible historic and prehistoric archaeological sites.

In the Phase II APE there are four bridges crossing over Murrieta Creek; First Street, Main Street, Rancho California and Winchester Road. Except for the Main Street Bridge these bridges are all less than 50 years of age, are not of exceptional importance and we have determined them to not be NRHP eligible. Main Street Bridge was built in 1945. This bridge will be replaced by the City of Temecula independent of the Corps Federal project. In any event, Caltrans evaluated the bridge and determined it to not be National Register eligible.

The geoarchaeological report by SRI evaluated the potential for subsurface remains along all reaches of the project. For all of Phase II there has been previous disturbance to a depth of up to 4 meters from various factors such as cultivation and development (page 51). Generally, SRI evaluated the actual APE to be mostly low to very low with some small isolated areas described as moderate to high. For Phase II, monitoring of construction will occur as it did for Phase I.

We have been in consultation with the Pechanga on this project since the Beginning. They assisted with monitoring of Phase I construction. No comments have been received on Phase II.

Based on the above considerations, the Corps has determined that the proposed Phase II of the Murrieta Creek Flood Control project will not have an affect on NRHP properties.

Phase III and IV of the project are still being developed. Measures proposed for these phases include levees, basins, channel widening, and ecosystem restoration. For the remaining phases of the project, we will re-survey each reach to ensure that all areas of the APE are inventoried and all sites are evaluated for the NRHP. At this time, we anticipate that the only prehistoric site potentially affected by future phases is prehistoric site CA-RIV-1085. These project phases will be coordinated as they are funded for design and construction.

Please review the enclosed information. In accordance with 36 CFR 800.3(g) we are requesting an expedited consultation for this phase of the project. Accordingly, we would appreciate a response within thirty days of your receipt of this letter. If you have any further questions on this project please call Mr. Stephen Dibble, Senior Archeologist, at (213) 452-3849. He may also be reached by E-mail at david.s.dibble@usace.army.mil.

Sincerely,

Ruth Bajza Villalobos
Chief, Planning Division

Enclosures

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

October 20, 2008

In Reply Refer To: COE030530A

Josephine R. Axt, PhD
Chief, Planning Division
Department of the Army
Los Angeles District, Corps of Engineers
P.O. Box 532711
Los Angeles, California 90053-2325

Re: Phase II Murrieta Creek Flood Control and Ecosystem Restoration Project, Los Angeles County, California.

Dear Dr. Axt:

Thank you for continuing consultation with me regarding the proposed Murrieta Creek Flood Control and Ecosystem Restoration Project. The U.S. Army Corps of Engineers (COE), Los Angeles District, is seeking my comments on the effects that the subject undertaking will have on historic properties, pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act (NHPA).

Previously in this consultation (SHPO letter of October 16, 2008) I requested that you provide additional information regarding whether it would be necessary to modify, constrain, or condition the proposed constructions activities of this undertaking to avoid heritage resources located near, but not within, the Area of Potential Effects (APE). I also requested that you elaborate on the COE's position that no additional identification efforts were needed in the locations that were identified in the geoarchaeological study (Onken, Cato, and Stoll: 2006) as being of high sensitivity for buried archaeological deposits.

At this time, in your letter of October 6, 2008, you have replied to my first request with your explanation that no impacts or effects are anticipated outside of the tightly defined APE as determined by the COE, and thus no measures to address those potential effects were necessary. Regarding the second concern that I had stated, you have replied that the proposed vertical APE of this undertaking should not exceed the depth to which soils in the APE have been previously disturbed and that monitoring of the of project construction will be completed, as was done for Phase I of this undertaking. After reviewing your additional information regarding this undertaking, I have no objection to your finding of No Historic Properties Affected for this undertaking.

Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the COE may have additional future responsibilities for this undertaking under 36 CFR Part 800. Thank you for seeking my comments and for considering historic properties in planning your project. If you require further information, please contact William Soule, Associate State Archeologist at phone 916-654-4614 or email wsoule@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

REPLY TO
ATTENTION OF

July 24, 2014

Office of the Chief
Planning Division

Mr. David W. Gibson
Executive Officer
California Regional Water Quality Control Board
San Diego Region
2375 Northside Drive, Suite 100
Attention: Mr. Darren Bradford
San Diego, California 92123

Dear Mr. Gibson:

This letter provides a status update for the four-phase Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project, in Riverside County, California. In particular, mitigation and monitoring update for Phase I and a design modification update for Phase II are provided.

The San Diego Regional Water Quality Control Board (RWQCB) issued a Section 401 Water Quality Certification (WQC) No. 03C-046 to the U.S. Army Corps of Engineers (Corps) and Riverside County Flood Control and Water Conservation District (Riverside County) for the project on August 15, 2003. The Section 401 WQC encompassed construction, operation and maintenance activities for all four phases. Phase I of the project has been constructed. Maintenance and monitoring of Phase I mitigation areas are in their fifth and final year. The monitoring report is enclosed (enclosure 1).

The Corps is currently finalizing Phase II detailed design and updating the environmental compliance requirements for construction, operation, and maintenance. Coordination with RWQCB staff concerning design changes has been ongoing since 2012. The initial design modifications were documented in the November 2012 Draft Environmental Assessment/Environmental Impact Report (EA/EIR). The design has subsequently been updated per additional coordination with the U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (USEPA), and the California Department of Fish and Wildlife (CDFW). The current project description is also enclosed (enclosure 2).

Phase II design modifications are minor. The design has been refined to address engineering and maintenance issues, add detail to the engineering plans, and further reduce environmental impacts based on additional review and analysis performed by the Corps in response to comments received from USFWS, USEPA, and CDFW during the public review period of the Phase II Draft EA/EIR. The overall project design including widening and deepening of the

creek banks, slope protection, dimensions and location of the unmaintained riparian corridor, revegetation of the channel slopes, and construction of maintenance roads/recreation trails remain unchanged. Based on the above, the updated Phase II design remains within the scope of the original Section 401 WQC. Enclosure 3 documents our rationale.

All project minimization and mitigation measures as well as the other Section 401 WQC conditions pertaining to Phase II will be implemented by the Corps during construction and by the Riverside County during long-term operation and maintenance.

If you have any questions or concerns regarding the proposed project, please feel free to contact me at (213) 452-3783 or Ms. Tiffany Bostwick, Project Environmental Coordinator, at (213) 452-3845.

Sincerely,

Josephine R. Axt, Ph.D.
Chief, Planning Division

Enclosure(s)

APPENDIX F

Mitigation, Monitoring, and Reporting Matrix

Mitigation Monitoring and Reporting Program

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
W-1	Channel construction and maintenance activities will not be conducted if bank to bank flows exist and during rain events to reduce the potential for significant impacts to water quality. The construction contractor will monitor and record weather reports for any indication of potential rain events. The contractor shall divert the low flow channel consistent with the Storm Water Pollution Prevention Plan (SWPPP) and regulatory permits and regulatory permits to minimize working within the live channel. Construction activities shall conform to the requirements of the State-wide National Pollutant Discharge Elimination System (NPDES) General Permit (Board Order No. 2009-0009-DWQ, NPDES No. CA000002 as amended by Board Order No. 2010-0014-DWQ) for Stormwater Discharges Associated with Construction and Land Disturbance Activities. The SWPPP created and implemented pursuant to the NPDES General Construction Permit requirements shall also include provisions identified in the Section 401 water quality certification for the project and requirements of the current Construction Permit.	Contractor	Approval of final plans/specification; contract oversight	Corps; RCFC&WCD
W-2	During construction and maintenance activities, equipment will be in proper working condition and inspected for leaks and drips on a daily basis prior to commencement of any in-channel maintenance work.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
W-3	Implement aA spill prevention and remediation plan and construction workers willwould be developed and implemented during construction and operation and maintenance. Workers will be instructed as to it requirements. Construction supervisors and workers and maintenance personnel would be instructed to (1) be alert for indications of equipment related contamination such as stains and odors, keep spill kits containing absorbent materials at the construction site, and (2) respond immediately with appropriate actions as detailed in the spill prevention and remediation plan if indications of equipment-related contamination are noted.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
	RCFC&WCD will implement its standard Hazardous Waste Disposal (i.e. Safety and Operations Manual Procedure #28) to address any hazardous material spills while conducting maintenance activities.			
W-4	During construction and maintenance activities, fuels, solvents, and lubricants would be stored in a bermed area so that potential spills and/or leaks will be contained. Soil contamination resulting from spills and/or leaks would be remediated as required by Federal and/or state law. Storage areas would be constructed so that containers would not be subjected to damage by construction and maintenance equipment. RCFC&WCD will implement its standard Hazardous Waste Disposal (i.e. Safety and Operations Manual Procedure #28) to address any hazardous material spills while conducting maintenance activities.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
W-5	Implementation of appropriate best management practices (BMPs) to minimize soil erosion and transport of pollutants, and train operators.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
W-6	Whenever possible, confine construction work within the flood control channel to low-flow periods. All construction activities within the channel would be limited during wet weather. Construction contracts shall~~, to~~ include specifications for: construction material stockpiling, channel slope protection, grading, levee openings, and excavation.	Contractor, Corps	Approval of final plans/ specification	Corps; RCFC&WCD
W-7	Construct sediment barriers (e.g. sandbags, silt fence, temporary containment dam) downstream of each major construction operation to trap sediments.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
W-8	Conduct dewatering operations behind temporary sheet pile cofferdams. Groundwater dewatering operations shall be conducted in accordance with the requirements of the latest San Diego Regional Water Quality Control Board's General Waste Discharge Requirements (e.g. Regional Board Order No. R9-2008-	Contractor	Approval of final plans/ specification; contract	Corps; RCFC&WCD

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
	0002), if applicable.		oversight	
W-9	Cover and secure stockpiles of bulk granular building materials.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
W-10	Stabilize any areas of exposed soil, such as dirt stockpiles, dirt berms, and temporary dirt roads, with controlled amounts of sprinkled water.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
W-11	At the close of each working day, sweep up any materials tracked onto the street or laying uncontained in the construction areas, and dispose of any trash accumulated in construction areas.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
W-12	Contain concrete, asphalt, and masonry wastes and dispose of these wastes away from project construction sites.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
W-13	Prohibit the storage of fuels and other hazardous materials and refueling and maintenance of equipment and vehicles near the flood control channel. Prohibited locations shall include all land and structures (e.g. bridges) within 50 feet of the creek.	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
W-14	Required Opinions, Concurrences, and Permits: • Applicable Regulatory Section 404 Permit (RCFCWCD to obtain for operation and maintenance activities) • Section 401 Water Quality Certification • Section 402 National Pollution Discharge Elimination System General Construction	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
	• A Storm Water Pollution Prevention Plan will be prepared and implemented during construction. ~~Keep spill kits containing absorbent materials at the construction s~~ite.			
~~**W-15**~~	~~Store fuels and other hazardous materials away from project drainage.~~	~~Contractor~~	~~Approval of final plans/ specification; contract oversight~~	~~Corps; RCFC&WCD~~
~~**W-16**~~	~~Required Opinions, Concurrences, and Permits: Applicable Regulatory Section 404 Permit (RCFCWCD to obtain for operation and maintenance activities) Section 401 Water Quality Certification Section 402 National Pollution Discharge Elimination System General Construction A Storm Water Pollution Prevention Plan will be prepared and implemented during construction.~~	~~Contractor, Corps, RCFC&WCD~~	~~Issuance of applicable permits; approval of final plans/ specification; contract oversight~~	~~Corps; RCFC&WCD, RWQCB~~
B-1	A 23.67-acre portion of the channel invert along the toe of the east bank will be planted with riparian and riparian scrub vegetation to create the Riparian/Low Flow Corridor project feature (Figures 3-1a to 3-1e). This unmaintained zone will not be subject to future mowing or sediment removal activities. ~~The EIS/EIR required that a site-specific revegetation plan would be developed for each phase to ensure that project related impacts have been mitigated. The Corps will submit a draft revegetation plan for Phase II to USFWS and CDFG for review at least 60 days prior to planting any plant materials (seeds or container plants) within the project area. The revegetation plan will address the acreage of habitats to be restored, the size and quantity of species to be planted, appropriate seed mixes and schedules of planting and the development of success criteria. The plan will include a 5- year maintenance and monitoring program to ensure that native plant cover is achieved, that aggressive non-native species do not out-compete the native species, and that the restoration of ecological function within the creek is successful.~~	Corps	Completion of final revegetation plan	CDFG; USFWS

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
B-2	The Corps will submit a draft Phase II revegetation plan for the slopes and the unmaintained riparian zone to the USFWS and California Department of Fish and Wildlife (CDFW) for review and approval at least 60 days prior to planting of any seeds or container plants within the Project area. If the Project is constructed in stages, the revegetation will be accomplished at the conclusion of each respective stage. The revegetation plan will address the following: a. Total acreage of habitat to be restored b. The size and quantity of species to be planted c. Appropriate seed mixes and schedules of planting d. Revegetation success criteria e. 5-year maintenance and monitoring program to ensure that native plant cover is achieved, that non-native species do not out-compete the native species, and that the restoration of ecological function within the creek is successful. ~~Disturbance or removal of vegetation shall not exceed the limits authorized. Temporary disturbed areas shall be restored to their original condition or better. Restoration shall include the revegetation of stripped or exposed areas with native species.~~	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
B-3	Disturbance or removal of vegetation shall not exceed the limits authorized for construction and operation and maintenance. Temporarily disturbed areas shall be restored to their original condition or better and will be described in the revegetation plan (see commitment 2 above). Restoration shall include the revegetation of stripped or exposed areas with native species. ~~To minimize construction impacts to nesting birds, vegetation removal will be scheduled to occur between August 15 and March 15 (outside of the avian nesting season).~~	Contractor	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
B-4~~3A~~	To minimize construction and operation and maintenance impacts to nesting birds, vegetation removal will be scheduled to occur between August 15 and March 15 (outside of the avian nesting season).	~~Contractor; Corps~~	~~Approval of final plans/ specification; contract~~	~~Corps; RCFC&WCD; USFWS; CDFG~~

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
	~~Immediately prior to construction activities and throughout any portion of the construction period that takes place during the bird breeding season, a qualified biologist shall inspect the construction site and adjacent areas (using non-protocol surveys) to determine if any special-status species are nesting within 500 feet of the construction site. If active nests are found, the Corps biologist will coordinate with the U.S. Fish and Wildlife Service (USFWS) and/or the California Department of Fish and Game (CDFG) to determine appropriate avoidance or minimization measures.~~		~~oversight~~	
B-5	If the project is completed in stages as described in the project description, prior to and during construction of the Base segment or Option 1, the Corps would require a qualified biologist to survey any potential vireo habitat immediately adjacent to the Base segment or Option 1 during the breeding season. In the event that vireos are detected within 500 feet of the Base segment, or Option 1, the Corps will require the construction contractor to provide a restricted buffer of 500 feet from the active construction area to the nearest edge of the vireo territory, to avoid any potential affects to vireo during the breeding season.			
B-6A~~3B~~	Corps biologist (or environmental monitor) shall monitor construction activities to ensure compliance with environmental commitments, which include: Prior to construction activities, a qualified biologist shall conduct pre-construction training for all construction crew members. The training shall focus on required mitigation measures and conditions of regulatory agency permits and approvals. The training shall also include a summary of sensitive species and habitats potentially present within and adjacent to the proposed project site, including native southern willow scrub habitat and potential use of this habitat by least Bell's vireo.	Contractor; Corps	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD
B-6B~~4~~	Immediately prior to construction activities and throughout any portion of the construction period that takes place during the bird breeding season, a qualified biologist shall inspect the construction site and adjacent areas (using non-protocol surveys) to determine if any special-status species are nesting within 500 feet of	Corps	Approval of final plans/ specification; contract	Corps, RCFC&WCD

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
	the construction site. If active nests are found, the Corps biologist will coordinate with the USFWS and/or the CDFW to determine appropriate avoidance or minimization measures. ~~A Corps biologist (or the environmental monitor) shall monitor construction activities to ensure compliance with environmental commitments.~~		oversight	
B-7~~5~~	To prevent impacts to southwestern pond turtles, trapping will be conducted in all suitable pools prior to any construction related activity (brush clearance, ground disturbance, construction). Trapping will be conducted by a qualified biologist and consist of at least three trapping events. Southwestern pond turtles will be transported to sections of Murrieta Creek where suitable habitat has been located outside the construction area. Trapping will be coordinated with the CDFG and USFWS to determine the appropriate methods and suitable relocation areas.	Contractor; Corps	Approval of final plans/ specification; contract oversight	Corps; RCFC&WCD; USFWS; CDFG
B-8~~6~~	To prevent impacts to burrowing owl~~ and red-legged frog~~, pre-construction surveys would be conducted for those species in suitable habitat. If burrowing owls are found, owls would be relocated outside of the nesting season in accordance with acceptable protocols.	Corps; Contractor	Final survey report	Corps; RCFC&WCD
B-9~~7~~	With the exception of emergency repairs; all mowing, sediment removal, and scheduled maintenance activities will be conducted between August 15 and March 15 (outside of the bird nesting season). Some ~~emergency~~ repairs may require maintenance work to occur for extended periods of time. If non-emergency repair work is to be conducted during the nesting season (i.e., vireo), the work area will be surveyed for active bird nests. If active nests are identified in the work area the nests and appropriate buffer (to be determined by the qualified biologist in coordination with the USFWS) will be avoided until the end of the nesting season. The appropriate buffer area will be indentified based on the type of activity/repair work. A qualified biological monitor will be present during all non-emergency ~~brush clearing~~repair activities within the unmaintained riparian/low flow corridor between March 15 and August 15.	Contractor; RCFC&WCD	Operation and Maintenance Manual	Corps; RCFC&WCD
B-10~~8~~	Appropriate coordination/consultation will occur with resource agencies (USFWS,	Contractor;	Operation and	Corps;

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
	CDFW and Corps regulatory as appropriate) when emergency maintenance activities are required during the nesting season. ~~prior to conducting maintenance activities~~ Resource agency representatives will be notified as early as possible and emergency coordination/consultation conducted ~~during the nesting season,~~ and any necessary permits or approvals ~~will be~~ obtained pior to action taken. Under situations of imminent threat to life or property, obtaining permits and approvals prior to taking of an emergency action may not be possible. Under such circumstances, notification would be made to resource agency representatives of decision to proceed and emergency coordination/consultation would be performed after the emergency action. Contents of the notification will include: 1) point of contact information (name, address, email address, telephone number; 2) location of proposed project; 3) brief description of imminent threat to life or property and proposed project's purpose and need; 4) description of methods anticipated to be used to rectify the situation; and 5) brief description of the project area's existing condition and anticipated environmental impacts resulting from the proposed work.~~.~~	RCFC&WCD	Maintenance Manual	RCFC&WCD
B-11~~9~~	With the exception of scheduled invasive plant removal or temporary impacts from ~~any necessary~~emergency repair work, vegetation will not be removed from the unmaintained riparian/low flow corridor ~~or channel sideslopes~~ as part of the scheduled maintenance plan. Large trees and shrubs above 3-4 feet on the vegetated slopes that would affect the flow conveyance capacity of the channel and integrity of the side slope protection would be trimmed or removed. All other shrubs on the side slopes would be maintained by cutting to maintain a maximum height of 3-4 feet.	Contractor; Corps; RCFC&WCD	Approval of final plans/ specification; Operation and Maintenance Manual	Corps; RCFC&WCD
B-11A~~10~~	If vegetation is removed from the unmaintained riparian corridor or sideslopes as a result of emergency repairs, the site will be stabilized and revegetated with a native seed mix and select container plantings to ensure the replacement of riparian trees as a result of the repair work. Revegetation plantings will be of sufficient quantity to ensure the rapid establishment of vegetation. Replacement plantings of riparian trees will not be required if the vegetation was removed as a result of natural scouring.	Contractor; Corps; RCFC&WCD	Approval of final plans/ specification; Operation and Maintenance Manual	Corps; RCFC&WCD

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
B-12	The Corps will include a provision in the OMRR&R manual indicating that: If the District fails to perform the required vegetation maintenance for 2 consecutive years, prior to its resumption of maintenance, the District will conduct a vireo survey in the deferred-maintenance area and provide a report to the Corps and the USFWS indicating whether the deferred maintenance area is being used by vireos. This report will be used to assist the Corps in determining whether the resumption of maintenance would cause an effect to vireo not considered in the BO and reinitiation of consultation is required.			
C-1	A qualified archeologist and a Pechanga Tribe Native American will monitor project ground disturbing activities. The purpose will be to observe subsurface deposits for buried historic or prehistoric resources. If previously unknown resources are uncovered, construction in the area of the find will be temporarily halted. The find would be then be evaluated for the National Register of Historic Places (NRHP). If it were determined to be eligible for the NRHP, the Corps would consult with the SHPO on treatment of the remains in accordance with 36 CFR 800.13.	Corps	Approval of final plans/ specification	Corps; RCFC&WCD; SHPO
T-1	A road improvement plan would be prepared during the final design stage of the project, and implemented during the construction phase. The plan would identify road segments, bridges, and culverts that need to be improved and turnout locations that need to be constructed to accommodate project construction, maintenance, and operational activities. The plan would also include measures for identifying any damage to existing roadways caused by construction vehicles. These damages would be repaired following completion of the project.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
T-2	A traffic control plan would be prepared during the final design stage of the project, and implemented during the construction phase. The plan would address and outline appropriate vehicular speeds in construction areas; travel routes, detours, bridge closures, or lane/road closures; flag-person requirements; appropriate signage and safety reflectors; coordination with local city agencies/departments and Caltrans for appropriate notification to the public; any	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
	utility relocation requirements; the location of staging areas; safety procedures to reduce hazards to motorists, bicyclists and pedestrians; approach to ensuring access to businesses and residences; and emergency information. The traffic control plan would be reviewed by appropriate entities, including the City of Temecula. The final version of the plan would be submitted to all appropriate entities.			
AQ-1	Require 6.9 grams per horsepower standard for heavy duty construction equipment on- and off-road.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-2	Require injection timing retard of 2 degrees on all diesel vehicles, where applicable.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-3	Install high-pressure injectors on all vehicles, where feasible.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-4	Use Caterpillar pre-chamber diesel engines or equivalent, and perform proper maintenance and operation.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-5	Electrify equipment, where feasible.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-6	Maintain equipment in tune with manufacturers' specifications, except as otherwise stated above.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-7	Restrict the idling of construction equipment to 10 minutes.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-8	Install catalytic converters on gasoline-powered equipment.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-9	Substitute gasoline-powered for diesel-powered, where feasible.	Contractor	Approval of final plans/	Corps; RCFC&WCD

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
			specification	
	PM_{10} Emissions The following PM_{10} reducing construction practices would be implemented throughout the construction period:			
AQ-10	The speed limit on all unpaved roads would be 10 MPH.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-11	Gravel roads would be constructed for unpaved access/egress roads, and these roads would be watered hourly.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-12	All handled (i.e. loaded/unloaded) soil would be watered to 25 percent moisture, and active excavation/grading areas would be watered hourly to ensure 15 percent moisture.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-13	Street sweepers would be active at each unpaved road access/egress point for soil export (on- and off-site) and each on-site unpaved road access/egress point or materials import. Three street sweepers would be cleaning the entire soil export paved road route, beginning daily operation in the morning prior to the first haul truck and ending daily operation after cleaning the roadway after the passage of the last haul truck. The street sweepers will be wet-type "street washers" that will meet the requirements of SCAQMD Rule 1186 for PM_{10} efficient street sweepers.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-14	Soil haul trucks would be covered, would have 18 inches of freeboard and would have soils on the top of the load watered, or shall be sufficiently wet to mitigate emissions.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-15	Inactive storage piles would be covered.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-16	All grading activities would be prohibited during periods of high wine (i.e., winds	Contractor	Approval of	Corps;

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
	greater than 30 mph).		final plans/ specification	RCFC&WCD
AQ-17	Nontoxic chemical soil stabilizers would be applied to inactive construction areas (i.e., disturbed lands within construction areas that are unused for at least 4 consecutive days), or water at least twice daily.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-18	Nontoxic binders (i.e., latex acrylic copolymer) will be applied to exposed areas after cut-and –fill operations and hydroseed the areas if appropriate for the project location.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
AQ-19	Wheel washers would be installed for all exiting trucks.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
N-1	Construction or maintenance activities within 0.25 mile of residences or other noise-sensitive uses will be restricted to daytime hours. No construction or maintenance activities will be performed within 0.25 mile of noise sensitive uses on Sundays, on legal holidays, or between the hours of 6:30 p.m. and 7:00 a.m. Monday through Friday and Saturday, as per City of Temecula.	Contractor	Approval of final plans/ specification; Operation and Maintenance Manual	Corps; RCFC&WCD
N-2	All construction and maintenance equipment will have sound-control devices that are at least as effective as those devices provided on original equipment. No equipment will have an unmuffled exhaust.	Contractor	Approval of final plans/ specification; Operation and Maintenance Manual	Corps; RCFC&WCD
N-3	The contractor will implement appropriate additional noise mitigation measures, including, but not limited to, changing the location of stationary construction and maintenance equipment, shutting off idling equipment, rescheduling construction and maintenance activity, notifying adjacent residents in advance of construction and maintenance work, and installing acoustic barriers around construction and maintenance noise sources.	Contractor	Approval of final plans/ specification; Operation and Maintenance Manual	Corps; RCFC&WCD
HZ-1	If a contaminated area is encountered during construction, construction would	Contractor	Approval of	Corps;

	Measure Environmental Commitments	Responsible Measure Implementation	Completion Requirement	Agency Responsible for Verification
	cease in the vicinity of the contaminated area. The contaminated areas shall be assessed to determine the extent and type of contamination. If necessary, the contaminated site would be remediated to minimize the potential for exposure of the public and to allow the project to safely be constructed.		final plans/ specification	RCFC&WCD
U-1	During the preliminary design phase of each project component, the utility service providers would be consulted to identify existing and proposed buried facilities in affected roadways and to determine which utilities require relocation and which can be avoided. If relocation is required, the appropriate utility service provider would be consulted to sequence construction activities to avoid or minimize interruptions in service. The Local Sponsor and contractor shall comply with permit conditions and such conditions shall be included in the contract specifications.	Corps; RCFC&WCD	Approval of final plans/ specification	Corps; RCFC&WCD
U-2	If utility service disruption is necessary, residents and businesses in the project area would be notified a minimum of two to four days prior to service disruption through local newspapers, and direct mailings to affected parties.	Corps; RCFC&WCD	Approval of final plans/ specification	Corps; RCFC&WCD
U-3	The contractor would be required to excavate around utilities, including hand excavation as necessary, to avoid damage and to minimize interference with safe operation and use. Hand tools must be used to expose the exact location of buried gas or electric utilities.	Contractor	Approval of final plans/ specification	Corps; RCFC&WCD
U-4	Prior to construction during the Plans and Specifications phase, utility locations shall be verified through field surveys.	Corps; RCFC&WCD	Approval of final plans/ specification	Corps; RCFC&WCD

APPENDIX G

Multiple Species Habitat Conservation Plan Analysis

Would the project

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

> **Less than Significant Impact.** On June 17, 2003, the Riverside County Board of Supervisors adopted the Western Riverside County Multiple Species Habitat Conservation Plan (WRC-MSHCP). The WRC-MSHCP is a comprehensive, multi-jurisdictional plan that has as its goal the creation of a 500,000-acre conservation area that protects and manages habitat for 146 covered species. As the Corps of Engineers is not a participating agency to the WRC-MSHCP it is exempt from WRC-MSHCP policies. However, the Corps will consult with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Federal Endangered Species Act and be subject to separate take coverage for LBV. The Section 7 incidental take statement will also be used to obtain a State consistency determination under Section 2080.1 of the California Endangered Species Act (CESA).
>
> The purpose of this analysis is to determine whether the Modified Phase II Plan would result in impacts to the assembly of the Conservation Area identified in Section 3 of the WRC-MSHCP. Guidance on assembly of the WRC-MSHCP Conservation Area is provided on three geographic levels: Cores and Linkages, Area Plan Subunits, and Cells. Each geographic level has its own criteria and species survey requirements. For example, each Area Plan Subunit has its own list of Planning Species and Biological issues and Considerations that are important to Reserve Assembly. Each Cell has criteria that identifies applicable Cores and Linkages and describes the focus of desired conservation in that particular Cell or Cell Group.

Cores and Linkages Considerations

As shown on Figure 1, the proposed Modified Phase II Plan is located along Proposed Constrained Linkage 13. As described in the WRC-MSHCP, a Constrained Linkage is a constricted connection expected to provide for movement of identified Planning Species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use. Proposed Constrained Linkage 13 connects Proposed Linkage 10 toward the south to Existing Core F (Santa Rosa Plateau Ecological Reserve) in the north.

The Planning Species for Proposed Constrained Linkage 13 include riparian habitat associated Cooper's hawk, yellow warbler, southwestern willow flycatcher, tree swallow, least Bell's vireo, and western pond turtle. The WRC-MSHCP describes Proposed Constrained Linkage 13 as being constrained along most of its length by existing urban development and agricultural use and planned land use surrounding the Linkage. Care must be taken to maintain high quality riparian habitat within the Linkage and along the edges for species such as yellow warbler and least Bell's vireo, which have key populations located in or along the creek.

Analysis of the Modified Phase II Plan's effect on Cores and Linkages

The proposed Modified Phase II Plan design includes the creation and subsequent preservation of a riparian terrace that generally varies from 20-150 feet wide where no mowing would be conducted. The proposed riparian terrace will provide high quality riparian vegetation as envisioned for Constrained Linkage 13. The western pond turtle and arroyo chub have primarily been documented in lower Murrieta Creek downstream from the Phase II project area. Nonetheless, the Modified Phase II Plan will provide greater opportunity for the western pond turtle to utilize the riparian and aquatic areas within the proposed channel. Thus, the Modified Phase II Plan is not expected to conflict with the Proposed Constrained Linkage 13.

Area Plan and Subunit Considerations

An Area Plan is a community planning area defined in the County of Riverside General Plan and provides the organizational framework for the criteria-based WRC-MSHCP. Area Plans are further broken down into Subunits for which biological issues and considerations and target acreages have been specified. As shown on Figure 2, the Modified Phase II Plan is located within Subunit 1-Murrieta Creek of the WRC-MSHCP Southwest Area Plan. The Planning Species for the Murrieta Creek Subunit include California red-legged frog, Cooper's hawk, least Bell's vireo, southwest willow flycatcher, tree swallow, white-tailed kite, yellow warbler, arroyo chub, bobcat, mountain lion, and western pond turtle. The WRC-MSHCP Biological Issues and Considerations for Subunit 1-Murrieta Creek specific to the Modified Phase II Plan reach include the following:

- Maintain habitat connectivity within Murrieta Creek from the confluence of Temecula Creek to Cole Creek for wildlife movement and conservation of wetland species.
- Maintain habitat connectivity between Murrieta Creek and Lower Warm Springs Creek to facilitate wildlife movement and conserve wetland species.
- Maintain Habitat for arroyo chub and western pond turtle within Murrieta Creek.

Analysis of the Modified Phase II Plan's effect on Subunit 1-Murrieta Creek

The target acreage range for WRC-MSHCP Additional Reserve Lands within the entire Murrieta Creek Subunit from approximately Temecula Creek to the Santa Rosa Plateau is 640-1465 acres. The Modified Phase II Plan's right of way encompasses about 130 acres, of which about 24.6 acres would consist of a riparian terrace where mowing will not occur. About 41 acres of the channel bottom would consist of similar habitat to the existing condition (e.g. freshwater marsh, and riparian scrub) and would provide seasonal benefit to species. Except for the soil cement sideslopes through the extremely constrained reach in Old Town Temecula, the sideslopes will be vegetated with native plants. All told, the Modified Phase II Plan will provide about 86 acres of native habitat within the project footprint. Post construction maintenance and monitoring will ensure that the habitat and linkage functions are permanently preserved. Thus, the project is not expected to conflict with the Murrieta Creek Subunit conservation area goals and would contribute toward the subunit Biological Issues and Considerations.

Criteria Cells Considerations

As shown on Figure 3, the Modified Phase II Plan area is located within Criteria Cell Nos. 6783, 6890, 6891, 7021, 7078, and 7079 which describe areas within and adjacent to Murrieta Creek to be conserved. Conservation within these cells is intended to contribute toward the assembly of the previously described Proposed Constrained Linkage 13. Modified Phase II Plan is also located in Criteria Cell 7166. Conservation within Criteria Cell 7166 is intended to contribute to both Proposed Linkage 13 and hillside areas providing chaparral habitat.

Analysis of Modified Phase II Plan's effect on Cell conservation goals

Table 1 below lists the Criteria Cells, the approximate Criteria Cell Conservation Range, and the amount of conservation to be provided by the project. With the exception of the soil cement sideslopes and access roads, the Modified Phase II Plan right of way is proposed to be vegetated and managed to provide native vegetation and habitat as described in Proposed Constrained Linkage 13.

Table 1

WRC-MSHCP Criteria Cell Number	Range of Total Cell area to be Conserved (approximate)	Conservation provided by Phase II
6783	5%	12%
6890	10-20%	11%
6891	15-25%	18%
7021	20-30%	19%
7078	15-25%	12%
7079	5-15%	4%
7166	35-45%	13%

Conservation within Criteria Cell numbers 7021, 7078, and 7079, have been maximized given that they are located along the most constrained reach of Murrieta Creek as it transitions into and through Old Town Temecula.

The Modified Phase II Plan appears to provide the least amount of conservation area compared to the Conservation Range in Criteria Cell # 7166 (13%). However, as mentioned above, the description of Criteria Cell # 7166 includes conserving chaparral habitat and connecting to chaparral habitat to the west. Thus, a large portion of the total 35-45% conservation area for Cell 7166 would consist of areas outside of Murrieta Creek and its riparian habitat.

Overall, the Modified Phase II Plan is expected to contribute a significant portion of the Cell conservation area goals and provide natural habitat for native plants and animals.

Other WRC-MSHCP Considerations

Urban/Wildlands Interface Requirements

The WRC-MSHCP addresses the potential indirect impacts associated with development projects located adjacent to areas described for conservation. These indirect impacts could result from drainage, toxics, lighting, noise, invasives, and grading caused by urban development. The proposed Modified Phase II Plan includes a trail as part of the design but it would not cause any of the indirect impacts. The Modified Phase II Plan is located within areas described for WRC-MSHCP conservation as well as being located immediately upstream of such areas and is adjacent to existing urban development. However, as described in the water quality and biological resources sections of the SEA/EIR, the indirect impacts to the conservation areas will be less than significant.

Construction Guidelines and Standard Best Management Practices

The Modified Phase II Plan will be designed and constructed to be compliant with applicable requirements listed in Section 7.5.3 and Appendix C of the WRC-MSHCP or equivalent measures, which addresses Best Management Practices (BMPs) used to minimize impacts to habitats and species.

Public/Quasi-Public Lands

Public/Quasi-Public Lands (PQP) are a subset of the WRC-MSHCP Conservation Area lands known to be in public/private ownership and expected to be managed for the benefit of Covered

Species. Within the Modified Phase II Plan there are approximately 2.4 acres of reconciled PQP Lands located at the confluence of Murrieta Creek and Santa Gertrudis Creek.

As the channel is excavated, the sideslopes are reconstructed and a riparian terrace is created there will be a temporary loss of riparian vegetation. Following construction, the channel would be revegetated with native plants and maintained in the same manner as it is today. Therefore, the PQP land would still contribute to Reserve Assembly, and replacement PQP acreage is not required.

Conclusion

Based on the above analysis, the Modified Phase II Plan will not conflict with the conservation goals of the WRC-MSHCP. The Modified Phase II Plan will contribute to the WRC-MSHCP's overall goal of improving the conservation status of covered species by maintaining the hydrology and connectivity and enhancing the natural habitat for covered species. Moreover, the Regional Conservation Authority has expressed interest in collaborating with local sponsors to develop a long-term conservation management strategy and, subject to future talks, might manage the conservation area themselves.

WRC-MSHCP Schematic Cores and Linkages Map

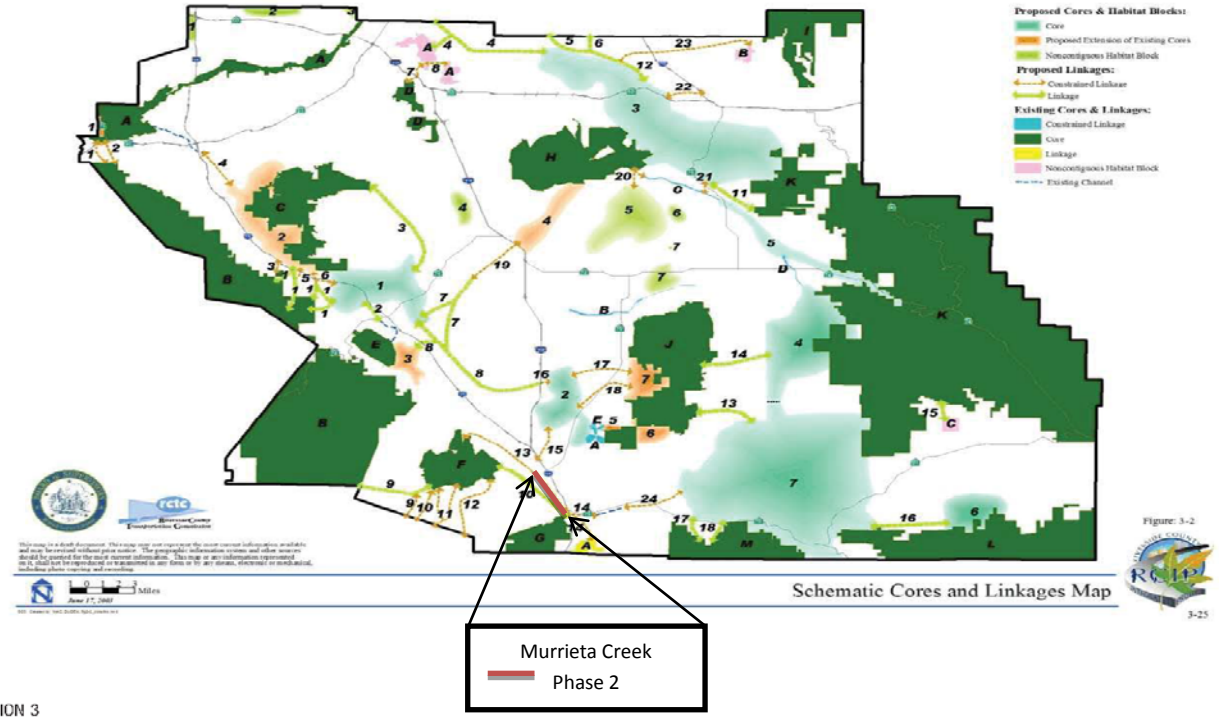
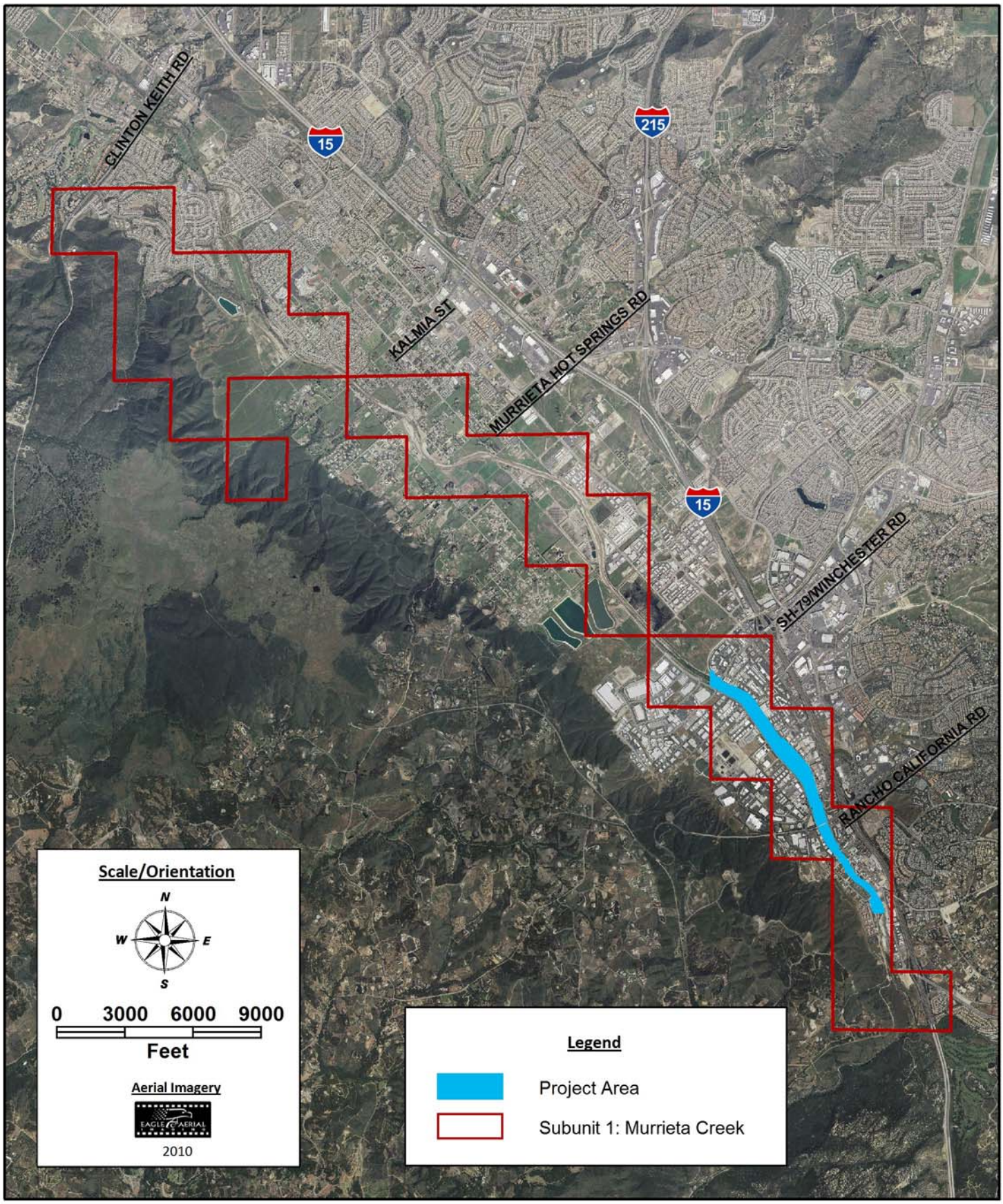


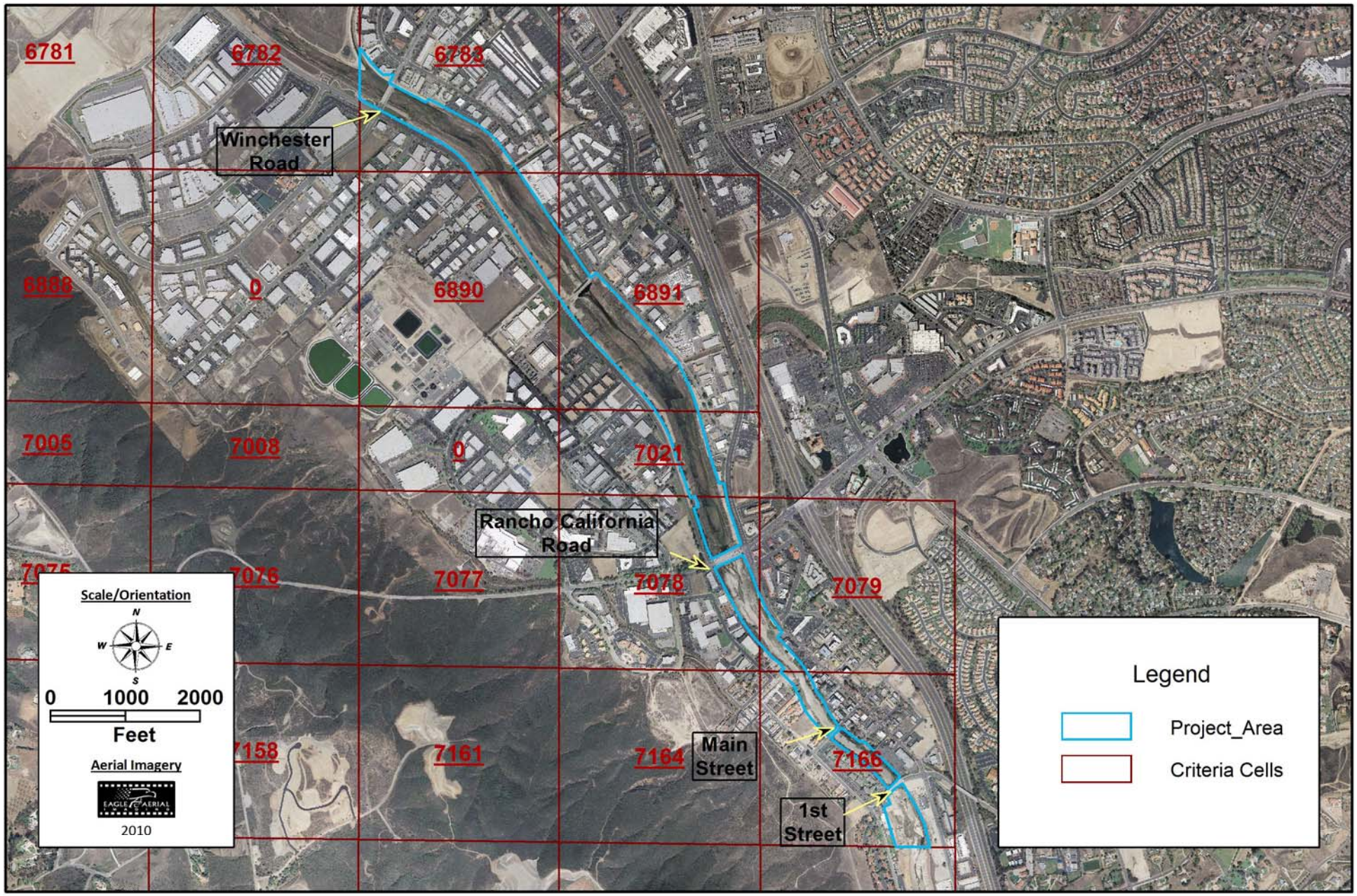
Figure # 1



RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Murrieta Creek Phase 2 Project
Project No. 7-0-00021

Figure # 2
WRC-MSHCP
Southwest Area Plan
Subunit 1: Murrieta Creek



RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Murrieta Creek Phase 2 Project
Project No. 7-0-00021

Figure # 3
MSHCP Criteria Cell Map

APPENDIX H

Public Comments and Responses

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
PLANNING
464 WEST 4th STREET, 6th Floor MS 725
SAN BERNARDINO, CA 92401-1400
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Flex your power!
Be energy efficient!

December 10, 2012

Josephine R. Axt, PH.D.
Chief, Planning Division
U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711
ATTN: Ms. Tiffany Bostwick
Los Angeles, CA 90053-2325

Draft Supplemental Environmental Assessment/Environmental Impact Report (Riv 15 PM 6.61)

Mrs. Axt,

We have completed our review for above mentioned project locate east of Interstate 15, south of Winchester Road, west of Diaz Road, running in a southerly direction to just north of 1st Street. Project consists of soil cement in areas with slope less than 2:1 and 3:1 slope: construction of maintenance roads and access ramps and establishment of an unmaintained riparian terrace/corridor ranging between 20 and 125 feet in width.

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when proposed development may impact our facilities. As the responsible agency under the California Environmental Quality Act (CEQA), it is also our responsibility to make recommendations to offset associated impacts with the proposed project. Although the project is under the jurisdiction of the City of Riverside to the Project's potential impact to State facilities it is also subject to the policies and regulations that govern the SHS.

CT-1

We do not anticipate this project will generate any additional traffic to the SHS. We therefore have no comments at this time.

If this development proposal is later modified in any way, please forward copies of revised plans as necessary so that we may reevaluate all proposed changes for potential impacts to the SHS.

If you have any questions regarding this letter, please contact Talvin Dennis at (909) 383-6908 or myself at (909) 383-4557 for assistance.

Sincerely,

DANIEL KOPULSKY
Office Chief
Community and Regional Planning

Response to Comments: Caltrans Letter

CT-1: Comment noted. The Corps and RCFC&WCD will coordinate with the California Department of Transportation should the Phase II design be modified in a way that change potential impacts to the State Highway System.

California Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
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***EDMUND G. BROWN, Jr.**, Governor*
CHARLTON H. BONHAM, Director

January 29, 2013

Mrs. Josephine R. Axt, Ph.D.
U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711

Subject: Draft Supplemental Environmental Assessment/Environmental Impact Report for the Murrieta Creek Flood Control Project/Environmental Restoration and Recreation Project
State Clearinghouse No. 200071051

Dear Mrs. Axt:

The California Department of Fish and Wildlife (Department) appreciates the opportunity to comment on the Draft Supplemental Environmental Assessment/Environmental Impact Report (DSEA/EIR) for Murrieta Creek Flood Control Project/Environmental Restoration and Recreation Project (Project) [State Clearinghouse No. 2000071051]. The Department is responding to the DSEA/EIR as a Trustee Agency for fish and wildlife resources (Fish and Game Code Sections 711.7 and 1802, and the California Environmental Quality Act [CEQA] Guidelines Section 15386), and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines Section 15381), such as the issuance of a Lake or Streambed Alteration Agreement (California Fish and Game Code Sections 1600 *et seq.*) and/or a California Endangered Species Act (CESA) Permit for Incidental Take of Endangered, Threatened, and/or Candidate species (California Fish and Game Code Sections 2080 and 2080.1).

Project Description

The Riverside County Flood Control and Water Conservation District (RCFC&WCD) owns the channel right of way, will provide funding, and will operate and maintain the project. The Modified Phase II Plan includes the following key changes to the Original Phase I Plan included in the previously adopted Environmental Impact Assessment/Environmental Impact Report (September 2000) :

- Channel modification from the confluence with Santa Gertudis Creek (200 feet upstream of Winchester Road) to 1,000 feet downstream of 1st Street, approximately 13,000 feet in length.
- Replacement of gabions with soil cement in areas with less than a 2:1 (horizontal:vertical) slope and buried riprap in areas with a 2:1 and 3:1 slope.

- Construction of maintenance roads on the east and west channel banks, and the addition of five access ramps in four locations.
- A 2:1 slope on channel banks, from 200 feet upstream of Winchester Road extending 400 feet downstream of Winchester Road, transitioning to a 3:1 slope extending downstream to 300 feet upstream of Rancho California Road. The slope would transition to 1:4 slope extending to 350 feet below 1st Street where it would transition to a 1:2 slope for 450 feet, transitioning to a 2:1 slope as it connects with the Phase I constructed slope.
- An unmaintained vegetated terrace/corridor ranging between 20 feet and 150 feet in width.
- Fifteen drop inlets (manholes) of either 2 by 2 foot square or 4 by 4 foot square structures would be placed along the maintenance road to allow drainage into the creek.
- Instead of one drop structure mentioned in the recommended plan, four grade control structures would be placed in the creek.

Biological Resources and Impacts

The Project has the potential to impact least Bell's vireo (*Vireo bellii pusillus*), western spadefoot (*Spea hammondii*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), arroyo chub (*Gila orcutti*), southwestern pond turtle (*Actinemys marmorata pallida*), Cooper's hawk (*Acciper cooperii*), smooth tarplant (*Centromedia pungens ssp. Laevis*), numerous other riparian bird species, and riparian vegetation.

The Biological Resources section of the DSEA/EIR is insufficient. Several sensitive species, including a State and federally listed species, are present within the project area and the environmental document fails to identify adequate avoidance, minimization, and mitigation measures. The DSEA/EIR does not have information on current species-specific surveys. Surveys performed in the year 2000 may not be adequate to assess if a species is present/absent from the Project area. The DSEA/EIR does not include an adequate impact analysis and proposal of protective measures to determine that the impact to these species is less than significant. This is especially relevant with the aquatic species such as southwestern pond turtle and arroyo chub. As currently disclosed in the DSEA/EIR, the Project may result in the eradication of western pond turtle from this section of Murrieta Creek. The inclusion of several grade control structures may impede the movement of most aquatic species. The Final Supplemental Environmental Assessment/Environmental Impact Report (FSEA/EIR) shall include an analysis of the impacts of the grade control structures, as well as a proposal to avoid, minimize, and or mitigate the impacts that these structures will have on aquatic wildlife movement. A more robust set of protective measures shall be proposed in the FSEA/EIR to ensure that southwestern pond turtles are not eradicated form this stretch of Murrieta Creek. The FSEA/EIR shall also include additional analysis for other

DFW-1

species such as the smooth tarplant to ensure that the determination that the project will have less than significant impact to this and other species is less than significant.

The Department feels that the habitat fragmentation analysis is inadequate. Impacts due to the above-mentioned grade control structures are not appropriately addressed in the DSEA/EIR. The riparian terrace has several discontinuities caused by the grade control structures, maintenance roads, and confluences with other channels that are not discussed in the document. The final environmental document should discuss if these barriers will contribute to habitat fragmentation for terrestrial and aquatic species and propose appropriate avoidance, minimization and/or mitigation if determined needed. DFW-2

Cumulative Impacts

The Project is proposed in a portion of Murrieta Creek which has been previously impacted, and will continue to be impacted, by emergency projects and maintenance. Please provide an analysis of the Project related activities relative to ongoing impacts to aquatic species in Murrieta Creek. Cumulative effects analysis should be developed as described under CEQA Guidelines, 15130. Please include any project related impacts to riparian vegetation, wetlands, wildlife corridors, stream habitat, or sensitive species such as the Western pond turtle in the cumulative effects analysis. DFW-3

Western Riverside Multiple Species Habitat Conservation Plan (MSHCP)

The Department is responsible for ensuring appropriate conservation of fish and wildlife resources including threatened, endangered, and/or candidate plant and animal species, pursuant to the CESA, and administers the Natural Community Conservation Plan Program (NCCP Program). On June 22, 2004, the Department issued Natural Community Conservation Plan Approval and Take Authorization for the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) per Section 2800, *et seq*., of the California Fish and Game Code. The MSHCP establishes a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the permit.

The proposed Project occurs within the MSHCP area and is subject to the provisions and policies of the MSHCP. The Project is located in the Southwest Area Plan within the Criteria Cell numbers: 7166, 7079, 7078, 7021, 6891, 6890, and 6783 of the Murrieta Creek subunit area. Based on the information provided in the DSEA/EIR, impacts would occur to riverine and riparian areas defined by the MSHCP Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools policy (MSHCP section 6.1.2). In accordance with this policy, a Determination of Biologically Equivalent or Superior Preservation (DBESP) is required to address unavoidable impacts to riparian and/or riverine areas. The proposed project site is located within the MSHCP Burrowing Owl Survey Area (MSHCP section 6.3.2)On December 10, 2012 the RCFC&WCD submitted a Notification of Lake or Streambed Alteration (Notification) for the construction and initial maintenance of this Project. RCFC&WCD will also maintain this

portion of Murrieta Creek after the mitigation areas are deemed complete by the Department. The RCFC&WCD needs to fulfill their obligations as a Permitee of the MSHCP and ensure that the proposed project is consistent with all applicable policies of the MSHCP. DFW-4

Lake and Streambed Alteration Program

Although the proposed Project is within the MSHCP, a Notification of Lake or Streambed Alteration is still required by the Department, should the site contain jurisdictional waters. Additionally, the Department's criteria for determining the presence of jurisdictional waters are more comprehensive than the MSHCP criteria in Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools). The Department is responsible for assessing and evaluating impacts to jurisdictional waters; typically accomplished through reviewing jurisdictional delineation (JD) reports, supporting information, and conducting site visits. Following review of a JD, the Department may request changes to the JD. The Department may also recommend that additional project avoidance and/or minimization measures be incorporated, or request additional mitigation for project-related impacts to jurisdictional areas. The Department recommends submitting a notification early on, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. To obtain a Lake or Streambed Alteration notification package, please go to http://www.dfg.ca.gov/habcon/1600/forms.html. DFW-5

A JD was not included with the DSEA/EIR. Please note that the Department requires that the JDs are not older than one year in order to process any Notifications. DFW-6

The Department opposes the elimination of ephemeral, intermittent, and perennial streams, channels, lakes, and their associated habitats. The Department recommends avoiding the stream and riparian habitat to the greatest extent possible. Any unavoidable impacts need to be compensated with the creation and/or restoration of in-kind habitat either on-site or off-site at a minimum 3:1 replacement-to-impact ratio, depending on the impacts and proposed mitigation. Additional mitigation requirements through the Department's Lake and Streambed Alteration Agreement process may be required, depending on the quality of habitat impacted, proposed mitigation, project design, and other factors. DFW-7

The following information will be required for the processing of a Notification and the Department recommends incorporating this information to avoid subsequent CEQA documentation and project delays:

1) Delineation of lakes, streams, and associated habitat that will be temporarily and/or permanently impacted by the proposed project (include an estimate of impact to each habitat type);
2) Discussion of avoidance and minimization measures to reduce project impacts; and,

3) Discussion of potential mitigation measures required to reduce the project impacts to a level of insignificance.

Please refer to section 15370 of the CEQA guidelines for the definition of mitigation.

As previously noted, the Department received a Notification for this project. The Notification was deemed incomplete on January 1, 2013. Please note that the Notification states that the project applicant is the RCFC&WCD and not the U.S. Army Corps of Engineers (ACOE). For this reason RCFC&WCD and not the ACOE will be the Permittee authorized to construct the project and perform the interim maintenance activities disclosed in the DSEA/EIR Please clarify who will be responsible for the construction and maintenance of your project. This should be clearly disclosed to the public in the environmental document. DFW-8

The mitigation measures as described in the DSEA/EIR are insufficient to mitigate for the impacts the Project will have to Jurisdictional Areas, for this reason the Department believes that it cannot fulfill its obligations as a Trustee and Responsible Agency for fish and wildlife resources. Permit negotiations conducted after and outside of the CEQA process are not CEQA-compliant because they deprive the public and agencies of their right to know what project impacts are and how they are being mitigated (CEQA Section 15002). DFW-9

Potential mosquito/vector breeding habitat

The Project includes the construction of features that can increase potential mosquito/vector control breeding habitat. It is in the interest of RCFC&WCD and the Department to offer the public the highest level of protection from vectors while also protecting natural resources and reducing the use of pesticides. The Department encourages RCFC&WCD to use preventative planning, compatible design, and effective long-term maintenance to avoid or reduce vectors while maintaining habitat values within Murrieta Creek. RCFC&WCD should refer to the California Health & Safety Code § 2000-2093 for definitions and liabilities associated with the creation of habitat conductive to vector production and to guidance provided by the local mosquito and vector control districts/agencies. Please be aware that some vector control measures may have associated environmental impacts and require notification pursuant to the Department's Lake and Streambed Alteration Program. DFW-10

Department Concerns

The Department has the following concerns about the Project, and requests that these concerns be addressed in a subsequent CEQA document:

1. The subsequent CEQA document should include a more thorough analysis of the impacts caused by maintenance activities and include appropriate avoidance, minimization, and/or mitigation measures; DFW-11

2. The subsequent CEQA document should include a more detailed analysis of impacts relative to habitat fragmentation and cumulative impacts to biological resources; DFW-12
3. The subsequent CEQA document should include an updated JD of State Waters, an impact analysis, and mitigation measures for the loss of streambed and riparian habitat; DFW-13
4. The analysis in the subsequent CEQA document should satisfy the requirements of the Department's 1600 Lake and Streambed Alteration Program and CESA (if deemed necessary). DFW-14
5. The subsequent CEQA document needs to address MSHCP consistency requirements; DFW-15

In summary, the Department believes that the DSEA/EIR is inadequate in describing and analyzing the full impacts of the project scope, including but not limited to describing and analyzing impacts to sensitive species and habitats that may be impacted by the Project. The DSEA/EIR also fails to adequately address MSHCP consistency. The Department recommends that the CEQA document be revised to address these deficiencies. If you should have any questions pertaining to these comments, please contact Juan Lopez Torres at (909) 484-3979. DFW-16

Sincerely,

Jeff Brandt
Senior Environmental Scientist

cc: State Clearinghouse, Sacramento

Response to Comments: CDFW Letter

DFW-1: The Corps and RCFC&WCD conducted various site visits in 2012 in preparation of the SEA/EIR for Phase II. The project site was evaluated for potential suitable habitat or presence of State and Federally listed species. Potential suitable habitat and presence of listed species was documented in Chapter 6, Biological Resources, of the Draft SEA/EIR. Focused species surveys were conducted for the least Bell's vireo (2011 and 2013) and burrowing owl (2013). Results of the least Bell's vireo surveys were documented in the Draft SEA/EIR, and 2013 results are incorporated into the Final SEA/EIR (Chapter 6 Biological Resources) for clarification. Results from the burrowing owl survey have also been incorporated in the Final SEA/EIR. Also included is clarification of potential impacts to sensitive and listed species, including the arroyo chub, southwestern pond turtle, smooth tarplant, western spadefood, Cooper's hawk, and the San Diego black-tailed jackrabbit. Survey results from the MSHCP biological monitoring program are incorporated into the Final SEA/EIR as appropriate. Chapter 6 Biological Resources of the Final SEA/EIR has been revised to clarify potential impacts to the above species, including potential impacts from the grade control structures, and environmental commitments to be implemented. As described in the Final SEA/EIR, potential impacts from the Phase II design refinements to biological resources are expected to be less than significant with the described environmental commitments.

DFW-2: Chapter 6, Biological Resources, of the Final SEA/EIR has been revised to clarify the project features and potential habitat fragmentation. Based on the Final SEA/EIR, potential impacts to the Phase II design refinements are less than significant.

DFW-3: Chapter 19, Cumulative Impacts, of the SEA/EIR has been prepared as described under CEQA Guidelines. Text has been revised to clarify the discussion of potential impacts to aquatic species.

DFW-4: Chapter 6, Biological Resources, of the Final SEA/EIR has been revised to clarify the project features, potential impacts to the MSHCP conservation area, and MSHCP compliance. Based on the Final SEA/EIR, potential impacts are less than significant.

DFW-5: Comment noted. A Streambed Alteration Agreement (SAA) notification package was submitted to the Department on December 5, 2012. Additional information to complete the SAA was submitted to the Department on April 7, 2014.

DFW-6: The draft SEA/EIR provided vegetation mapping of the project area. A CDFW jurisdiction delineation was completed in February 2013 to clarify jurisdictional areas. Results have been incorporated into Chapter 6, Biological Resources, of the Final SEA/EIR. On April 7, 2014, the results of the delineation have been submitted by the RCFC&WCD along with additional responses to CDFW comments on the 1602 Streambed Alteration Agreement (SAA) application.

DFW-7: Comment noted. Refer to responses herein regarding the previous notifications sent to the Department.

DFW-8: The Corps is the lead agency to undertake the design and construction of Phase II of the Murrieta Creek Flood Risk Reduction, Environmental Restoration, and Recreation Project. The RCFC&WCD will be responsible for long-term operation and maintenance of Phase II in accordance with the O&M Manual provided by the Corps. As described above, a 1602 SAA notification has been submitted to the Department. The SEA/EIR addresses construction and maintenance of Phase II.

DFW-9: Chapter 6 Biological Resources of the SEA/EIR, adequately analyzes potential impacts to the jurisdictional streambed and bank areas within the Project area, and the measures to ensure impacts remain less than significant. The CDFW requires submittal of a CEQA document for a complete Streambed Alteration Agreement notification package. Additional information to complete the Streambed Alteration Agreement notification was submitted to the CDFW on April 7, 2014. The RCFC&WCD will continue to coordinate with the CDFW on negotiations related to the Streambed Alteration Agreement.

DFW-10: Comment noted.

DFW-11: Chapter 6, Biological Resources, of the Final SEA/EIR has been revised to address comments received from CDFW as well as other resource agencies, including clarification of impacts caused my maintenance activities and clarification of avoidance, minimization, and/or mitigation measures.

DFW-12: Chapter 6, Biological Resources, and Chapter 19, Cumulative Impacts, of the Final SEA/EIR has been revised to clarify impacts relative to habitat fragmentation and cumulative impacts to biological resources.

DFW-13: Chapter 6, Biological Resources, of the Final SEA/EIR has been revised to clarify impacts to jurisdictional State streambed/banks., impact analysis, and mitigation measures.

DFW-14: Chapter 6, Biological Resources, of the SEA/EIR has been clarified in regard to areas regulated under the 1600 SAA program. The least Bell's vireo is a State and Federal endangered species and addressed in Chapter 6, Biological Resources, of the SEA/EIR. See Chapter 6 Biological Resources of the SEA/EIR for further information. The SEA/EIR provides the necessary information to satisfy SAA. In coordination with CDFW staff, CESA permitting is not needed for Phase II.

DFW-15: Chapter 6, Biological Resources, of the Final SEA/EIR has been clarified in regard to the project features and potential impacts to the MSHCP conservation area.

DFW-16: Chapter 6, Biological Resources, of the Final SEA/EIR has been clarified in regard to the project features and adequately analyzes potential impacts to biological resources and to the MSHCP conservation area.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262

In Reply Refer To:
FWS-WRIV-07B0011-13CPA0056

FEB 15 2013

Dr. Josephine R. Axt
Chief, Planning Division
U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711
Los Angeles, California 90053-2325

Attn: Ms. Tiffany Bostwick

Re: Review of the Draft Supplemental Environmental Assessment/Environmental Impact Report for the Proposed Phase II of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Riverside County, California

Dear Dr. Axe:

We have reviewed the Draft Supplemental Environmental Assessment /Environmental Impact Report addendum (SEA/SEIR) for the Modified Phase II of the Murrieta Creek Flood Control Project located in Riverside County, California. We are providing the following comments and recommendations on the Modified Phase II of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project (Project) proposed by the U.S. Army Corps of Engineers (Corps) and Riverside County Flood Control and Water Conservation District (District), the local sponsor. The SEA/SEIR is a joint National Environmental Policy Act and California Environmental Quality Act document prepared by your agency and the District. The Project is located in the City of Temecula in Riverside County, California. The SEA/SEIR is supplemental to an EIS/EIR prepared for the Project in 2000. We provided comments on the 2000 Draft EIS/EIR and separately on the District's maintenance plan. (See enclosed letters dated September 7, 2000, and September 22, 2000.) We appreciate the extension of the comment period to accommodate our review.

The proposed Project is the channelization of Murrieta Creek for the purposes of flood control. We recognize the need for flood protection for existing structures along Murrieta Creek. However, we have concerns regarding the conclusion that the impacts of the modified Phase II Project are less than those of the originally described phase II Project, the characterization of the baseline or No Project Alternative in the SEA/SEIR, the viability and biological value of the proposed mitigation, the proposed maintenance plan, and the effects of the Project on the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Additionally, we are also concerned that the District does not appear to be applying the MSHCP requirements,

policies, or procedures to the Project. Consistent with our comments in 2000, we recommend that the proposed Project be substantially redesigned to accommodate biological and ecological processes before further completion of environmental review and approval.

Western Riverside MSHCP

On June 22, 2004, the we issued a section 10(a)(1)(B) permit for the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP established a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the permit. Permittees ensure covered activities are consistent with the MSHCP, its associated Implementing Agreement, and section 10(a)(1)(B) permit.

The proposed Project occurs within the MSHCP plan area, is under the discretionary authority of an MSHCP permittee (the District) and is therefore subject to the provisions and policies of the MSHCP. The Project is located in the Murrieta Creek subunit of the Southwest Area Plan within Criteria Cell numbers: 7166, 7079, 7078, 7021, 6891, 6890, and 6783. The proposed Project footprint is within MSHCP Constrained Linkage 13. The channel incision that is proposed by the Project would isolate the ecological function of the Project footprint from the adjacent upland biological communities in cell 7166 and severely limit the upland connectivity described in the MSHCP for Constrained Linkage 13. Because the project is located within Criteria Cells, a Joint Project Review (JPR) is required to document the project's consistency with the MSHCP (MSHCP section 6.6.2). We request completion of the JPR process prior to completion of the joint NEPA and CEQA processes. FWS-1

Project infrastructure (especially drop structures) would limit or eliminate in-stream connectivity for sensitive aquatic resources including western pond turtle (*Actinemys* [*Clemmys*] *marmorata pallida*) and arroyo chub. The MSHCP Species Objectives for both pond turtle and arroyo chub (*Gila orcutti*) identify Murrieta Creek as core habitat and both species are planning species for Constrained Linkage 13. The proposed channel incision and resulting biological isolation would further degrade the biological values in the portion of Murrieta Creek in the Project footprint. We are concerned that the proposed project would interfere with the ecological viability of Proposed Constrained Linkage 13 and preclude the conservation values expected by the MSCHP conservation strategy. FWS-2

The western pond turtle is known to occur in the Project region in Murrieta Creek, as well Cole Creek (upstream tributary to Murrieta Creek) and at the confluence of Temecula Creek and Murrieta Creek (downstream) of the Project (Dudek & Associates 2003; MSHCP Monitoring Program 2012b). MSHCP Species Objectives 2 and 5 for the western pond turtle call for maintaining occupancy by the species within at least 75 percent of eight Core Areas (Dudek & Associates 2003). MSHCP Core Areas for this species are: Cajalco Creek, San Mateo Creek, Santa Ana River, Chino Creek, Temecula Creek, Murrieta Creek, Santa Rosa Plateau, and San Jacinto River east of I-215. The SEA/SEIR identifies the potential for pond turtle to occur in the downstream reach of the Project. The Project's mitigation measure pond turtle is to remove FWS-3

them from the Project footprint. While we support the protection of pond turtles from immediate harm related to construction activities, intentionally extirpating them from the creek does not seem like an appropriate action in an MSHCP Core Area. Implementing the Project as proposed is expected to preclude persistence of western pond turtles in the Project area and degrade its habitat in the region/Core Area.

The proposed Project, and maintenance activities would adversely affect the in stream habitats and the resident aquatic fauna, including arroyo chub. The scouring flows and proposed maintenance would disrupt the natural pool-riffle-run sequences within and downstream of the Project area during the Project life (Jones and Stokes 1999, Service 2000). It would also result in higher water temperatures caused increased solar exposure which would also have negative effects on native aquatic fauna (e.g., see U.C. Davis 2012). The combination of maintained channel geometry, high water temperature, the expected proliferation of tule (*Scirpus* sp.) and cattail *(Typha* spp.) due to repeated mowing would create and maintain a hostile environment for arroyo chub in the Project area. We request that the project be redesigned to accommodate the persistence of pond turtle and arroyo chub habitat and occupation in the Project area.

The SEA/SEIR describes impacts to riverine and riparian resources as defined by the MSHCP Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools policy (Riparian /Riverine Policy, MSHCP section 6.1.2). In accordance with this policy, unavoidable impacts to riparian and riverine areas must be mitigated to a level that a Determination of Biologically Equivalent or Superior Preservation can be made. Implementation of the Project, as currently proposed, would result in significant impacts to riparian and riverine resources. We request a delineation of riparian and riverine resources as defined by the Riparian /Riverine Policy and a Determination of Biologically Equivalent or Superior Preservation (DBESP) for construction related impacts to riparian and riverine resources prior to project approval. Post project maintenance activities that will affect riparian resources also need to be considered under the terms of the Riparian/Riverine Policy and included in the DBESP as appropriate. FWS-4

The proposed Project site is located within the MSHCP Burrowing Owl Survey Area (MSHCP section 6.3.2). The Additional Survey Needs and Procedures for burrowing owl require that surveys be conducted following approved methods (MSHCP, Burrowing Owl Survey Instructions, dated March 29, 2006). These surveys are necessary to adequately assess impacts to the species, and are required under the MSHCP. Depending on the results of breeding season surveys, the proposed project may need to incorporate onsite conservation measures for the burrowing owl as described in burrowing owl species-specific objective number 5 (MSHCP, Volume II, page B-65). FWS-5

Although the SEA/SEIR provided a mitigation measure for burrowing owl (Mitigation Measure B-6; preconstruction survey), this measure is intended to avoid or minimize the likelihood of direct mortality of burrowing owl and, as discussed above, does not meet the requirements of the MSHCP. If owls are not located onsite during focused breeding season surveys, pre-construction surveys will still need to be conducted within 30 days prior to project construction.

The SEA/SEIR states that because the proposed Project is a federal project, it is not subject to the requirements of the MSHCP. However, as discussed above the local sponsor is an MSHCP permittee and has prepared a CEQA document for the project. We therefore request that MSHCP implementation be completed and included in the Finding of No Significant Impact and Final EIR. FWS-6

Baseline Conditions and Mitigation

Establishing an appropriate biological baseline is essential for analyzing project-related impacts and determining appropriate level of mitigation. The SEA/SEIR used the same baseline assumptions as the 2000 EIS/EIR and assumed the District's draft floodplain maintenance plan is being implemented. We identified this assumption as inappropriate in our September 2000 comments on the DEIS/EIR and make the same assertion in this letter.

The baseline for determining project impacts should consider whether ongoing maintenance has been authorized and planned or approved maintenance mitigated. As discussed at the December 19, 2012 meeting in Temecula, the Corps and the District consider the current, regularly maintained channel to be the baseline condition for the environmental impact assessment of Phase II modifications. The District conducted vegetation and sediment removal under emergency authorization in 1993 and subsequent authorizations in 1997 and 1998. However, the Corps held mitigation in abeyance until the implementation of a floodplain maintenance plan. (See enclosed letter dated September 22, 2000.) The SEA/SEIR does not take this into account, as it should. The 1992 (Jones and Stokes) and Dudek (2000) wetland delineations may provide a more accurate baseline condition for evaluation of Project impacts. We believe the result of the misidentified baseline condition is an under estimation of Project impacts and therefore of appropriate compensatory mitigation for the proposed Project. FWS-7

In 2000 the Service concluded that the draft flood maintenance plan would affect an aquatic resource of national importance (ARNI) consistent with our 1992 Memorandum with the Corps (October 13, 2000 letter, enclosed). Please clarify the status of permits and mitigation for maintenance activities in the Phase II project reach, including any written response to the Service's or U.S. Environmental Protection Agency's ARNI letters for the proposed flood maintenance program, in order to verify that the baseline is reflective of authorized activities only. FWS-8

Outside of our concern over the baseline conditions, we appreciate incorporation and broadening of an unmaintained riparian bench to restore native habitat to the channel into the Project. We also recognize that the Corps and District have made efforts to maximize the portion of Project area that would not need to be maintained on a regular basis, in an attempt to minimize impacts. However, in order to assess the biological value of the unmaintained riparian bench, additional information is required.

When discussing future maintenance activities, the SEA/SEIR states that if vegetation on the unmaintained bench is removed or damaged by heavy flows revegetation will be allowed to occur via natural recruitment. No information is provided regarding the severity or frequency of the storm event that would be expected to scour out the unmaintained bench. There is also no discussion regarding channel topography after such an event and if or how the bench topography would be restored. Additionally the DEA/EIS states that maintenance may also include cutting of large trees and shrubs that would affect the flow conveyance capacity of the channel. It is unclear if this statement applies to the unmaintained bench and no information regarding what constitutes 'large' is provided. Without information regarding the hydrogeomorhpic stability of the unmaintained bench and the necessity of large trees and shrub removal, the value of the riparian habitat to be restored cannot be assessed. Further pre- and post- project comparisons of the number of acres of riparian vegetation cannot be meaningfully interpreted. We also question the appropriateness characterizing the 41.11 acres of channel bottom that would be mowed by the District during the operations and maintenance phase of the project as restored marsh habitat (Table 6-4 and elsewhere). We recommend that the proposed Project be substantially redesigned to accommodate biological and ecological processes and request that a more meaningful discussion biological functions and values be provided for public review prior to the completion of the joint NEPA and CEQA processes. FWS-9

Operations and Maintenance

The District would be responsible for operation and maintenance activities after project construction. The SEA/SEIR states that the 2000 Final EIS/EIR described and evaluated the associated impacts of operations and maintenance. The SEA/SEIR further states that the Corps would provide an Operation and Maintenance Manual to the District, and operation and maintenance activities would be conducted in accordance with the conditions identified in a Section 404 Regulatory Permit.

We are concerned that as proposed, the operation and maintenance of the modified Phase II Project will perpetuate ongoing degradation of wetland and riparian resources in Murrieta Creek. The SEA/SEIR states that most of the wetland vegetation is mowed annually, and sediment is excavated as needed to maintain flood capacity; these ongoing actions limit habitat functions and the long-term establishment of complex wetland and riparian habitat (page 73). The SEA/SEIR further concludes that these activities would continue within approximately 120 feet of the channel bottom. A bench with an average width of 70 feet would be unmaintained. The re-establishment and exclusion of riparian vegetation from maintenance activities could provide some benefit, ongoing maintenance activities would continue to limit habitat establishment and water quality improvements that could otherwise occur under a less intensive maintenance regime. FWS-10

The District will need to apply to the Corps Los Angeles District Regulatory Program for CWA Section 404 authorization to conduct certain maintenance activities. The required maintenance activities are directly tied to the final project design. It is, therefore, critical that the Corps FWS-11

account for the Project's long term maintenance requirements and select a practicable alternative that would reduce the District's maintenance obligations and the associated negative environmental impacts.

As noted above, the Service is concerned that compensatory mitigation has not been provided for past maintenance activities in Murrieta Creek. Our September 22, 2000 letter commenting on the proposed flood maintenance program noted that the Corps had deferred mitigation for 1993, 1997, and 1998 maintenance authorizations with the expectation that one-time mitigation would be addressed during the authorization for the District's flood maintenance program. We also understand that bank repair projects in Murrieta Creek have been routinely approved under Regional General Permit (RGP) 63 for emergencies where discharges of fill are determined to be necessary to prevent the imminent loss of human life or property. FWS-12

We request that the Corps and the District consider designs for the Project that eliminate or greatly reduce the need for mowing and sediment removal in Murrieta Creek. Any future maintenance plan for the Project should include commitments for compensatory mitigation. Future maintenance operations should also, to the extent possible, avoid the need to apply for emergency approval under RGP 63. We recommend that the District seek opportunities within their own right-of-ways where wetland restoration, enhancement, establishment and preservation opportunities could contribute to the MSHCP conservation strategy and be consistent with the Corps and EPA 2008 Compensatory Mitigation Rule. FWS-13

Regardless of the modifications proposed in the SEA/SEIR for the modified Phase II Project, we have serious continuing concerns with the fundamental project design, which we hope can be addressed through a collaborative process with the your agency, the District and other federal and state resource agencies. As discussed with your staff in meetings on October 15 and December 19, 2012, we suggested that the Project be redesigned to accommodate the design flood event (i.e., the 1-percent annual chance flood/100-year flood event) without necessary future vegetation maintenance (e.g., mowing). This redesign would likely involve a wider channel and footprint through most of the Project area, with concomitant additional utilization of right-of-way width by the facility. While some existing constraints (structures) do exist in along portions of the Project, significant room to widen the channel facility design exists along the Project alignment without major disruptions or structure removal; the constraints of this portion of Murrieta Creek are less than many of the similar proposed flood damage reduction projects in developed areas that we have reviewed. The redesign we are recommending would maintain the riparian ecological communities/habitats/corridors/linkages of Murrieta Creek as required of District by the MSHCP, substantially reduce recurrent ecological impacts (from proposed vegetation maintenance), and drastically reduce the needed mitigation compared to the current Project proposal. While this would reduce the areas available for future development (i.e., vacant areas that would be removed from the existing floodplain) along Murrieta Creek, this would nevertheless accommodate Project design flood damage reduction objectives for existing structures and greatly simplify permitting, as well as significantly reduce the costs of mitigation and facility maintenance activities and improve aesthetics of the facility in the long-term. FWS-14

The Service still does not consider the proposed Project, with or without modifications, to be the least environmentally damaging practicable alternative (LEDPA) consistent with the Clean Water Act Section 404(b)(1) Guidelines. Like the original Phase II design, the modified Project does not adequately incorporate floodplain and riverine restoration and, as a result, would necessitate ongoing maintenance activities that would continue to degrade the channel on a regular basis. Additional information is needed, including documentation of MSHCP compliance and a record of maintenance and mitigation activities, in order to accurately assess baseline conditions and impacts to Murrieta Creek.

We request that the Finding of No Significant Impacts not be adopted and a Final Environmental Impact Report not be certified until the Project's compliance with the MSHCP has been documented. We also strongly recommend that the unresolved issues discussed above be addressed prior to further Project development or approval. We are committed to working with you and the District to resolve the Project's outstanding issues. FWS-15

Thank you for the opportunity to comment on the proposed Project. If you have any questions regarding these comments, please contact Karin Cleary-Rose of the Palm Springs Fish and Wildlife Office at 760-322-2070 extension 206, or Jon Avery, Federal Projects Coordinator, of the Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Suite 101, Carlsbad, California 92011 at 760-431-9440 extension 309.

Sincerely,

Kennon A. Corey
Assistant Field Supervisor

Enclosures:
Service's September 7, 2000 Murrieta Creek Flood Control Project FEIS comment letter
Service's September 22, 2000 Riverside County Flood Control District Maintenance Program comment letter
Service's October 13, 2000 Riverside County Flood Control District Maintenance Program 404(q) letter

cc:
Jeff Brandt CDFW, Region 5, Ontario, CA
Darren Bradford RWQCB, San Diego, CA
Paul Amato USEPA, San Francisco, CA
Stewart McKibben RCFC&WCD, Riverside, CA

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Western Riverside County MSHCP Biological Monitoring Program (MSHCP Monitoring Program). 2012b. Southwestern Pond Turtle (*Clemmys marmorata pallida*) Survey Report 2011. April 2.

Response to Comments: USFWS Letter

FWS-1: Chapter 6, Biological Resources, of the Final SEA/SEIR has been clarified in regard to the project features, potential impacts to the MSHCP conservation area, and MSHCP compliance. Chapter 6, Biological Resources, of the Final SEA/EIR has been revised to clarify the project features and potential habitat fragmentation. Based on the Final SEA/EIR, potential impacts from the Phase II design modifications are less than significant.

FWS-2: Discussion of potential impacts to sensitive aquatic resources including the western pond turtle and arroyo chub, and potential impacts to the MSHCP conservation area have been further clarified Chapter 6, Biological Resources, of the Final SEA/SEIR. Section 3.5, Modified Phase II Plan has also been updated to include the design refinements coordinated with the USFWS, USEPA, CDFW, and RWQCB to minimize impacts to sensitive aquatic resources. Based on the Final SEA/EIR, potential impacts from the Phase II design modifications are less than significant.

FWS-3: In coordination with the USFWS, the Corps and RCFC&WCD have considered additional refinements to the Phase II design to reduce impacts to aquatic and wetland habitat and look for opportunities for the design to provide additional aquatic and wetland habitat within the Phase II area. Section 3.5, Modified Phase II Plan has been updated to include the design refinements coordinated with the USFWS, USEPA, CDFW, and RWQCB to minimize impacts to sensitive aquatic resources. Chapter 6, Biological Resources, of the Final SEA/EIR has been clarified in regard to the project features, potential impacts to the MSHCP conservation area, and MSHCP compliance. Chapter 6, Biological Resources, of the Final SEA/EIR has also been revised to clarify the project features and potential habitat fragmentation. Based on the Final SEA/EIR, potential impacts from the Phase II design modification are less than significant.

FWS-4: Chapter 6, Biological Resources, of the Final SEA/EIR has been clarified in regard to the project features, potential impacts to the MSHCP Section 6.1.2 Riparian/Riverine Areas, and MSHCP compliance. Based on the Final SEA/EIR, potential impacts from the Phase II design modifications are less than significant.

FWS-5:
Chapter 6, Biological Resources, of the Final SEA/EIR has been clarified in regard to the updated burrowing owl survey information, potential impacts, and MSHCP burrowing owl requirements. Based on the Final SEA/EIR, potential impacts from the Phase II design modifications are less than significant.

FWS-6: Chapter 6, Biological Resources, of the Final SEA/EIR has been clarified in regard to MSHCP compliance. Based on the Final SEA/EIR, potential impacts to the MSHCP conservation area are less than significant. Also see response to FWS-1.

FWS-7: The Corps maintains that the Phase II baseline conditions documented in the Draft SEA/EIR, which includes the RCFC&WCD's current regular maintenance mowing of the creek bed is an appropriate baseline. As stated during the June 19, 2013 meeting, all maintenance,

including vegetation mowing and emergency channel repairs, conducted to date within the Phase II area by the RCFC&WCD has been authorized (permitted) and mitigated, as required, through natural recovery and invasive species control. No additional mitigation has been required by the permitting agencies. See response to EPA-11 and EPA-12 for further discussion and a summary of the coordination history between the RCFC&WCD and the Corps Regulatory Division. Potential impacts to biological resources discussed in Chapter 6, Biological Resources, have been updated to address USEPA and USFWS comments.

FWS-8: As stated during the June 19, 2013 meeting, all maintenance, including vegetation mowing and emergency channel repairs, conducted to date within the Phase II area by the RCFC&WCD has been authorized (permitted) and mitigated, as required, through natural recovery and invasive species control. No additional mitigation has been required by the permitting agencies. See response to EPA-11 for a summary of the coordination history between the RCFC&WCD and the Corps Regulatory Division. Chapter 6, Biological Resources, of the Final SEA/SEIR has been updated for clarity.

FWS-9: It is anticipated that flows of about 7 feet/second and above could cause erosion and scouring of the unmaintained riparian/low-flow corridor. These occurrences of erosion and scour are expected to be within the range of current conditions. It is anticipated that the larger trees would remain in place once established; however, the smaller trees and shrubs may be washed out during significant storm events. Natural recruitment is expected within areas of scour as has occurred within the Phase I area, where riparian and wetland vegetation within the channel invert has re-established after completion of construction. No regular cutting or mowing of the unmaintained riparian/low-flow corridor as identified in the SEA/EIR would be performed. Habitat management actions such as removal of invasive species would occur within the unmaintained terrace. Section 3.5 Only under emergency events would there potentially be emergency repairs of the channel banks and the riparian/low-flow corridor needed. Emergency repairs would occur in situations such as flood waters escaping the channel, failure of channel lining, failure of channel stabilizers or structures, or obstruction of the channel or its laterals by sediment or debris and is typically conducted during and/or immediately after storm events on an as-needed basis. The repairs would be conducted from the top of the bank to the maximum extent practicable. In cases where access from the top of the bank is not feasible, access to the damaged structure (e.g., side drain outlet, or channel lining) would be obtained from the invert and would require up to 15 ft. of clearance across the unmaintained riparian corridor for equipment access. Equipment used could include a bobcat and/or excavator and dump trucks to haul out debris or rocks. Non-emergency removal of trees obstructing the pipe outlets would also be conducted on an as-needed basis. The repair/removal activities would result in a temporary disturbance of habitat on the unmaintained riparian corridor; however, at the completion of repair activities, the area of disturbance would be stabilized and re-seeded with a native seed mix, cuttings and/or select container plantings to ensure the replacement of riparian trees. Replacement plantings of riparian trees would not be required if the vegetation was removed as a result of natural scouring. Impacts associated with routine operation and maintenance as well as emergency repairs for the project would be minimized by the implementation of maintenance specific measures and the timing of maintenance activities (see environmental commitment B-9). Future routine maintenance/repair activities would occur outside of rain events and sensitive species nesting seasons (March 15 to August 15). If

emergency repair work is required, appropriate coordination/consultation would occur with resource agencies (see environmental commitment B-10).

FWS-10: The Corps and RCFC&WCD coordinated with the USFWS, USEPA, CDFW, and RWQCB to address their concerns and comments on the proposed Phase II design, including long term operation and maintenance. As a result of this further coordination to address comments received during the public review period, design recommendations proposed by the USFWS, USEPA, and CDFW were considered by the Corps and RCFC&WCD to address comments regarding the Phase II design, floodplain and riverine function, and minimizing to the maximum extent impacts to biological resources. This included additional hydraulic analysis, and evaluation for engineering, project operation and maintenance, and environmental considerations. Based on the results of the hydraulic analysis and input from the resource agencies, the Phase II design has been refined further to address concerns of the resource agencies. The Phase II design refinements meets the flood risk management goals of the project, maximizes to the extent possible native habitat restoration, and minimizes to the extent possible impacts to wetland and riparian habitat function, based on significant constraints of existing development in the Phase II area.

The Modified Phase II Plan would result in an overall increase in native vegetation within the existing maintained creek channel. While regular vegetation maintenance of the channel would be required as part of the proposed Phase II design, the area subject to regular vegetation maintenance would be less than is currently maintained by the RCFC&WCD, a decrease in impacts to habitat (see Section 6.2.1.2). Impacts to biological resources from the Phase II design refinements are less than significant. Section 3.5 (project description) and the engineering design plan have been updated to include design changes coordinated with the resource agencies. Discussion of impacts to biological resources has been updated for further clarity in Chapter 6, Biological Resources, of the Final SEA/SEIR.

FWS-11: The Corps and RCFC&WCD coordinated with the USFWS, USEPA, CDFW, and RWQCB to address their concerns and comments on the proposed Phase II design, including long term operation and maintenance. See response to FWS-10 above.

FWS-12: As stated during the June 19, 2013 meeting, all maintenance, including vegetation mowing and emergency channel repairs, conducted to date within the Phase II area by the RCFC&WCD has been authorized (permitted) and mitigated, as required, through natural recovery and invasive species control. No additional mitigation has been required by the permitting agencies. See response to EPA-11 for a summary of the coordination history between the RCFC&WCD and the Corps Regulatory Division. Chapter 6, Biological Resources, of the Final SEA/SEIR has been updated for clarity.

FWS-13: See response to FWS-10, EPA-3, FWS-7, and EPA-15.

FWS-14: See response to EPA-3, EPA-4, and FWS-1.

FWS-15: Chapter 6, Biological Resources, of the Final SEA/EIR has been clarified in regard to the project features, potential impacts to the MSHCP conservation area, and MSHCP compliance. Based on the Final SEA/EIR, potential impacts are less than significant. As

discussed in response to comment EPA-2, the Phase II construction schedule has been revised to start in 2014 to allow for additional time for continued coordination and analysis to address and resolve the concerns expressed in the comment letters received during the Draft SEA/EIR public review period. The Corps and RCFC&WCD held a series of meetings and conference calls since December 19, 2012 with the USFWS, USEPA, CDFW, and RWQCB to review the comments received during the public review period, discuss how the Corps is proposing to address the comments, present further analysis performed to address comments, to receive additional clarification from the agencies, and present further proposed design modifications to address the agencies concerns. Chapter 3.5 has been updated to incorporate the designed changes into the project description, and the engineering design plans has been updated.

ENDANGERED HABITATS LEAGUE
DEDICATED TO ECOSYSTEM PROTECTION AND SUSTAINABLE LAND USE

February 12, 2013

VIA ELECTRONIC AND U.S. MAIL

Josephine R. Axt, Ph.D.
Chief, Planning Division
U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711
ATTN: Ms. Tiffany Bostwick
Los Angeles, California 90053-2325
tiffany.bostwick@usace.army.mil

RE: Draft Supplemental Environmental Assessment (SEA)/Environmental Impact Report (EIR) for Phase II of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, Temecula, Riverside County, California

Dear Ms. Axt:

The Endangered Habitats League (EHL) appreciates the opportunity to comment on this project, and thanks you again for the extension of the comment period to accommodate our review. As background, EHL was involved in the formulation of the original Murrieta Creek project in 2000. EHL's comments at the time focused on the future role of Murrieta Creek in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), under development at that time and since adopted.

Due to a strong voice from the local community, the Corps' initial proposal was changed to "multipurpose" flood control. While significantly improved, nevertheless the project as approved in 2000 was not, according to the Dept. of the Interior, the Least Environmentally Damaging Practical Alternative (LEDPA), nor did it identify adequate mitigation. Indeed, the U.S. Fish and Wildlife Service (FWS) deemed the project to cause unacceptable impacts to wetlands of national importance. Irrespective of these past disagreements, EHL now urges the Corps to take this opportunity to work collaboratively with its partner federal agencies so that Phase II of the project fulfills its promise as a state-of-the-art model for the management of a creek within a built environment. We also urge that that MSHCP conformance be integrated into the current Corps approval process rather than delayed. EHL-1

MSHCP conformance

According to the document, "The Riverside County Flood Control and Water Conservation District (RCFC&WCD) owns the channel right of way, will provide

funding, and will operate and maintain the project." It is the non-federal sponsor for the project and presumably the lead agency for the EIR portion of the document. Despite these facts, formal compliance with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) by the RCFC&WCD—a plan permittee—is not being accomplished at this time. This project will eventually have to be submitted by the RCFC&WCD to the Western Riverside County Regional Conservation Authority (RCA) for Joint Project Review. Conformance with MSHCP objectives for Constrained Linkage 13 will have to be achieved, Riparian and Riverine standards met, and Determinations of Biologically Equivalent or Superior Preservation (DBESP) prepared for unavoidable impacts. As a matter of policy and best practice, and in order to avoid future conflicts between Corps approvals and RCFC&WCD's obligations to the MSHCP, MSHCP conformance should be fully established *concurrently.* Coordinating these processes is only common sense. EHL-2

This stretch of Murrieta Creek connects the Santa Rosa Plateau with lower Murrieta Creek and the Santa Margarita River. According to the MSHCP, planning species for Murrieta Creek are:

California red-legged frog
Cooper's hawk
least Bell's vireo
southwest willow flycatcher
tree swallow
white-tailed kite
yellow warbler
arroyo chub
bobcat
mountain lion
western pond turtle

Biological considerations include:

Maintain habitat connectivity within Murrieta Creek from the confluence of Temecula Creek to Cole Creek for wildlife movement and Conservation of wetland species.

Maintain Habitat for arroyo chub, California red-legged frog and western pond turtle within Murrieta Creek and Cole Creek.

We appreciate Appendix G, the MSHCP Analysis. Its analysis of Criteria Cell requirements and acreages is a sound basis for RCFC&WCD's MSHCP conformance. However, Appendix G is deficient regarding the wetland and riparian functions and values of the creek and we do not believe that MSHCP consistency has been established. For example, the project should ensure live-in habitat for the western pond turtle and arroyo chub within the project reach so that there is up- and down-stream connectivity for these species. Also, as the riparian terraces are critical for MSCHP covered species, their long term functioning should be achieved by retaining trees post-thinning that are of adequate size and through contingency plans for rebuilding following flood events that may wipe out the terraces. EHL-3

Alternatives

As in any project of this sort, employing all feasible design options to achieve the LEDPA is the fulcrum for a successful outcome. We recognize a positive direction in the modified project in the increased amount of un-mowed riparian terrace, the substitution of grade control structures for a drop structure, and substitution of buried rip rap. As the project evolves following public and agency comment, the Corps' goal should be design changes that *further* restore a more natural creek system, with less need for maintenance (particularly mowing) and sediment removal. Among the measures that the Corps should further evaluate are expansion of upstream floodplain, detention basins, and flood walls to allow step back from the creek. All unavoidable impacts from construction and maintenance should be fully and meaningfully mitigated. EHL-4

In conclusion, EHL is often frustrated by the failure of federal and state agencies to collaborate and reach mutually agreed upon solutions. Critical to such a process is for options to be fully explored technically, for this information shared and understood, and for creative advancement of environmental goals. We urge the Corps, RCFC&WCD, the California Dept. of Fish and Wildlife, FWS, EPA, and the RCA to work as partners on MSHCP conformance and on a LEDPA. EHL-5

Yours truly,

Dan Silver
Executive Director

cc: Riverside County Flood Control and Water Conservation District
Regional Conservation Authority
US Environmental Protection Agency
US Fish and Wildlife Service
California Dept. of Fish and Wildlife

Response to Comments: EHL Letter

EHL-1: The Corps and RCFC&WCD appreciate the Endangered Habitats League's review of the Draft SEA/SEIR. The Corps and RCFC&WCD coordinated with the USFWS, USEPA, CDFW, and RWQCB to address concerns and comments on the proposed Phase II design. As a result of this further coordination to address comments received during the public review period, design recommendations proposed by the USFWS, USEPA, and CDFW were considered by the Corps and RCFC&WCD to address comments regarding the Phase II design, floodplain and riverine function, and minimizing to the maximum extent impacts to biological resources. This included additional hydraulic analysis, and evaluation for engineering, project operation and maintenance, and environmental considerations. Based on the results of the hydraulic analysis and input from the resource agencies, the Phase II design has been refined further to address concerns of the resource agencies. The Phase II design refinements meets the flood risk management goals of the project, maximizes to the extent possible native habitat restoration, and minimizes to the extent possible impacts to wetland and riparian habitat function, based on significant constraints of existing development in the Phase II area. Impacts to biological resources from the Phase II design refinements are less than significant. Section 3.5 (project description) and the engineering design plan have been updated to include these design changes. Chapter 6, Biological Resources, of the Final SEA/SEIR has been clarified in regard to the project features, potential impacts to the MSHCP conservation area, and MSHCP compliance.

EHL-2: Chapter 6, Biological Resources, of the Final SEA/SEIR has been clarified in regard to the project history, project features, potential impacts to the MSHCP conservation area, and alternatives within Murrieta Creek and Proposed Constrained Linkage 13. Based on the Final SEA/SEIR, potential impacts are less than significant.

EHL-3: Chapter 6, Biological Resources, of the Final SEA/SEIR has been clarified in regard to the project features, potential impacts to western pond turtle, arroyo chub, and riparian species the MSHCP conservation goals within Murrieta Creek and Proposed Constrained Linkage 13. Based on the Final SEA/EIR, potential impacts are less than significant. See response to comment FWS-9 addressing long term function of the riparian/low-flow corridor.

EHL-4: As discussed in Chapter 1, Phase II, the subject of this EA/EIR, is a component of the overall Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, documented in the original 2000 Final EIS/EIR. Alternative 6 was identified in the Final EIS/EIR as meeting the project purpose and need as well as the Least Environmentally Damaging Practicable Alternative (LEDPA), and was ultimately authorized by Congress for design and construction. The proposed Phase II design modifications are minor modifications and refinements resulting from more detailed design of the original feasibility level design, and do not change the Corps original LEDPA determination. This EA/EIR evaluates impacts associated with minor modifications of the Phase II design. A supplemental 404(b)(1) evaluation was prepared for the proposed Phase II design modifications and no additional impacts have been identified.

As stated above, the Corps and RCFC&WCD coordinated with the USFWS, USEPA, CDFW, and RWQCB to address concerns and comments on the proposed Phase II design. Based on the results of further hydraulic analysis by the Corps and input from the resource agencies, the Phase II design has been refined further to address concerns of the resource agencies. The Phase II design refinements meets the flood risk management goals of the project, maximizes to the extent possible native habitat restoration, and minimizes to the extent possible impacts to wetland and riparian habitat function, based on significant constraints of existing development in the Phase II area. See response to EHL-1 and EPA-3 for further discussion.

The overall project includes a proposed detention basin in Phase III of the project to reduce the peak flows in Phase II. Floodwalls were evaluated and rejected in the original Feasibility Study process completed in 2000. See Chapter 3 for a summary of alternatives considered and eliminated from the 2000 Final EIS/EIR. This SEA/SEIR evaluates Phase II design refinements and does not include Phase III. Impacts to biological resources from the Phase II design refinements are less than significant. Section 3.5 (project description) and the engineering design plan have been updated to include design changes coordinated with the resource agencies. Chapter 6, Biological Resources, of the Final SEA/SEIR has been clarified in regard to the project features and potential impacts.

EHL-5: As stated above, the Corps and RCFC&WCD coordinated with the USFWS, USEPA, CDFW, and RWQCB to address concerns and comments on the proposed Phase II design. See response to EHL-1 and EHL-4 for further discussion. Impacts to biological resources from the Phase II design refinements are less than significant. Section 3.5 (project description) and the engineering design plan have been updated to include design changes coordinated with the resource agencies. Chapter 6, Biological Resources, of the Final SEA/SEIR has been clarified in regard to the project features, potential impacts to the MSHCP conservation area, and MSHCP compliance.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

JAN 3 1 2013

Ms. Josephine R. Axt, Ph.D.
Chief, Planning Division
U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711
ATTN: Ms. Tiffany Bostwick
Los Angeles, CA 90053-2325

Subject: Draft Environmental Assessment and Environmental Impact Report for the Murrieta Creek Flood Control/Environmental Restoration and Recreation Project, Riverside County, California

Dear Ms. Axt:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Assessment and Environmental Impact Report (DEA) prepared by the U.S. Army Corps of Engineers (Corps) Planning Division for the modified Phase II of the Murrieta Creek Flood Control/Environmental Restoration and Recreation Project (Phase II) in the City of Temecula, Riverside County, California. During the course of our review, we participated in an interagency meeting on December 19, 2012, hosted by the Corps and the Riverside County Flood Control and Water Conservation District (District), along with representatives of the U.S. Fish and Wildlife Service, Corps Regulatory, Santa Ana Regional Water Quality Control Board, and California Department of Fish and Wildlife. We appreciate the Corps extending the comment deadline to January 31, 2013 in response to our request.

The EPA previously provided comments expressing serious concerns with aspects of the original Murrieta Creek Flood Control Project (Project) and, separately, the District's proposed maintenance program (See enclosed comments on the Final EIS, dated December 18, 2000; and on the maintenance program, dated October 17, 2000). As you know, EPA rated the Draft EIS for the Project as "3 – Inadequate", and found that the Final EIS did not adequately respond to our comments. Although we do not consider the modifications proposed for Phase II to be of significant concern, in and of themselves, many of our previous concerns remain, with or without the proposed Phase II modifications. We are taking this opportunity to reiterate those concerns, for your consideration, in the enclosed detailed comments, and to recommend that the Corps convene a meeting with all involved federal and state agencies to resolve outstanding concerns before construction begins.

The U.S. Army Corps of Engineers (Corps) released the public notice for the DEA on December 3, 2012, for a 45-day comment period ending January 16, 2013, which was subsequently

extended until January 31, 2013. To our knowledge, there was no coordination with the EPA or any other resource agencies during the months leading up to the release of the DEA, despite the existing record of our substantial concerns regarding the Project and proposed maintenance plan. The DEA states that project construction is currently scheduled to begin in February 2013 and would be completed in August 2014, and that funding or weather may delay construction beyond 2014. The Construction schedule should allow time for consideration of comments; however, as proposed, it does not do so. We recommend that, following review of comments on the DEA, the Corps and District convene a meeting or series of meetings, as needed, with the State and federal resource agencies that would, in part, help inform an appropriate construction schedule. This schedule should allow time for the resolution of relevant outstanding issues.

EPA-1

EPA-2

With regard to the specific modifications proposed in the DEA, we appreciate those that incorporate an unmaintained riparian bench and restore native habitat to the channel. We also recognize that the vegetated, buried riprap previously constructed in the downstream Phase I of the project appears to be functioning as planned and that this method of bank armoring would replace the rock gabions proposed in the original design. We understand from the DEA and from meeting with the Corps and District that efforts have been made to maximize the amount of channel that would not need to be maintained on a regular basis, in an attempt to minimize impacts. We further appreciate the effort by the Corps and District to meet with state and federal agencies last December to discuss the Phase II modifications.

Regardless of the modifications proposed in the DEA for Phase II, we have serious continuing concerns with the fundamental project design, which we hope can be addressed through a collaborative process with the EPA and other federal and state resource agencies. The EPA still does not consider the design for Phase II, with or without modifications, to be the least environmentally damaging practicable alternative (LEDPA) consistent with the Clean Water Act Section 404(b)(1) Guidelines. Like the original Phase II design, the modified project would not adequately incorporate floodplain and riverine restoration and, as a result, would necessitate ongoing maintenance activities that would continue to degrade the channel on a regular basis. Additional information is needed, including a proper jurisdictional delineation and a record of maintenance and mitigation activities, in order to accurately assess baseline conditions and impacts to Murrieta Creek. We are also concerned that the flood control project is not consistent with the Western Riverside County Multi-Species Habitat Conservation Plan.

EPA-3

EPA-4

We strongly recommend that these important and unresolved issues be addressed prior to the start of construction. EPA is available to work with the Corps and other involved agencies to identify appropriate means of resolving our concerns.

EPA-5

Thank you for considering our comments. Please contact Paul Amato of our Wetlands Office to discuss the issues raised in this letter and to schedule future project coordination meetings. Paul can be reached by phone at (415) 972-3847, or by email at amato.paul@epa.gov.

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Office (CED-2)

Enclosures:
EPA Detailed Comments
EPA's December 18, 2000 Murrieta Creek Flood Control Project FEIS comment letter
EPA's October 17, 2000 Riverside County Flood Control District Maintenance Program comment letter

Cc via email:
Karin Cleary-Rose, U.S. Fish and Wildlife Service
Jon Avery, U.S. Fish and Wildlife Service
Jeff Brandt, California Department of Fish and Wildlife
Darren Bradford, San Diego Regional Water Quality Control Board

U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL IMPACT REPORT MURRIETA CREEK FLOOD CONTROL/ENVIRONMENTAL RESTORATION AND RECREATION PROJECT, RIVERSIDE COUNTY, CALIFORNIA, JANUARY 30, 2013

These comments highlight issues outstanding from EPA's September 5, 2000 and December 18, 2000 comments on the Draft and Final, respectively, EIS for the Murrieta Creek Flood Control Project (Project) and October 17, 2000 comments on the Riverside County Flood Control and Water Conservation District's proposed maintenance program, updated, as appropriate, to reflect the project modifications proposed in the Draft EA for Phase II of the Project.

Least Environmentally Damaging Practicable Alternative and Project Design

The proposed Phase II project continues to not be the least environmentally damaging practicable alternative (LEDPA). As stated in our September 5, 2000 DEIS comment letter, there appear to be alternatives that would avoid and minimize impacts to Murrieta Creek while meeting the project purpose of providing 100-year flood protection to the City of Temecula and complying with the 404(b)(1) Guidelines. Our September 5, 2000 letter states that since 1993, EPA has urged the Corps and District to look for alternative flood control approaches that maximize natural river and floodplain functions. It further explains that we were troubled that such an approach was not selected given the opportunities still existing in the project reaches. Specifically, we identified that Alternative 5 would meet the project purpose while allowing for more natural floodplain functions, reestablishment of vegetation, wildlife linkages, and the obviating of regular vegetation mowing, clearing and sediment removal. At the time, our focus was more on the project reaches upstream and downstream of Phase II due to the presence of undeveloped floodplain; however, many of these same opportunities for improvement can be applied within the more developed Phase II reach.

As discussed at our December 19, 2012 agency meeting, there appears to be ample right of way along portions of Phase II, especially upstream of Old Town Temecula.[1] This area could be used to create additional floodplain that would allow for the establishment of unmaintained riparian and wetland vegetation in the channel and avoid significant annual O&M impacts to wetland and riparian resources. The establishment of this more natural riverine system could provide flood protection, improve aquatic resource habitat and water quality, and reduce maintenance needs by providing increased stability and improved sediment transport. As proposed, the Phase II reach would include an over widened channel that would continue to deposit excessive amounts of sediment and support largely emergent wetland vegetation resulting in continued mowing and dredging on a regular basis. In the more constrained reach through Old Town Temecula, the Corps and District should consider alternatives that trade maintenance roads and soil cement banks for wider, less maintained cross-sections. Similar approaches have been designed for other urban river systems.

[1] For example, right-of-way between Murrieta Creek Channel and Diaz Road appear to be upwards of 200 feet in some areas.

Recommendations:

- Where right of way permits, the Corps and District should study alternatives that widen the channel cross-section and establish a recessed floodplain that would allow for the establishment of unmaintained, or relatively unmaintained, riparian and wetland vegetation along both sides of a higher frequency flow, bankfull discharge channel. EPA-6
- Abandoning one or both maintenance roads and constructing top-of-bank floodwalls should be assessed for the Old Town Temecula section of Murrieta Creek. Emphasis should be on designing and constructing a channel cross-section and/or floodwalls that would contain the design flood, avoid the use of soil cement slopes, and preserve natural channel bed and bank functions through reduced maintenance. EPA-7
- A review of urban river flood protection projects, including Corps projects, that have constructed nested floodplain and natural channel design should be conducted to inform the design for Murrieta Creek. Examples in California include the Napa River and the Upper Guadalupe River in San Jose. EPA-8

Reasons for narrowing the channel at Via Montezuma are not clear. Based on the project designs, the channel would be narrowed upstream and downstream of the existing Via Montezuma at-grade crossing. According to the DEA, the City of Temecula plans to build a bridge at this location at some point in the future. Though not stated, it would appear that the channel cross-section may be narrower at this location to accommodate a shorter bridge. If this is the case, the channel cross-section should be based on feasibility under current conditions and not a future bridge project.

Recommendation:

Please clarify the reason for the narrower cross-section at Via Montezuma and discuss whether a wider cross-section would be feasible as part of a wider channel floodplain alternative. EPA-9

Waters of the United States

Waters of the U.S. do not appear to be properly delineated. As stated in our DEIS comment letter, acres of waters of the U.S., including wetlands, in the project area should be properly delineated. This would involve using the Corps' Wetland Delineation Manual and Arid West Supplement. Instead, it appears that aquatic resources are identified by vegetation type only. The delineations should also take into account temporal changes in the presence of vegetated wetlands in the project reach. One area where the current method appears to result in inaccuracy is Table 6-1 and the statement on page 47 that, "approximately 0.90 acre of freshwater marsh and freshwater marsh/mowed channel habitat occur within the Phase II project area." Based on EPA staff observations in the field on December 19, 2012, a significant portion of the channel, especially upstream from Old Town Temecula, is dominated by freshwater marsh, including marsh that has been mowed. A proper wetland delineation should be completed to accurately identify the type, amount and distribution of different wetland types that would be directly or indirectly affected by the Phase II project. This information is especially important to include in the NEPA document since there is no public notice for a Corps permit where this information would otherwise be provided.

Recommendation:
Provide a proper jurisdictional delineation before commencing with the project. Maps of different wetland types and an overlay of project construction and areas where O&M will occur should be included, as well as a table that quantifies the total area and expected direct and indirect impacts to waters of the U.S. EPA-10

Determination of Project Baseline Conditions

The baseline for determining project impacts should consider whether ongoing maintenance has been authorized. As discussed at the December 19, 2012 meeting in Temecula, the Corps considers the current, regularly maintained channel to be the baseline condition for the environmental impact assessment of Phase II modifications. It is our understanding that the District conducted vegetation and sediment removal under emergency authorization in 1993 and subsequent authorizations in 1997 and 1998. It remains unclear, however, to what extent these activities were mitigated, whether maintenance activities since then have been authorized and mitigated, and whether the District received permits for the flood maintenance program that the EPA commented on in our October 17, 2000 "will affect" ARNI letter. We are unable to locate any written response from the Corps. We believe that these activities have contributed significantly to cumulative degradation and ongoing direct impacts to the river channel and that the baseline for impacts of the Phase II project should only consider conditions that have resulted from properly authorized and mitigated activities. The 1992[2] and 2000[3] wetland delineations may provide a more accurate baseline condition for comparison of Phase II project wetland impacts.

Recommendations:

- Please clarify the status of permits and mitigation for maintenance activities in the Phase II project reach, including any written response to the EPA's or U.S. Fish and Wildlife Service's ARNI letters for the proposed flood maintenance program, in order to verify that the baseline is reflective of authorized activities only. EPA-11
- Assess whether conditions in the 1992 and 2000 wetland delineation reports are more appropriate for baseline conditions and the determination of Phase II impacts. EPA-12

Operations and Maintenance Impacts

Long-term O&M for the modified Phase II project will perpetuate ongoing degradation of wetland and riparian resources in Murrieta Creek. The DEA states that most of the wetland vegetation is mowed annually, and sediment is excavated as needed to maintain flood capacity; these ongoing actions limit habitat functions and the long-term establishment of complex wetland and riparian habitat (page 73). The DEA further concludes that these activities would continue within approximately 120 feet of the channel bottom, and avoid an average 70-foot wide unmaintained riparian bench. The re-establishment and exclusion of riparian vegetation from maintenance activities would improve current conditions, but ongoing O&M would

[2] *Delineation of Wetlands of the Murrieta Creek Flood Control Project Riverside County, California*, Jones & Stokes Associates 1992
[3] *Murrieta Creek FMP Project Wetland Delineation*, Dudek and Associates 2000

continue to limit habitat establishment and water quality improvements that could otherwise occur under a less intensive O&M regime.

The District will need to apply to the Corps Los Angeles District Regulatory Program for CWA Section 404 authorization to conduct certain maintenance activities. The O&M activities will be directly tied to the final project design. It is, therefore, critical that the Corps account for long-term O&M obligations of the District and select a practicable alternative that reduces these obligations and the negative environmental impacts that would result. Corps Regulatory will need to make a determination on whether the District's proposed O&M activities meet the "minimal adverse effects" threshold for a regional general permit (RGP) or whether a standard individual permit (IP) is appropriate. If the latter, the Corps must approve the LEDPA consistent with the 404(b)(1) Guidelines. The EPA's preliminary opinion is that an O&M plan for the proposed Phase II project would not qualify for an RGP, based on cumulative effects to Murrieta Creek, and that an IP, based on an appropriate LEDPA determination and compensatory mitigation plan, would be required.

EPA is concerned that compensatory mitigation has not been provided for past maintenance activities in Murrieta Creek. Our October 17, 2000 letter commenting on the proposed flood maintenance program stated that the Corps had deferred mitigation for 1993, 1997, and 1998 maintenance authorizations with the expectation that one-time mitigation would be addressed during the authorization for the District's flood maintenance program. We also understand that bank repair projects in Murrieta Creek have been routinely approved under Regional General Permit (RGP) 63 for emergencies where discharges of fill are determined to be necessary to prevent the imminent loss of human life or property.

Recommendations:

- The Corps and the District should reconsider Phase II designs that obviate or greatly reduce the need for O&M in Murrieta Creek. If the project proceeds as proposed, the EPA will likely determine that the future O&M program will have a substantial effect on Murrieta Creek, an aquatic resource of national importance (ARNI) consistent with our 1992 Memorandum with the Corps. EPA-13
- The future O&M plan for Phase II should include commitments for compensatory mitigation. Absent any Corps approved mitigation banks or in-lieu fee programs, the District should seek opportunities within their own right-of-ways where regionally significant wetland restoration, enhancement, establishment and preservation opportunities can be developed consistent with the Corps and EPA 2008 Compensatory Mitigation Rule. EPA-14
- A future O&M plan should include procedures that would, to the extent possible, avoid the need to apply for emergency approval under RGP 63. EPA-15

Consistency with the Existing Habitat Conservation Plan

The proposed Phase II design, if implemented, would conflict with the conservation goals of the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP). Murrieta Creek is part of Constrained Linkage 13, for which the MSHCP states, "*care must be taken to maintain high quality riparian habitat within the Linkage and along the edges for species such as yellow*

warbler, yellow-breasted chat, and least Bell's vireo, which have key populations located in or along the creek. Maintenance of existing floodplain processes and water quality along the creek is also important to western pond turtle and arroyo chub in this area."[4] The proposed project would allow for the unmaintained growth of very limited areas of riparian vegetation and periodic channel maintenance. It would also significantly degrade or eliminate habitats and connectivity for MSHCP covered species that depend upon Murrieta Creek in the long-term, especially arroyo chub and western pond turtle. The proposed project would conflict with the conservation of aquatic and riparian resources of Murrieta Creek that are expected and required under the MSHCP. Additionally, the proposed periodic vegetation maintenance in Murrieta Creek over the 50-year life of the project would not provide for adequate linkages and corridors required under the MSHCP for Constrained Linkage 13.

Recommendation:

The Corps and District should evaluate project design alternatives that would fully support the conservation goals and requirements of the MSHCP by restoring high quality riparian and in-stream habitat and eliminating, or greatly reducing, in-channel maintenance requirements within Murrieta Creek and Constrained Linkage 13. EPA-16

[4] See Section 3.2.3 Cores and Linkages within the MSHCP Conservation Area

Response to Comments: EPA Letter

EPA-1: Coordination with resource agencies occurred prior to the release of the DEA. A field meeting was held on October 15, 2012 at the project site to discuss Phase II of the project and receive input from the resource agencies. The USFWS, CDFW, RWQCB, RCFC&WCD, and the Corps participated.

EPA-2: As discussed in Chapter 1, Phase II, the subject of this EA/EIR, is a component of the overall Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, documented in the original 2000 EIS/EIR. This EA/EIR evaluates impacts associated with minor modifications of the Phase II design. The Phase II construction schedule has been revised to start in 2014 to allow for additional time for continued coordination and analysis to address and resolve the concerns expressed in the comment letters received during the Draft SEA/EIR public review period. The Corps and RCFC&WCD met with USFWS, CDFW, RWQCB and USEPA staff on December 19, 2012, and June 19, 2013 to review the comments received during the public review period, discuss how the Corps is proposing to address the comments, present further analysis performed to address comments, and to receive additional clarification from the agencies. A conference call was held on March 18, 2014 to further coordinate with the USFWS, CDFW, RWQCB, and USEPA of design changes proposed to address the agencies concerns, to the extent possible. Chapter 3.5 has been updated to incorporate the designed changes into the project description, and the engineering design plans has been updated.

EPA-3: The primary purpose of the project is to reduce the risk of flooding along Murrieta Creek. Aside from its primary objective of flood risk management, the project would also protect, establish, and maintain a rich and diverse biotic community to the extent possible while maintaining the project's flood risk management goals. Through the Corps' feasibility study process, a full array of alternatives was formulated in consideration of planning objectives and constraints, including identification and evaluation of both non-structural and structural measures. Six alternatives were identified for further detailed environmental analysis in the 2000 EIS/EIR. Alternative 6 was identified as meeting the project purpose and need as well as the Least Environmentally Damaging Practicable Alternative (LEDPA), and was ultimately authorized by Congress for design and construction. The proposed Phase II design modifications are minor modifications and refinements resulting from more detailed design of the original feasibility level design, and do not change the Corps original LEDPA determination. A supplemental 404(b)(1) evaluation was prepared for the proposed Phase II design modifications and no additional impacts have been identified.

The design of Phase II, the subject of this SEA/EIR, is confined to the existing RCFC&WCD maintained right-of-way for the project. Urban development exists on both sides of the creek bank which also significantly limits the area available for the proposed channel modifications. The proposed Phase II design modifications incorporate a channel cross section width that utilizes the area within the existing right-of-way that avoids impacts to existing and planned utilities and facilities. Additionally, the proposed design also incorporates an unmaintained zone that would support approximately 23.67 acres of native riparian vegetation and aquatic area. Refer to Table 6.4 in Chapter 6, Biological Resources, of the SEA/EIR for temporary/permanent impacts and benefits acreage comparison, Table 6-5 for acreages of the Phase II features and

associated vegetation types, and Table 6-6 for summary of impacts to waters of the U.S., wetlands, and State Streambed/banks. This is an increase of overall native vegetation within the existing maintained creek channel. While regular vegetation maintenance of the channel would be required as part of the proposed Phase II design, the area to be subject to regular vegetation maintenance would be less than is currently maintained by the RCFC&WCD, a decrease in impacts to habitat (see Section 6.2.1.2).

The Corps and RCFC&WCD coordinated with the USFWS, USEPA, CDFW, and RWQCB to address their concerns and comments on the proposed Phase II design. As a result of this further coordination to address comments received during the public review period, design recommendations proposed by the USFWS, USEPA, and CDFW were considered by the Corps and RCFC&WCD to address comments regarding the Phase II design, floodplain and riverine function, and minimizing to the maximum extent impacts to biological resources. This included additional hydraulic analysis, and evaluation for engineering, project operation and maintenance, and environmental considerations. Based on the results of the hydraulic analysis and input from the resource agencies, the Phase II design has been refined further to address concerns of the resource agencies. The Phase II design refinements meet the flood risk management goals of the project and maximizes to the extent possible native habitat restoration based on significant constraints of existing development in the Phase II area. Impacts to biological resources from the Phase II design refinements are less than significant. Section 3.5 (project description) and the engineering design plan have been updated to include these design changes.

In response to the USEPA comment for a jurisdictional delineation, the Corps confirmed the jurisdictional delineation of the Phase II area in February 2013. The delineation results have been incorporated into Chapter 6, Biological Resources of the Final SEA/EIR, and are not significantly different from the biological resources described in the Draft SEA/EIR. Clarification of impacts to wetlands and waters of the U.S. based on the proposed Phase II design has also been included in Chapter 6. Additionally, Chapter 6 Biological Resources of the Final SEA/EIR clarifies the regulatory permitting history for RCFC&WCD's current maintenance operations within Murrieta Creek.

In conclusion, the existing environmental conditions within the Phase II area are the appropriate NEPA/CEQA baseline conditions to evaluate the Phase II Project.

EPA-4 Chapter 6, Biological Resources, of the Final SEA/EIR has been clarified in regard to the project features, potential impacts to the MSHCP conservation area, and MSHCP compliance. Based on the Final SEA/EIR, potential impacts are less than significant.

EPA-5: The Corps and RCFC&WCD appreciate the opportunity to have met with the resource agencies on December 19, 2012 and June 19, 2013, and participate in a conference call on March 18, 2014 to work through the agencies' concerns and find a feasible resolution that meets the need and purpose of the project within the requirements of applicable environmental laws and regulations, Corps policy, and the previous Congressional authorization and RCFC&WCD approvals of the project. As discussed in response to comment EPA-2, Chapter 3.5 has been updated to incorporate the designed changes coordinated with your office into the project description, and the engineering design plans has been updated.

EPA-6: See response to EPA-3.

EPA-7: Maintenance roads are required along the top of the channel bank on both sides of the channel for access to the channel for required inspections and perform operation and maintenance actions. Removal of a maintenance road would prohibit access to the channel to conduct the required inspections and operation and maintenance.

The proposed bank protection through the Old Town section of the Phase II project area is soil cement. The original design identified in the 2000 Feasibility Study included rock gabions, however, during detailed design of Phase II, the design engineers determined that rock gabions would not be an effective bank protection and would require more frequent repairs and associated increase of channel disturbance. Soil cement was determined to be the most effective bank protection design due to the steep slope grade through this creek section, effective bank protection properties, and reduced operation and maintenance requirements associated with this design.

EPA-8: The USEPA recommended a review of other urban river flood risk management projects, including the Napa River and the Upper Guadalupe River in San Jose, to inform the Murrieta Creek design. The major differences between those projects and Murrieta Creek are the local hydrology and hydraulics, and the area available for designing of a flood risk management facility. Phase II has been designed as part of an overall flood risk management system, which includes upstream and downstream channel modifications. A major factor for the Phase II area is the limited space available. The overall flood risk management design including Phase II maximizes the available space to accommodate the 100-year flow event (0.01 AEP) as well as include opportunities to provide for riparian and wetland habitat within the creek. As discussed in the Final SEA/EIR, alternatives and other design refinements to further maximize the amount of available riparian and wetland habitat within the creek as well as opportunities to reduce future maintenance requirements have been evaluated and found to be infeasible.

EPA-9: The proposed channel width in the vicinity of Via Montezuma crossing is based on the existing right-of-way limits for constructing the project as well as the existing City of Temecula bicycle trail facility. The proposed channel width at Via Montezuma is consistent with the proposed channel width throughout this segment of the creek, which generally range in width from approximately 200 to 230 feet between Winchester Road Bridge and Via Montezuma. Under the proposed Phase II design, Via Montezuma would be removed, thus restoring about an additional 0.2 acres of creek bottom at this location. The proposed Overland Bridge would be built approximately 2,300 feet upstream of the current Via Montezuma crossing, not at the current the Via Montezuma crossing location.Therefore, the Phase II design at Via Montezuma is not based on accommodating the proposed Overland Bridge. See response to EPA-3 for discussion on the feasibility of a wider channel bottom.

EPA-10: The jurisdictional delineation for the Phase II area was updated. Maps, results, and clarification of impacts to jurisdictional habitat has been included in Chapter 6, Biological Resources, of the Final SEA/EIR. The updated results are similar to previous mapping and impacts to jurisdictional areas are less than significant.

EPA-11: The Corps maintains that the Phase II baseline conditions documented in the Draft SEA/EIR, which includes the RCFC&WCD's current regular maintenance mowing of the creek bed is an appropriate baseline. As stated during the June 19, 2013 meeting, all maintenance, including vegetation mowing and emergency channel repairs, conducted to date within the Phase II area by the RCFC&WCD has been authorized (permitted) and mitigated, as required, through natural recovery and invasive species control. No additional mitigation has been required by the permitting agencies. The following is a summary of the coordination history between RCFC&WCD and the Corps Regulatory Division.

In February 3, 1993, the RCFC&WCD and co-permittees (City of Temecula and Kemper Real Estate Management) requested and received a Section 404 individual permit, and associated extensions, for emergency repairs within Murrieta Creek following flooding of Temecula earlier that year. Mitigation required by the Corps Regulatory Division included natural revegetation and invasive species control (July 15, 1994). In a letter dated July 30, 1996, the Corps Regulatory Division considered all terms and conditions of the permit (No. 93-00291) satisfied contingent upon the RCFC&WCD and City of Temecula controlling giant reed and tamarisk as part of on-going channel maintenance. Control of invasive species per the requirements of this permit has been met.

In a letter dated August 15, 1996, the Corps Regulatory Division determined that the mowing of vegetation within Murrieta Creek using the ASV Posi-Track MD 70 rubber-tracked vehicle equipped with a front-mounted rotary mowing attachment would not require Section 404 authorization. The regular mowing of Murrieta Creek within the Phase II area by RCFC&WCD has been performed consistent with the jurisdictional determination made by the Corps Regulatory Division that a 404 permit is not needed.

During the years 1996 to 1998, various emergency repairs and maintenance actions were performed by the RCFC&WCD in accordance with RGP 63 (Repair and Protection Activities in Emergency Situations), NWP 31 (Maintenance of Existing Flood Control Facilities, and RGP 41 (Removal of Invasive, Exotic Plants). No mitigation was required for those activities.

In 1999, the RCFC&WCD began coordination with the Corps Regulatory Division and applied for a 404 permit for the proposed Channel Maintenance Plan (CMP) for Murrieta Creek (USGS gauging station to Tenaja Road). The Corps Regulatory Division received comment letters from USEPA and USFWS expressing concern that the proposed CMP may have a substantial and unacceptable impact on the resources within Murrieta Creek, which USEPA and USFWS contended that aquatic resources associated with this riverine system are considered an aquatic resource of national importance (ARNI). After further coordination efforts, RCFC&WCD has not pursued the Section 404 permit for the CMP.

It is the intent of RCFC&WCD to mow the Phase II maintained invert area through consistent with the Corps Regulatory Division's previous jurisdictional determination documented in the August 15, 1996 letter, the OMRR&R Manual prepared by the Corps, and any necessary permits to perform maintenance. Once Phase II of the Corps Federal flood risk management, ecosystem restoration, and recreation project is conveyed from the Corps to RCFC&WCD, the RCFC&WCD would be responsible for operating and maintaining the project according to the OMRR&R Manual which would supersede the CMP The SEA/EIR prepared for Phase II

addresses the construction of the proposed channel modifications by the Corps and long term operation and maintenance by the RCFC&WCD. All applicable permits, authorizations and approvals that have, are being, or would be sought for Phase II, are for construction and long term operation and maintenance as proposed in the SEA/EIR. As a result, the RCFC&WCD would not further pursue permitting and implementation of the CMP for Phase II of the Federal project

As described in the Draft SEA/EIR, discussed during the June 19, 2013 meeting, and further clarified in the Final SEA/EIR, the proposed design incorporates 23.67 acres of unmaintained vegetated/low-flow corridor. This is an increase of overall native vegetation above the existing environmental baseline.

Refer to Table 6.4 in Chapter 6, Biological Resources, of the SEA/EIR showing the Phase II net gain above the existing environmental baseline. This is an increase of overall native vegetation within the existing maintained creek channel. While regular vegetation maintenance of the channel would be required as part of the proposed Phase II design, the area to be subject to regular vegetation maintenance would be less than is currently maintained by the RCFC&WCD, a decrease in impacts to habitat. Therefore, the SEA/EIR includes an accurate description of the existing environmental baseline and the necessary environmental commitments to ensure that potential impacts are less than significant.

EPA-12: The Corps has determined that the Phase II baseline conditions documented in the Draft SEA/EIR, which includes the RCFC&WCD's current regular maintenance mowing of the creek bed is an appropriate baseline. A jurisdictional delineation for the Phase II area was completed in February 2013 to confirm that the existing jurisdictional areas are similar to past delineations. For clarification, maps, results, and analysis of impacts to jurisdictional habitat have been included in Chapter 6, Biological Resources, of the Final SEA/EIR.

EPA-13: See response to EPA-3.

EPA-14: See response in EPA-3 for explanation of why channel widening and maintenance reduction alternatives are not feasible and therefore not included in the Phase II project.

EPA-15: Comment noted. It is anticipated that the OMRR&R Manual for Phase II would include all reasonably foreseeable requirements for operation and maintenance of the flood risk management channel and habitat restoration areas. Additionally, the Modified Phase II Plan is expected to reduce the need for emergency work approval under Regional General Permit 63. Based on past experience, emergency work has been needed due to slope erosion.

EPA-16: Chapter 6, Biological Resources, of the Final SEA/EIR has been clarified in regard to the project history, project features, potential impacts to the MSHCP conservation area, and alternatives within Murrieta Creek and Proposed Constrained Linkage 13. Based on the Final SEA/EIR, potential impacts are less than significant.

NATIVE AMERICAN HERITAGE COMMISSION
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December 19, 2012

Mr. Arturo Diaz,

U.S. Army Corps of Engineers / Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, CA 92501

Re: SCH#2000071051; Joint Document: NEPA Environmental Assessment (EA) and CEQA Subsequent Environmental Impact Report (SEIR) for the **"Murrieta Creek Flood Control/Environmental Restoration and Recreation Project;"** located in the Temecula area; Riverside County, California

Dear Mr. Diaz:

The California Native American Heritage Commission (NAHC) is the State of California 'trustee agency' for the preservation and protection of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties or resources of religious and cultural significance to American Indian tribes law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendment s effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC advises the Lead Agency to request a Sacred Lands File search of the NAHC if one has not been done for the 'area of potential effect' or APE previously.

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway.

Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties, including archaeological studies. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and California Public Resources Code Section 21083.2 (Archaeological Resources) that requires documentation, data recovery of cultural resources, construction to avoid sites and the possible use of covenant easements to protect sites.

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

Native American Contacts
Riverside County
December 19, 2012

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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2000071051; Joint Document: NEPA Environmental Assiessment (EA) and CEQA Subsequent EIR (SEIR) for the Murrieta Creek Phase II Project; located in the Temecula area of southwestern Riverside County, California.

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Riverside County
December 19, 2012

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This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2000071051; Joint Document: NEPA Environmental Assiessment (EA) and CEQA Subsequent EIR (SEIR) for the Murrieta Creek Phase II Project; located in the Temecula area of southwestern Riverside County, California.

Response to Comments: NAHC Letter

Response: The Corps has completed all applicable requirements to comply with the National Historic Preservation Act for this project.

PECHANGA CULTURAL RESOURCES
Temecula Band of Luiseño Mission Indians

Post Office. Box 2183 • Temecula, CA 92593
Telephone (951) 308-9295 • Fax (951) 506-9491

January 18, 2013

VIA E-MAIL and USPS

Ms. Josephine R. Axt
Chief, Planning Division
U.S. Army Corps of Engineers
Los Angeles District
P. O. Box 532711
Attn: Ms. Tiffany Bostwick
Los Angeles, CA 90053-2325

Re: Pechanga Tribe Comments on the Draft Supplemental Environmental Assessment/Environmental Impact Report (DSEA/EIR) for Phase II of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project

Dear Ms. Axt:

This comment letter is written on behalf of the Pechanga Band of Luiseño Indians (hereinafter, "the Tribe"), a federally recognized Indian tribe and sovereign government. The Tribe formally requests to be notified and involved in the entire CEQA/NEPA environmental review process for the duration of the above referenced project (the "Project"). Please add the Tribe to your distribution list(s) for public notices and circulation of all documents, including environmental review documents, archeological reports, and all documents pertaining to this Project. The Tribe further requests to be directly notified of all public hearings and scheduled approvals concerning this Project. Please also incorporate these comments into the record of approval for this Project.

The Tribe submits these comments concerning the Project's potential impacts to cultural resources in conjunction with the environmental review of the Project and to assist the US Army Corps of Engineers (the "Corps") in developing appropriate avoidance and preservation standards for impacts to cultural resources that may occur during project implementation. Murrieta Creek is an important waterway to the Luiseño People and figures prominently in the Tribe's Creation accounts and oral tradition. The Tribe is also aware that the Phase II portion of Murrieta Creek flows through two Luiseño villages and through the Tribe's Origin Area, which is a Traditional Cultural Property (TCP). Much of this information has been confidential and kept within the Tribe's databanks; however, as more projects impact the Origin Area, we are providing the information below to assist with project planning, archaeological studies and traditional landscape analysis.

The Tribe appreciates the mitigation measures that allows for archaeological monitoring. However, we are concerned that there is no tribal monitoring on the Project, especially in such a sensitive area. The Tribe highly recommends that the Corps require both tribal and archaeological monitoring. Further information is below.

THE ARMY CORPS OF ENGINEERS MUST INCLUDE INVOLVEMENT OF AND CONSULTATION WITH THE PECHANGA TRIBE IN ITS ENVIRONMENTAL REVIEW PROCESS

It has been the intent of the Federal Government[1] and the State of California[2] that Indian tribes be consulted with regard to issues which impact cultural and spiritual resources, as well as other governmental concerns. The responsibility to consult with Indian tribes stems from the unique government-to-government relationship between the United States and Indian tribes. This arises when tribal interests are affected by the actions of governmental agencies and departments. In this case, it is undisputed that the project lies within the Pechanga Tribe's traditional territory. Therefore, in order to comply with CEQA, NEPA and other applicable Federal and California law, it is imperative that the Corps consult with the Tribe in order to guarantee an adequate knowledge base to appropriately evaluate the Project effects, as well as to generate adequate mitigation measures.

The SEA/EIR states that consultation with the Tribe occurred in 2006/2007 on this Project. Unfortunately, the Tribe does not have any documentation received from the Corps from that time. Further, it states that there are no sites within the APE that are eligible for the National Register of Historic Places (NRHP). Documentation on the Luiseño Ancestral Origin Landscape Area, a Traditional Cultural Property, is the most confidential information that the Tribe maintains. As stated above, it has only been recently that we have been able to provide a comprehensive account of this area to our Lead Agencies. Per Bulletin 38, TCPs must be addressed in environmental documents and are generally considered as NRHP eligible properties. A brief summary of the resources, both tangible and intangible, were provided to the Corps in our November 5, 2012 Notice of Preparation letter. Further, representatives of the Tribe met at the Project site with Steven Dibble from the Corps on January 14, 2013. We appreciate the information Mr. Dibble presented which has assisted with these comments.

PECHANGA CULTURAL AFFILIATION TO PROJECT AREA

The Pechanga Tribe informs the Corps that the Project area is within the Luiseño Ancestral Origin Landscape Area which includes Luiseño place names, *tóota yixélval* (rock art, pictographs, and petroglyphs), Village Complexes, a TCP, sacred places and other tangible and

[1]See e.g., Executive Memorandum of April 29, 1994 on Government-to-Government Relations with Native American Tribal Governments, Executive Order of November 6, 2000 on Consultation and Coordination with Indian Tribal Governments, Executive Memorandum of September 23, 2004 on Government-to-Government Relationships with Tribal Governments, and Executive Memorandum of November 5, 2009 on Tribal Consultation.
[2] See California Public Resource Code §5097.9 et seq.; California Government Code §§65351, 65352.3 and 65352.4

intangible tribal heritage resources. Please understand that the above information may not be exhaustive of all the cultural resources that may be impacted by this Project. Based upon our oral tradition, ethnographic studies and historic documents, *the Origin Landscape is one of the most sacred areas to the Tribe and is presently included in the Sacred Lands File with the State Native American Heritage Commission and is considered by the Tribe to be eligible for both the California and National Registers of Historic Places.*

The Pechanga Tribe's knowledge of our ancestral boundaries is based on reliable information passed down to us from our elders; published academic works in the areas of anthropology, history and ethno-history; and through recorded ethnographic and linguistic accounts. Of the many anthropologists and historians who have presented boundaries of the Luiseño traditional territory, none have excluded the Temecula area from their descriptions (Sparkman 1908; Kroeber 1925; White 1963; Harvey 1974; Oxendine 1983; Smith and Freers 1994), and such territory descriptions correspond almost identically with that communicated to the Pechanga people by our elders. While historic accounts and anthropological and linguistic theories are important in determining traditional Luiseño territory, the most critical sources of information used to define our traditional territories are our songs, creation accounts, and oral traditions.

According to the Luiseño Creation account, in the beginning there was nothing *Kíwvish 'atáxvish* (KEYW-vish ah-TAH-vish) meaning 'empty', 'unpopulated.' Several periods of time passed during which things began to take shape. This is where the Luiseño Origin recounted in ancestral songs say *Túukumit* (TOO-koo-mit, Father Night Sky) and *Tamáayawut* (Ta-MAI-yah-whoot, Mother Day Earth) created the world. When *Túukumit* and *Tamáayawut* became one, their first offspring were earth and sand, which in Luiseño are *'éxla* (EXH-la) and *'éxval* (EXH-vol). *'Éxva Teméeku* is therefore in reference to the first offspring of *Túukumit* and *Tamáayawut* (Elliott n.d.:1069). Their children were known as the first people or *Káamalam* (KAH-mah-lam) and were all things, including mammals, birds, trees, fog, and rocks. The birth of the world took place near the confluence of what is now known as the confluence of the Temecula River and Murrieta Creek which form the Santa Margarita River.

The last of the *Káamalam* born was *Wuyóot* (We-YOHT). He was innately gifted with knowledge and he knew how to make the first food, *tóovish* (TOH-vish, white clay), to feed the *Káamalam*. It is said *Wuyóot* gave the people ceremonial songs when he lived at *'Éxva Teméeku,* which are still sung today (Dubois 1908: 116-117). According to the Creation narratives, *Wuyóot* was poisoned, and in an attempt to be cured, he visited several hot springs throughout the area that is now recognized as Luiseño territory. Several of the traditional songs relate this account of the people taking the dying *Wuyóot* to various hot springs, which included *Churúkunuknu Šákiwuna*, Murrieta Hot Springs, meaning 'sliding place where hot water bubbles', and *'iténgvu Wumówmu*, the hot springs at Lake Elsinore, where he died at the end of his journey. As he traveled to these various springs, *Wuyóot* also named the increments of time that had passed, which became the months of the Luiseño calendar. During this time, he taught the First People all of his knowledge (Dubois 1908; Roberts 1933: 6-7).

Upon *Wuyóot's* death, he was taken to *'Éxva Teméeku* and cremated. *Wuyóot's* passing was the first death of the *Káamalam*. Death did not exist before this time. The *Káamalam* were so overcome with grief that the quail, roadrunner, and woodpecker cut their hair. This is a mourning custom still practiced today. The rocks and trees cried. *Wuyóot's* death frightened the people, but to console the *Káamalam*, he was resurrected as *Móyla* (moon). Before that event, night had only been known to be full of darkness. The *Káamalam* knew *Móyla-Wuyóot* would always be with them. It is said after *Wuyóot's* death, they called a Grand Council at *Káamalam Pomkí,* located in the hills above *'Éxva Teméeku*. Upon the conclusion of this meeting, the First People dispersed to all corners of Creation, which is now recognized as Luiseño territory.

Before European contact, the people lived along the banks of the Murrieta and Temecula creeks in several locations in the valley. The river provided water year round from its many contributory springs, thus allowing the People to leave here year round, rather than seasonally. The valley is known to us today as and contains the village of *Teméku,* which was changed to Temcula when Spanish-speaking settlers arrived in the valley.

The Pechanga Tribe recognizes *'Éxva Teméku, Teméku* and the larger Temecula Village area as a Traditional Cultural Property (TCP). Portions of this TCP cover the Murrieta Creek Project as well. These three regions, although covering distinct time periods, represent one continuous occupation of the valley, from the Creation of the world, to the creation of the historical village, to the establishment of the Pechanga Reservation. This region is the most important locality for the Luiseño People; it is the place of their origin and where cultural social norms and practices were received. The Pechanga Tribe identifies these important places that are connected to the Creation as the Luiseño Origin Area, a TCP. A portion of *'Éxva Teméku* was listed on the National Register of Historic Places (NRHP) in 1972 (P-33-011443).

In addition to the TCP area, the Tribe knows that the northern portion of the Project is located in the village of *Qéngva.* This village was extensive, primarily residing on a bench overlooking Murrieta Creek. It extended east and southward, where the inhabitants would have utilized the abundant plant and animal resources in the area. In fact, the Tribe has several named places that refer to plant collecting areas and at least two areas where cottonwoods were abundant and where deer was hunted. This area was widely and heavily utilized by the Tribe's ancestors.

The Tribe's research and over 35 years of experience has shown that the Luiseño ancestors often buried their dead next to waterways and on creek banks. Therefore, working in and around large creeks, streams and tributaries raises serious concerns for the Tribe as the potential for indentifying human remains during earthmoving activities increases. Furthermore, the potential for identifying buried cultural resources within the Creek bed is high. Most recently, the 1993 flooding event that occurred in Temecula caused a large amount of soil and debris to be washed downstream. Thus, the potential for cultural resources to have also been washed downstream and buried in the sand and silt is high.

Our songs and stories, our indigenous place names, as well as academic works, demonstrate that the Luiseño people who occupied what we know today as Temecula and Murrieta are ancestors of the present-day Luiseño/Pechanga people, and as such, Pechanga is culturally affiliated to this geographic area. The Tribe welcomes the opportunity to meet with the Corps to further explain and provide documentation concerning our specific cultural affiliation to lands within your jurisdiction, if desired.

REQUESTED TRIBAL INVOLVEMENT AND MITIGATION

Given the geographical area within which the Project lies, and the Project's proximity to recorded and known archaeological and cultural resources, the Project's impacts must be carefully considered concerning such impacts. **At this time, the Tribe is opposed to any direct, indirect and cumulative impacts this Project may have to tribal heritage resources.**

The Tribe believes that both archaeological and tribal monitoring should be made as a condition of approval and included in the mitigation measures for the Project. To assist the Corps, the Tribe already has an existing Master Services Agreement with Riverside County Flood Control. Implementation of tribal monitoring is in conformance with the MSA and is also recommended by Flood Control for this Project.

Furthermore, CEQA Guidelines state that lead agencies should make provisions for inadvertent discoveries of cultural resources (CEQA Guidelines §15064.5). The Tribe believes that adequate cultural resources assessments and management must always include a component which addresses inadvertent discoveries. Every major State and Federal law dealing with cultural resources includes provisions addressing inadvertent discoveries (See e.g.: CEQA (Cal. Pub. Resources Code §21083.2(i); 14 CCR §1506.5(f)); Section 106 (36 CFR §800.13); NAGPRA (43 CFR §10.4). Moreover, most state and federal agencies have guidelines or provisions for addressing inadvertent discoveries (See e.g.: FHWA, Section 4(f) Regulations - 771.135(g); CALTRANS, Standard Environmental Reference - 5- 10.2 and 5-10.3). Because of the extensive presence of the Tribe's ancestors within the Project area, we anticipate that cultural resources will be identified within the banks and possibly buried in the Creek bed. Such cultural resources and artifacts are significant to the Tribe as they are reminders of their ancestors. Moreover, the Tribe is expected to protect and assure that all cultural sites of its ancestors are appropriately treated in a respectful manner. Therefore, as noted previously, it is crucial to adequately address the potential for inadvertent discoveries.

Further, the Pechanga Tribe believes that if human remains are discovered, State law would apply and the mitigation measures for the permit must account for this. According to the California Public Resources Code, § 5097.98, if Native American human remains are discovered, the Native American Heritage Commission must name a "most likely descendant," who shall be consulted as to the appropriate disposition of the remains. Given the Project's location in

Pechanga territory, the Pechanga Tribe intends to assert its right pursuant to California law with regard to any remains or items discovered in the course of this Project.

PROJECT MITIGATION MEASURES

The Tribe believes that the mitigation measures as drafted are not sufficient to allow for adequate protection of cultural resources should they be discovered during earthmoving activates. Therefore, the Tribe suggests that the following mitigation measures be included in the final documents. Additionally, once the Tribe receives the development plans, we may refine our areas of requested monitoring and expressly reserve our right to provide additional suggestion if new information becomes available. At this time, we are requesting monitoring of the entire Project. We are providing some additional mitigation language below. However, please note that many of our requests will be addressed under our existing agreement with Flood Control. In the event that the MSA will not govern this Project, the Tribe expressly reserves its right to request additional mitigation measures from the Corps that would have applied under the terms of the MSA. For the present time, please include the following mitigation measures in the DSEA/EIR:

C-1 A qualified archeologist will monitor project ground disturbing activities. The purpose will be to observe subsurface deposits for buried historic or prehistoric resources. If previously unknown resources are uncovered, construction in the area of the find will be temporarily halted. The find would be then be evaluated for the National Register of Historic Places (NRHP) in consultation with the Pechanga Tribal monitor. If it were determined to be eligible for the NRHP, the Corps would consult with the SHPO on treatment of the remains in accordance with 36 CFR 800.13.

C-2 If human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission must be contacted within 24 hours. The Native American Heritage Commission must then immediately identify the "most likely descendant(s)" of receiving notification of the discovery. The most likely descendant(s) shall then make recommendations within 48 hours, and engage in consultations concerning the treatment of the remains as provided in Public Resources Code 5097.98 and the Treatment Agreement described in MM 2 and the Master Services Agreement.

C-3 All sacred sites, should they be encountered within the project area, shall be avoided and preserved as the preferred mitigation, if feasible.

The Tribe reserves the right to fully participate in the environmental review process, as well as to provide further comment on the Project's impacts to cultural resources and potential mitigation for such impacts. The Pechanga Tribe looks forward to working together with the Corps in protecting the invaluable Pechanga cultural resources found in the Project area. Please contact me at 951-770-8104 or at ahoover@pechanga-nsn.gov once you have had a chance to review these comments so that we might address any outstanding issues concerning the mitigation language. Thank you.

Sincerely,

Anna Hoover
Cultural Analyst

Cc Pechanga Office of the General Counsel

Response to Comments: Pechanga Tribe

Response: The Corps appreciates the Pechanga Tribe's review of the Draft SEA/EIR. The Pechanga Tribe has been added to the project's distribution list for public notices and circulation of all documents. Environmental commitments pertaining to cultural resources have been modified as requested in Chapters 7 and 20.

APPENDIX I

USFWS Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer To:
FWS-WRIV-07B0011-13F0319

JUL 25 2014

Colonel Kimberly M. Colloton, PMP
District Commander
U.S. Army Corps of Engineers, Los Angeles District
915 Wilshire Boulevard, Suite 930
Los Angeles, California 90017-3409

Attention: Josephine Axt, Ph.D. (Chief) and Tiffany Bostwick (Project Environmental Coordinator), Planning Division

Subject: Formal Section 7 Consultation for the Proposed Murrieta Creek Flood Control, Environmental Restoration and Recreation Project Modified Phase II, Riverside County, California

Dear Colonel Colloton:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed Phase II of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project (Project) and its effects on the federally endangered least Bell's vireo (*Vireo bellii pusillus,* vireo) in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*).

The proposed Project is located in the City of Temecula in U.S. Geological Survey, 7.5' Temecula and Murrieta Quadrangle in extrapolated sections 2, 11 and 12, Township 8 South, Range 3 West, Sections 34 and 35, Township 7 South, Range 3 West, San Bernardino Base and Meridian, Riverside County, California. The Project would include the construction and maintenance of various improvements to provide flood control, a multi-purpose trail, and higher quality riparian habitat along the existing Murrieta Creek channel. The Project would be constructed by the U.S. Army Corps of Engineers (Corps) who is the Federal lead agency. The Riverside County Flood Control and Water Conservation District (District) owns the channel right-of-way and would fund a portion of the Project cost. The District will operate and maintain the Project following completion of construction according to the Operation Maintenance Repair, Replacement, and Rehabilitation (OMRR&R) Manual provided by the Corps.

This biological opinion is based on information provided by your agency in the following documents: the *Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) Appendix I for the Murrieta Creek Flood Control Project, September 2000;* the *Draft*

Supplemental Environmental Assessment/Environmental Impact Report (SEA/SEIR) for the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project, November 2012; the *Murrieta Creek Flood Control/Environmental Restoration and Recreation Project Modified Phase II Plan Project Description and Environmental Commitments, March 2013;* further project modifications described in the Corps' December 19, 2013, January 31, 2014, May 6, 2014, and July 14, 2014, emails; the *Avian Survey Report for the U.S. Army Corps of Engineers Murrieta Creek Flood Control Environmental Restoration, and Recreation Project,* prepared by Aspen Environmental Group, October 2008*;* the *Least Bell's Vireo Survey Report,* prepared by Aspen Environmental Group, September 2010 and email summaries of the 2011 and 2103 vireo survey efforts. In addition, information was provided at various site visits and meetings, email, telephone conversations, and other sources of information compiled during the course of discussions with the Corps and the District. The complete Project file for this consultation, including all written correspondence, email, and telephone communication, is maintained at the Carlsbad Fish and Wildlife Office (CFWO).

CONSULTATION HISTORY

On November 29, 2012, the Corps requested initiation of formal section 7 consultation and provided a draft Supplemental Environmental Assessment/Environmental Impact Report (SEA/SEIR) for our review. The Palm Springs Fish and Wildlife Office (PSFWO) requested additional information at a meeting on December 19 and via email on January 30, 2013, including a detailed description of proposed long-term maintenance activities, proposed minimization measures, quantification of impacts to listed species, and the proposed conservation measures. The PSFWO provided comments on the draft SEA/SEIR in a letter dated February 15, 2013. A response to our request for additional information was received via email on March 15, 2013, and formal consultation was initiated as of this date.

Coordination between the resource agencies, (the Service, U.S Environmental Protection Agency, the California Department of Fish and Wildlife [CDFW], and the San Diego Regional Water Quality Control Board) and the Corps and the District during the public review period for the draft SEA/SEIR resulted in design changes to the Phase II Project. The most significant change was replacement of the proposed unmaintained bench of riparian habitat with an unmaintained, variable-width riparian corridor at channel invert elevations, and additional minor changes. We received revised project information on December 19, 2013. We provided a draft project description for review on January 22, 2014. The draft project description went through several review and edits cycles between the Corps and the Service from January to March 2014. A draft biological opinion was provided to the Corps on March 14, 2014. The March 14 draft did not include an Incidental Take Statement. A draft Incidental Take Statement was provided March 20, 2014. An analysis of the take expected from operation and maintenance activities was received May 6, 2014. We received comments on the draft biological opinion on May 6, 2014. On July 14, we received a revision to the project description and analysis of take expected from the proposed action which provided for the partitioning of the Phase II project into three parts or stages.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The purpose of the proposed Project is to increase flood conveyance through the reach of Murrieta Creek that transects downtown Temecula to protect human life and reduce damage to public and private properties, including bridges and road crossings, along the creek. The Project includes the construction of a maintenance road on each side of the channel and the Project features described herein.

Murrieta Creek flows for approximately 13.5 miles through the unincorporated community of Wildomar and the cities of Murrieta and Temecula in southwestern Riverside County. Two major tributaries, Santa Gertrudis Creek and Warm Springs Creek, contribute to the 220 square mile drainage area. Murrieta and Temecula creeks converge to form the Santa Margarita River, which flows through San Diego County, passing through Marine Corps Base Camp Pendleton and ultimately into the Pacific Ocean.

The Project boundary extends from approximately 1,000 feet south of First Street to approximately 200 feet upstream of Winchester Road just downstream of the Santa Gertrudis Creek confluence in the city of Temecula (Figure 1). The project alignment is located between and roughly parallel to Front Street/Jefferson Avenue and Pujol Street/Diaz Road.

Construction of the Modified Phase II Plan would entail excavation of approximately 952,000 cubic yards of material and disturb approximately 122.42 acres of channel and banks along Murrieta Creek. Within the disturbance area, native habitat vegetation communities occupy 59.26 acres with 20.75 acres of riparian vegetation communities. There is 0.84 acre of open water, 11.97 acres of open channel, 47.57 acres of ornamental/exotic/non-native/disturbed areas, 0.27 acre of unvegetated areas, and 2.51 acres of areas classified as developed. This area has been subject to past channel maintenance. The side slopes would be graded to a steeper slope, reducing the width required and increasing the channel bottom width and capacity. The wider channel bottom will allow for the creation of an Unmaintained Riparian/Low Flow Corridor. Project construction would include: clearing and grubbing the channel; cutting the side slopes back; excavating the channel to design depth; excavating the side slopes to 5-7 feet below design grade to install side drain structures and scour protection (buried riprap and soil cement protection); backfilling and grading side slopes to design grade; and constructing maintenance roads at the top of new embankment.

The Corps and the District completed a Final EIS/EIR for this Project in 2000. At that time, there were no listed species present in the project area. Construction of Phase I of the project was completed in 2004. Portions of the Phase I and Phase II area are now occupied by vireos. The Murrieta Creek Modified Phase II Plan proposes essentially the same design and maintenance as the 2000 Final EIS/EIR design from 200 feet upstream of Winchester Road to 1,000 feet downstream of First Street. The Modified Phase II Plan would:

- Replace the previously proposed gabions with approximately 68,650 cubic yards of soil cement in areas with less than a 2H:1V slope and 35,109 cubic yards of buried riprap in areas with a 2H:1V and 3H:1V slope.
- Add five maintenance access ramps.
- Place 14 drop inlets (manholes) along the maintenance road path to allow drainage into the creek.
- Remove the Via Montezuma Road dip crossing.
- Place four grade control or stabilizer structures.
- Construct maintenance roads on both sides of the channel; the west side maintenance road would also be used as a recreation trail for pedestrians, bicyclists, and equestrians; the east bank would be used as a pedestrian and bicycle trail.
- Include channel operation and maintenance activities.
- Include approximately 23.67 acres of unmaintained riparian/low flow corridor with native riparian and aquatic habitat (see enclosed Figures 3-1a through 3-1e, Project Features).

The existing side slopes would be steepened to increase the channel bottom width and capacity (see SEA/SEIR Table 3-1). Construction of the Modified Phase II Plan would entail excavation of approximately 952,000 cubic yards of material and would result in the disturbance to approximately 122.42 acres of the Murrieta Creek channel and banks. Appendix B in the SEA/SEIR contains draft design plates of the Modified Phase II Plan showing the Project features and the design profile and typical cross sections.

To help address the Service's request to minimize impacts to aquatic habitat, the final Phase II design modifications would eliminate the previously proposed bench or terrace feature to provide a constant channel bottom or invert, and allow for the establishment of aquatic habitat in unmaintained areas. The Corps has included design refinements to "encourage" the low flows to pass through a zone of unmaintained riparian vegetation at the invert elevation. These design changes include a notch in the temporary grade control structure at the upstream end of the Phase II Project area and another notch in the permanent grade control structure above Rancho California Road Bridge to "encourage" low flows toward the unmaintained portion of the channel. The major Project components are described below.

Channel Excavation and Erosion Control

Channel improvements would occur along a 13,000-foot length of Murrieta Creek. Widening and deepening of the channel would require excavation of the side slopes and invert of Murrieta Creek through the entire Project area within publicly owned property.

The excavation depth would range from 2 feet to 11 feet depending on the location along the creek. The excavated earthen channel side slopes would vary in slope. From 200 feet upstream of Winchester Road a 2H:1V (horizontal:vertical) slope would be constructed on the channel bank that would extend to 1,600 feet downstream of Winchester Road. From there, the channel would transition to a 3H:1V slope over the next 200 feet. The channel would continue the

3H:1V slope to 1,000 feet downstream of Rancho California Road where the slope would transition to 1H:4V over the next 300 feet. The 1H:4V slope would continue to 300 feet below First Street then it would transition to a 1H:2V slope over the next 50 feet. The channel would continue the 1H:2V slope for 450 feet and transition to a 2H:1V slope the next 200 feet until it connects with the Phase I constructed slope.

Soil cement and riprap with a geotextile liner would be used throughout the project for bank protection. Soil cement would be used on slopes less than 2H:1V and riprap with a geotextile liner on areas with slopes 2H:1V to 3H:1V. The riprap and liner would be covered with 1-2 feet of soil then stabilized with the same seed mix as the rest of the side slopes. Table 1 below, (Table 3.2 in the SEA/SEIR), shows the side channel slopes and protections used for this project along with the location in the channel where these change.

Table 1 Side Slopes and Slope Protection

Approx. Stations	Slope (H:V)	Slope Protection	Start Point for Slope	End Point for Slope
189+00 to 170+00	2:1	Buried riprap with geotextile liner	Upstream project end	Upstream of Long Canyon Creek
170+00 to 168+00	2:1 to 3:1 transition for 200 feet	Buried riprap with geotextile liner	Upstream of Long Canyon Creek	Downstream of Long Canyon Creek
168+00 to 98+00	3:1	Buried riprap with geotextile liner	Downstream of Long Canyon Creek	Beginning of transition 1,000 feet downstream of Rancho California Road
98+00 to 95+00	3:1 to 1:4 transition for 300 feet	Buried riprap with geotextile liner for 3:1 slope, soil cement at start of transition	Beginning of transition 1,000 feet downstream of Rancho California Road	1,300 feet downstream of Rancho California Road
95+00 to 66+00	1:4	Soil cement	1,300 feet downstream of Rancho California Road	350 feet downstream of First Street
65+50 to 61+00	1:2 for 450 feet	Soil cement	350 feet downstream of 1st Street	Transition to connection with existing Reach 1 channel 1,000 feet downstream of First Street
59+00	2:1	Buried riprap with geotextile liner	Downstream project end	1,000 feet downstream of First Street

Five access ramps would be included in four locations along Murrieta Creek. These ramps are approximately 15 feet in width and would be constructed to allow channel maintenance access. These locations and descriptions are:

- One approximately 300-foot long concrete ramp with a 10 percent slope located downstream of Winchester Road, on the west bank.
- Two approximately 265-foot long concrete ramps located downstream of Via Montezuma Road, on the west and east banks.
- One approximately 200-foot long ramp located 800 feet upstream of Rancho California Road, on the east bank.
- One approximately 265-foot long ramp located 1,000 feet upstream of Main Street, on the west bank.

Grade Control or Stabilizer Structures

Four grade control or stabilizer structures are included in the Project as described below:

1. Upstream of Winchester Road a temporary drop structure/end protection would be placed to protect the flood control measures constructed in the project area. This temporary structure would be removed when Phase III of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project is constructed. The grade control structure includes a 36-inch thick riprap layer placed on a 2H:1V slope on the upstream side and a 2H:1V slope on the downstream side. The bottom of the structure would be placed 7 feet under the low flow invert. The upstream protection would be flush with the existing channel invert. The downstream invert would be 10 feet lower and flush with the new channel invert. This structure would also include a 1-foot notch at the surface on the east side of the channel to help direct low flows toward the unmaintained area. The existing temporary drop structure at the upstream end of Phase I would be removed.

2. Drop structures would be constructed at the confluence of both Long Canyon and Empire Creeks as a transition to the invert elevation of the lowered Murrieta Creek. These structures would be 2-foot thick grouted stone trapezoidal structures. The top of the structure would be flush with the upstream end channel invert. On the downstream slope, there would be approximately 6 feet of exposed slope. The grade control structure at Long Canyon and Empire Creeks would have an upstream slope of 2:1, a 10-foot wide top, and a downstream slope of 3:1. The required fill material would be approximately 4,320 cubic yards at Long Canyon and 8,100 cubic yards at Empire Creek. A 1-foot notch would be included at the surface in each structure to convey low flows within a smaller cross section, increase low-flow depths, and improve aquatic species access.

3. A grade stabilizer would be constructed upstream of Rancho California Road to increase flow capacity under the bridge and protect against erosion of the channel bottom. The structure, buried within the creek bed, would have a 10-foot wide top at grade with a buried upstream slope of 2:1 and a buried downstream slope of 3:1, and require approximately 112,320 cubic yards of fill. This structure would also include a notch at the surface within the riparian/low flow zone to concentrate low flows and provide for fish passage and other aquatic species movement, when wetted.

Drop Inlets

The project would include 41 side drains that connect existing side drains along Murrieta Creek to the outlet through the proposed side slopes. Fourteen drop inlets would also be included in the design of the side drains along the maintenance road to allow drainage into the creek. These drop inlets would connect to existing pipes within the right-of-way. The pipes may need to be cut or extended to fit with the drop inlet structure. Each drop inlet construction would be different; however, they would be between a 2 × 2 foot or 6 × 6 foot concrete box structure. The box structure would have a shaft that extends to street grade and is covered by a grate to allow flows into the structure.

Road Crossing Removal

The Via Montezuma Road dip crossing will be removed from the channel with this project. The road currently is an approximately 675-foot long concrete road that dips into and crosses Murrieta Creek. Removal of this road will remove a potential barrier to species movement, remove a disturbed area, and redirect traffic from an at-grade crossing onto a bridge. This road would be replaced at a different location with the Overland Street Bridge during a future project by the City of Temecula.

Maintenance Roads and Access Ramps

A 15-foot wide maintenance road would be placed on the slope tops of both sides of the channel for the entire project length. The right bank (right side of creek when facing downstream) would be decomposed granite and the left bank would be asphalt. Where possible, the maintenance roads would connect to other roads or trails in the project area. If a connection to other roads or trails is not possible, then a turn-around would be placed to allow maintenance vehicles to maneuver. There are two creeks that come together on the left side of Murrieta Creek. Empire Creek is approximately 1,700 feet downstream of Via Montezuma Road and Long Canyon Creek is approximately 1,800 feet upstream of Via Montezuma Road.

Five access ramps would be included in four locations along Murrieta Creek. These ramps are approximately 15 feet in width and would be constructed to allow channel maintenance access. These locations and descriptions are:

- One 300-foot long concrete ramp with a 10 percent slope located on the west bank downstream of Winchester Road.
- Two 265-foot long concrete ramps located on the west and east banks downstream of Via Montezuma Road.
- One 200-foot long ramp located on the east bank approximately 800 feet upstream of Rancho California Road.
- One 265-foot long ramp located on the west bank approximately 1,000 feet upstream of Main Street.

Materials and Equipment

Construction would require approximately 952,000 cubic yards of earthen fill material that would be recycled from material excavated on site. Other materials to be procured off site include approximately 35,109 cubic yards of riprap, 68,650 cubic yards of soil cement, plastic covers for stockpiles, planters, topsoil, sod, and other materials required to establish vegetation. Most of the material would be available from sources located approximately 10 to 15 miles from the Project area.

Equipment required for the construction and/or maintenance of the creek channel is expected to include the following equipment types and numbers:

> Dozers (1), Scrapers (3), Graders (2), Loaders (2), Pickup truck (1), Water trucks (2), Flatbed truck (1), Trencher (1), Crane (1), Pile Hammer (2), Compactors (2), Excavators (1), Dump trucks (20), Air compressor (1), Brush chipper/shredders and chain saws, rubber tracked mowers (4), Bobcats, Ag tractor, and Skidsteer loaders.

Staging and Stockpiling Areas

Staging and stockpiling areas would be located adjacent to the work areas. Construction facilities, stockpiling, loading, processing, and hauling of excavated material would be as described above, and would include a batch plant for soil cement processing required for construction of soil cement protected slopes. Approximately 952,000 cubic yards of excess material would be generated, of which a portion would be reused as miscellaneous fill material. Temporary storage of the remaining excavated materials would occur at the proposed Phase III detention basin site upstream (haul route is approximately less than 6 miles round trip). The construction contractor is responsible for managing the excess soil. The Phase III basin would only be used as a temporary holding area by the contractor. Total truck trips would be approximately 15,000. For the Modified Phase II channel improvements, construction equipment could be staged at four different locations:

1. A 200-foot wide by 500-foot long area on the west bank approximately 400 feet downstream of First Street. This site is currently an unvegetated vacant site that would be returned to preconstruction conditions upon completion of construction.

2. The site on the upstream end of the project is 1,100- to 1,400-feet wide by 1,800-feet long within the project boundaries for the Phase III basin. This site is currently vegetated with grasses that would be converted to soccer fields. Several large cottonwood trees located in the mid-area of the site would be protected in-place. A drainage feature at the northwest end of the site would be avoided. This site may also be used as an optional temporary disposal site.

3. A City of Temecula-owned, triangular-shaped property at the corner of Rancho California Road and Diaz Road would serve as a staging area.

4. A 200- to 280-foot by 200-foot unvegetated vacant lot 900 feet upstream of Main Street on the west bank. The site would be accessed from Pujol and Felix Valdez Streets.

Unmaintained Riparian Zone

Approximately 23.67 acres of an unmaintained vegetated/low-flow zone at invert elevations that would vary from 35 feet to 150 feet in width along the length of Phase II to provide riparian habitat for least Bell's vireo and other wildlife. The unmaintained vegetated zone would extend the entire length of the Project along the east side of the creek bottom. Breaks in the unmaintained riparian/low flow zone would occur where the access ramps and grade control structures cross the corridor as well as at the outlets of Long Canyon and Empire Creeks, other storm drain outlets and under bridges. The unmaintained riparian low-flow zone would range from 100 to 150 feet in width from the upstream end of the Project to about 700 feet upstream of Rancho California Road. It would then narrow to 35 feet in width through the Old Town reach and then gradually widen to 70 feet before connecting with the Phase I channel improvements. The 35- to 150-foot wide unmaintained riparian/low flow corridor would provide a net increase in riparian habitat and increase the structural diversity and habitat value within this section of Murrieta Creek. With implementation of the Project revegetation and monitoring plan, the unmaintained zone is expected to attain higher quality habitat than currently exists.

Maintained Vegetated Areas

Approximately 20.46 acres of channel side slopes will be covered with soil and the bank slope will be planted with upland coastal sage scrub species. Approximately 23.67 acres of native landscaping will be established in the right-of-way on the top of the channel banks adjacent to the maintenance roads and trails. This landscaping will be maintained by the City of Temecula.

Operations and Maintenance Activities

Operation and maintenance would consist of annual inspections, maintenance, and repairs to channel side slopes, drop inlets, grade control structures, maintenance roads and access ramps, and storm drain outlets. Maintenance will include vegetation management and sediment removal within the maintained channel zone to preserve the flood flow capacity of the channel. The annually maintained zone is designated as the Regularly Maintained Area and mapped throughout the entire Project area. Regular maintenance activities would not affect the unmaintained Riparian/Low-Flow Corridor described above, except for maintenance of side drain outlets, plant maintenance during the first 5-year monitoring period, and weeding as necessary as described below.

The most frequent maintenance activities would include regular annual mowing of the identified 41.19 acres of Regularly Maintained Area within the channel invert (see Figures 3-1a through 3-1e). Maintenance activities would also include debris and sediment removal within the identified Regularly Maintained Area. When sediment deposition levels reach 3 feet or more above the design invert elevation, sediment would be removed from the Regularly Maintained

Area consistent with the designed lines and grades (see Appendix B Design Plates Plan and Profile in the SEA/SEIR). It is estimated that sediment would need to be removed approximately every 1 to 5 years through the Old Town reach, and every 5 to 12 years through the remaining Phase II area. These periods vary since flow rates and sediment deposition rates are affected by rainfall amounts. It is anticipated that sediment would not need to be removed from the entire Phase II regularly maintained area all at once; however, it is a possibility as the need for sediment removal will be dependent on localized channel conditions, individual storm events, and the severity of a winter season.

The channel design has a flat channel bottom or invert, with the intent of allowing the low flows to pass through the unmaintained Riparian/Low-Flow Corridor. However, this design would not preclude flows from meandering into the regularly maintained section of the channel. Should the low flow or thalweg flow through the regularly maintained areas of the channel, no measures are proposed to physically redirect flows through the unmaintained Riparian/Low-Flow Corridor. However, during sediment removal operations in the maintained area, when needed, a small temporary "sugar" berm would be re-formed locally at the sediment removal area to encourage flows towards the Riparian/Low-Flow Corridor. This essentially would entail sediment being pushed up to form a small berm within the sediment removal area, adjacent to the unmaintained Riparian/Low-Flow corridor that would be aligned parallel with the channel.

Less frequent maintenance activities include repairs of degraded and eroded areas and structural features, clearing of debris and sediment from storm drains and drop inlets, and repairs of the maintenance and access roads and ramps. Other minor maintenance activities would also include repair of fences and trash removal. Removal of trees obstructing the pipe outlets would also be conducted on an as-needed basis. Repairs would be conducted from the top of the bank to the maximum extent practicable. In cases where access from the top of the bank is not feasible, access to the damaged structure (e.g., side drain outlet, or channel lining) would be obtained from the invert. An approximate 15-foot width of cleared vegetation through the unmaintained Riparian/Low-Flow Corridor would be maintained annually for equipment access to the side drain outlets. Equipment used could include a bobcat, dump truck, and/or excavator.

Trees and shrubs on the vegetated slopes that would affect the flow conveyance capacity of the channel or integrity of the side slope protection would be maintained (i.e., trimmed) or removed to maintain a maximum height of 3-4 feet along the side slopes.

Habitat management of the unmaintained Riparian/Low-Flow Corridor and channel side slopes would also be part of the long-term operation and maintenance of the project. These areas would be weeded and watered as needed, and monitored for the first 5 years by the Corps for plant establishment and restoration success. Weeding of invasive exotic species would continue as part of long-term habitat management by the District. Plants that do not survive during this first 5-year period would be replaced as determined by a restoration ecologist to meet the established restoration success criteria. If vegetation is removed or damaged by heavy flows within the unmaintained Riparian/Low-Flow Corridor during the initial 5-year restoration period, plants would be replaced one time and/or allow for natural recruitment, as determined by a restoration

ecologist to meet the restoration success criteria. No regular annual mowing or sediment removal activities would occur within the unmaintained riparian/low flow zone. Flood control maintenance within the Riparian/Low-Flow Corridor would be limited to access as indicated above, and emergency or other erosion repairs described below. Maintenance of the landscaped areas on the top of the channel banks adjacent to the maintenance road and trails would be carried out by the City of Temecula.

Future routine maintenance/repair activities would occur outside of rain events and vireo nesting season (March 15 to August 15). If emergency repair work is to be conducted through the nesting season, the work area will be surveyed for active bird nests. If active vireo nests are identified in the emergency work area, the appropriate resource agencies will be notified prior to clearing vegetation for the emergency repairs. A qualified biological monitor will be present during all emergency brush clearing activities within the unmaintained Riparian/Low-Flow Corridor between March 15 and August 15. Impacts to vireo associated with routine operation and maintenance of the project would be avoided and minimized by the implementation of maintenance specific measures and the timing of routine maintenance activities.

Operation and maintenance of the Project features as well as habitat management activities are a part of the project and would be regularly conducted within the project area as described herein. The City of Temecula has an agreement with the District and will be responsible for maintenance of the maintenance roads and trails, and the landscaped areas on the top of bank landwards of the maintenance roads. The District will be responsible for maintaining the sideslopes and channel including the unmaintained riparian/low-flow corridor, maintained areas, and structural features of the channel (i.e., soil cement slopes, grade control structures, drains and outlets, and any other structural features within the channel prism).

Prior to commencement of operation and maintenance activities by the District, the Corps would provide an OMRR&R Manual to the District, that would include the as-built plans and document the operation and maintenance activities described herein. The OMRR&R Manual would also include the project environmental commitments to avoid and/or minimize impacts to the vireo as well as any regulatory permitting requirements. A Corps Section 404 Regulatory Permit would be obtained by the District prior to conducting maintenance activities that would result in a regulated discharge of fill material. Operation and maintenance activities would be conducted in accordance with the conditions identified in the Section 404 Regulatory Permit. A Section 401 Water Quality Certification for the construction and maintenance of the entire project has been obtained from the Regional Water Quality Control Board. Conditions identified in the previously issued Section 401 Water Quality Certification would be implemented for the project construction as well as the maintenance described herein to minimize impacts on environmental resources. Operation and maintenance activities would also be conducted in compliance with the Streambed Alteration Agreement. Detailed measures to avoid and/or minimize effects to vireo have been included in operation and maintenance procedures.

Emergency repairs may be required in situations such as flood waters escaping the channel, failure of channel lining, failure of channel stabilizers or structures, or obstruction of the channel

or its laterals by sediment or debris and is typically conducted during and/or immediately after storm events on an as-needed basis. The repair/removal activities may result in a temporary disturbance of habitat within the unmaintained Riparian/Low-Flow Corridor not described above. Under these circumstances, the District would obtain all applicable permits, approvals, and authorizations to conduct these repairs. If the repair/removal activities result in take of vireo, the Corps will request reinitiation of consultation with the Service.

Project Timeline

Project construction for Phase II is anticipated to take 12 to 18 months to complete; however, it would ultimately depend on weather conditions, environmental restrictions, and available funding. During construction, excavation activities would not be carried out in the creek channel during heavy rains or floods. Every effort would be made to complete the project in the 12 to 18 months. Project construction is scheduled to begin in 2014. The clearing and grubbing, demolition and removal of structures, and excavation would all be completed over sections of the creek length as construction progresses, and is expected to take approximately 4 months. Grading/planting, channel construction, and maintenance road construction is anticipated to take roughly 18 months.

Progress of Phase II construction is subject to availability of project funding, as appropriated by Congress. As a result, construction may be completed in segments or stages as project funding becomes available. The Phase II construction segments are anticipated as follows: Base, approximately station 59+00 to 125+00; Option 1, approximately station 125+00 to 154+00; and Option 2, approximately station 154+00 to 189+00 (Figure 1). If Phase II is constructed in segments or stages, the completed segments of Phase II would be functional as constructed, and would include temporary transition areas to tie into existing ground upstream, as needed. This may include use of riprap across the channel bottom as would be used for the upstream end of Phase II, which would be removed upon construction of the next segment.

It is anticipated that construction equipment would be operated up to 8 hours a day between 6:30 a.m. to 7:00 p.m., Monday through Friday. No work would be permitted on Federal holidays, Saturday, or Sunday without prior written approval.

Operation and maintenance activities will be initiated following completion of construction.

Conservation Measures

The measures identified below have been incorporated into the proposed Project for the purpose of offsetting or avoiding and/or minimizing impacts to the vireo in the action area.

1. A 23.67-acre portion of the channel invert along the toe of the east bank will be planted with riparian and riparian scrub vegetation to create the Riparian/Low Flow Corridor project feature (Figures 3-1a to 3-1e). This unmaintained zone will not be subject to future mowing or sediment removal activities.

2. The Corps will submit a draft Phase II revegetation plan for the slopes and the unmaintained riparian zone to the Service and CDFW for review and approval at least 60 days prior to planting of any seeds or container plants within the Project area. If the Project is constructed in stages, the revegetation will be accomplished at the conclusion of each respective stage. The revegetation plan will address the following:

    a. Total acreage of habitat to be restored,

    b. The size and quantity of species to be planted,

    c. Appropriate seed mixes and schedules of planting,

    d. Revegetation success criteria, and

    e. 5-year maintenance and monitoring program to ensure that native plant cover is achieved, that non-native species do not out-compete the native species, and that the restoration of ecological function within the creek is successful.

3. Disturbance or removal of riparian vegetation will not exceed the limits authorized for construction and operation and maintenance. Temporarily disturbed areas will be restored to their original condition or better and will be described in the revegetation plan (see Conservation Measure 2 above). Restoration will include the revegetation of stripped or exposed areas with native species.

4. To minimize construction and operation and maintenance impacts to vireos, vegetation removal will be scheduled to occur between August 15 and March 15 (outside of the vireo nesting season).

5. If the project is completed in stages as described above, prior to and during construction of the Base segment or Option 1, the Corps would require a qualified biologist to survey any potential vireo habitat immediately adjacent to the Base segment or Option 1 during the breeding season. In the event that vireos are detected within 500 feet of the Base segment, or Option 1, the Corps will require the construction contractor to provide a restricted buffer of 500 feet from the active construction area to the nearest edge of the vireo territory, to avoid any potential affects to vireo during the breeding season.

6. A Corps biologist (or environmental monitor) will monitor construction activities to ensure compliance with environmental commitments, which include:

    a. Prior to construction activities, a qualified biologist will conduct pre-construction training for all construction crew members. The training will focus on required mitigation measures and conditions of regulatory agency permits and include a summary of sensitive species and habitats potentially present within and adjacent to the proposed Project site and staging areas, including the potential for vernal pools adjacent

to the staging area at Jefferson Avenue and native southern willow scrub habitat and potential use of this habitat by least Bell's vireo.

b. Immediately prior to construction activities and throughout any portion of the construction period that takes place during the vireo breeding season, a qualified biologist will inspect the construction site and adjacent areas (using non-protocol surveys) to determine if any vireos are nesting within 500 feet of the construction site. If active nests are found, the Corps biologist will coordinate with the Service and/or the CDFW to determine appropriate avoidance and/or minimization measures.

7. With the exception of emergency repairs, all mowing, sediment removal, and scheduled maintenance activities involving heavy equipment or human presence in riparian habitat will be conducted between August 15 and March 15 (outside of the vireo nesting season). Some repairs may require work to occur for extended periods of time. If non-emergency repair work is to be conducted during the vireo nesting season, the work area will be surveyed for active vireo nests. If active nests are identified in the work area the nests and an appropriate buffer (to be determined by the qualified biologist in coordination with the Service) will be avoided until the end of the nesting season. The appropriate buffer area will be identified based on the type of activity/repair work. A qualified biological monitor will be present during all non-emergency repair activities within the unmaintained riparian zone between March 15 and August 15.

8. Appropriate coordination/consultation will occur with resource agencies (Service, CDFW and Corps regulatory as appropriate) when emergency maintenance activities are required during the nesting season. Resource agency representatives will be notified as early as possible and emergency coordination/consultation conducted and any necessary permits or approvals obtained prior to action taken. Under situations of imminent threat to life or property, obtaining permits and approvals prior to taking of an emergency action may not be possible. Under such circumstances, notification would be made to resource agency representatives of decision to proceed and emergency coordination/consultation would be performed after the emergency action. Contents of the notification will include: (1) point of contact information (name, address, email address, telephone number); (2) location of proposed project; (3) brief description of imminent threat to life or property and proposed project's purpose and need; (4) description of methods anticipated to be used to rectify the situation; and (5) brief description of the project area's existing condition and anticipated environmental impacts resulting from the proposed work.

9. With the exception of scheduled invasive plant removal or temporary impacts from emergency repair work, vegetation will not be removed from the unmaintained riparian zone as part of the scheduled maintenance plan. Large trees and shrubs above 3-4 feet on the vegetated slopes that would affect the flow conveyance capacity of the channel and integrity of the side slope protection would be trimmed or removed. All other shrubs on the side slopes would be maintained by cutting to maintain a maximum height of 3-4 feet.

a. If vegetation is removed from the unmaintained riparian zone or side slopes as a result of emergency repairs, the site will be stabilized and revegetated with a native seed mix, cuttings and/or select container plantings to ensure the timely replacement of riparian trees removed as a result of the repair work. Revegetation plantings will be of sufficient quantity to ensure the rapid establishment of vegetation. Replacement plantings of riparian trees will not be required if the vegetation was removed as a result of natural scouring.

10. The Corps will include a provision in the OMRR&R Manual indicating that: If the District fails to perform the required vegetation maintenance for 2 consecutive years, prior to its resumption of maintenance, the District will conduct a vireo survey in the deferred maintenance area and provide a report to the Corps and the Service indicating whether the deferred maintenance area is being used by vireos. This report will be used to assist the Corps in determining whether the resumption of maintenance would cause effects to vireo not considered in the biological opinion and reinitiation of consultation is required.

The measures identified below have been incorporated into the proposed Project for the purpose of avoiding and/or minimizing vireo effects downstream of the Project and/or within the surrounding watershed.

11. Equipment will be in proper working condition and inspected for leaks and drips on a daily basis prior to commencement of any in-channel maintenance work during construction and maintenance activities.

12. A spill prevention and remediation plan will be developed and implemented during construction and operation and maintenance activities. Workers will be instructed as to the requirements listed in the plan. Construction supervisors and workers and maintenance personnel will be instructed to (1) be alert for indications of equipment-related contamination such as stains and odors, and (2) respond immediately with appropriate actions as detailed in the spill prevention and remediation plan if indications of equipment-related contamination are noted.

13. Sediment barriers (e.g., sandbags, silt fence, temporary containment dam) will be placed downstream of each major construction operation to prevent downstream sedimentation.

14. Areas of exposed soil, dirt stockpiles, dirt berms, and temporary dirt roads will be stabilized with controlled amounts of sprinkled water during construction.

15. At the close of each workday, any materials tracked onto the street or lying uncontained in the construction areas, including trash will be collected and disposed of appropriately.

16. Concrete, asphalt, and masonry wastes and will be contained and disposed of away from the Project construction sites.

17. Refueling and maintenance of equipment and vehicles will be prohibited near the flood control channel during construction and operation and maintenance. Prohibited locations will include all land and structures (e.g., bridges) within 50 feet of the creek.

18. Spill kits containing absorbent materials will be kept at the Project site during construction and implementation of operation and maintenance activities.

19. Fuels and other hazardous materials will be stored away from the Project drainage area.

Action Area

According to 50 CFR § 402.2, pursuant to section 7 of the Act, the "action area" includes all areas to be affected directly or indirectly by the Federal action. Analysis of the environmental baseline, effects of the action, and levels of incidental take are based on the action area as determined by our agency. For the proposed Project, we consider the action area to include the channel bottom, banks of the channel, the unmaintained vegetated riparian zone, all access routes and staging areas. The project right of way includes about 122.42 acres and there are another 62.86 acres in three staging areas outside of the project right of way.

STATUS OF THE SPECIES

The following section summarizes information about the federally endangered Least Bell's vireo relative to its legal status and biology. For detailed information on the vireo's biology, ecology, rangewide status, threats, and conservation needs, please refer to the draft recovery plan (Service 1998) and 5-year review (Service 2006). Additional information is also available in the final rule designating critical habitat for vireo (59 FR 4845). These documents are available on the internet at: http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B067

The vireo was listed as endangered on May 2, 1986 (51 FR 16474), in response to a dramatic decline in population and widespread loss of riparian habitat. Critical habitat for vireo was designated on February 3, 1994. A draft recovery plan was published in March 1998 (Service 1998), though a final plan has not been issued. We completed a 5-year review for vireo in September 2006 in which we indicated that, due to new information on the species and an improved understanding of ongoing recovery actions to reduce threats, the recovery goals and strategies should be modified and refined. In addition, we recommended that the vireo be down-listed from endangered status to threatened status because of a ten-fold increase in population size since its listing in 1986, expansion of locations with breeding vireo throughout southern California, and conservation and management of suitable breeding habitat throughout its range (Service 2006).

The vireo historically occupied willow riparian habitats from Tehama County in northern California, southward to northwestern Baja California, Mexico, and as far east as Owens Valley, Death Valley, and the Mojave River (Grinnell and Miller 1944, Service 1998). Greater than 99 percent of the remaining vireos occur in southern California, south of the Tehachapi

Mountains (Service 2006). Thus, despite a significant increase in overall population numbers, and a slight shift northward in the species overall distribution, the population remains restricted to the southern portion of its historic range (Service 2006).

Vireos use a number of riparian habitat types, including cottonwood-willow woodlands/forests, oak woodlands, and mule fat scrub. However, vegetation structure is an important determinant of vireo site use. The vireo is an obligate riparian species during the breeding season, and prefers diverse early successional riparian habitat. Early successional riparian vegetation typically supports the dense shrub cover required for nesting and also a structurally diverse canopy for foraging (Service 1998). Occupied breeding habitat generally includes dense cover within 3 to 6 feet of the ground for nesting and a dense, stratified canopy for foraging. Plant species composition does not appear as important a determinant in nesting site selection as habitat structure. As riparian vegetation matures, the tall stands tend to shade out the shrub layer, making the sites less suitable for vireo nesting. In addition, vireo nests tend to occur in openings and along the riparian edge, where exposure to sunlight allows the development of shrubs (Service 1998). Ecological processes that contribute to the formation of early successional riparian habitat include channel scour and deposition associated with periodic storm events. Therefore, occupied vireo habitat that is adjacent to highly urbanized areas or within major river systems continues to be impacted by flood control and water impoundment projects and may be subject to ongoing and future habitat loss or degradation due to alteration of vegetation structure.

The overall positive population trend for vireo since its listing is primarily due to efforts to reduce threats such as wholesale loss and degradation of riparian habitat and cowbird parasitism. Several large, regional habitat conservation plans in southern California have addressed the effects of urban development on this species. These plans are expected to provide long-term protection of core occurrences of vireos in western Riverside, southern Orange, and San Diego counties. The control of giant reed (*Arundo donax*) has been effective at improving habitat since the original listing of the vireo. Continued control will be needed to achieve local eradications and to address invasions by other exotic plants that continue to degrade existing riparian habitat.

ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR § 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation, and the impacts of State and private actions that are contemporaneous with the consultation in progress.

Habitat in the Action Area

The entire reach of the Project is bordered by significant development that isolates the riverine system from surrounding upland habitats. In many locations parking lots and structures directly abut the sideslopes of the channel. The floodplain has been significantly encroached upon and floodplain functions and values have been restricted or eliminated.

The area just downstream of First Street near the southern boundary of the Project is vegetated by southern cottonwood-willow riparian forest, mulefat scrub and ephemeral wetland in the channel and on the channel banks, (Corps 2000, 2012). Based on the 2013 surveys, a portion of this area is currently occupied by the vireo.

The vegetation along the bank from First Street upstream to Rancho California Road consists of a narrow, patchy strip of relatively mature riparian vegetation with an understory of common shrubby species (Corps 2000, 2012). The channel bottom from First Street to approximately Rancho California Road consists of mostly unvegetated open channel and scattered riparian vegetation along the edges of the banks. Flow is mostly ephemeral with occasional and isolated open water areas.

The existing channel bottom width varies between 25 feet and 150 feet. Open sandbars and occasional stands of giant reed or salt cedar occur in this stretch of the creek upstream of Main Street. The channel terraces support mulefat and willow interspersed with understory species such as cocklebur and sweet clover (Corps 2000, 2012). One vireo territory was identified during 2013 surveys at the downstream end of Phase II.

From Rancho California Road upstream to Winchester Road the channel significantly broadens to between 150 feet and 300 feet. Streamflow is ephemeral/intermittent through this stretch. Due to the mostly flat channel bottom and ponded water the channel bottom is dominated by freshwater marsh vegetation. Cattail and bulrush are the obligate wetland species associated with the ponded areas while willows and mulefat are the dominant riparian species primarily on the banks. Based on the 2013 survey, vireos occupied three separate patches of riparian vegetation generally located from Via Montezuma Road up to the Long Valley channel confluence area.

Upstream of Winchester Road, at the northernmost edge of the Project area, riparian vegetation along Murrieta Creek consists of emergent southern willow scrub and southern willow scrub within the existing maintained invert. Patches of southern cottonwood-willow riparian forest and southern willow scrub abut Murrieta Creek to form a mosaic of riparian habitats. Southern willow scrub dominates the west side of the creek at the north end of this transect where a dense stand of shrubby willows abut the open, sandy creek bed. Near Winchester Road the creek bed widens and supports freshwater marsh dominated by cattails and bulrush. In this area southern cottonwood-willow riparian forest dominates the west side of the creek and patches of willow populate its eastern border although size and quality of these patches varies considerably (Corps 2012). This portion of the project area is not occupied by vireo.

Within the 122.42-acre Project footprint, approximately 59.4 acres are vegetated by native vegetation with 0.8 acre of open water and 12.0 acres of open channel (Corps 2012). There are approximately 20.8 acres of potentially suitable vireo habitat within the Project area (Corps 2012). This includes 14.2 acres of riparian scrub, 5.6 acres of mulefat scrub, and 1.0 acre of cottonwood willow riparian habitat. Although appropriate vegetation communities conditions are present, habitat structure required by vireo is limited (Corps 2012). The habitat is patchy and

degraded due to high levels of trespass by the local homeless community that clears most of the understory (C. Jones, Corps, pers. comm. 2013). An additional 50.4 acres is vegetated with ornamental/exotic/nonnative species or is highly disturbed, unvegetated, and/or developed (Corps 2012). Approximately 2.2 acres of coastal sage scrub and 36.4 acres of freshwater marsh habitat are also present in the Project area.

The District regularly maintains the channel bottom, typically by mowing in the fall, prior to the winter season, to reduce the potential for flooding by mowing the majority of the channel (approximately 62.4 acres within the Project area) and a vegetated corridor (approximately 8.4 acres) every 2 to 4 years in accordance with the 1999 Murrieta Creek Channel Maintenance Plan. As a result the vegetation within the creek ranges from 0 to 4 years in age at any given time of the year (Corps 2012). In most years vegetation in the channel is recovering by late spring with regrowth of species typical of riparian scrub and freshwater marsh vegetation communities. There is some patchy vegetation along the banks of the creek that may not be maintained regularly due to the location.

Three staging areas outside of the channel right of way are proposed (staging area 1 is within the channel right of way). Staging area 2, by Jefferson Street is generally vegetated with native grasses and other ruderal species. There is a stand of cottonwood trees that would be protected during construction activities and a remnant drainage feature on the western edge of the staging area that would also be avoided. Staging area 3 has compacted soils and is unvegetated and staging area 4 is also unvegetated.

Vireo in the Action Area

Protocol surveys were conducted in 2008, 2010, 2011, and 2013. Three vireo territories were identified in 2008, 2010, and 2011. In all 3 years, nesting activities were observed in two of the three territories (Aspen 2008, 2010, and March 6, 2014, email from Erin Jones of the Corps). Four vireo territories were identified in the Phase II project footprint in 2013 (email from Christopher Jones of the Corps to Karin Cleary-Rose March 6, 2014). The four territories encompass approximately 5.3 acres. Three territories are located between the Winchester Road Bridge and the Via Montezuma Road crossing. The fourth territory is downstream of First Street Bridge at the southern edge of the Project. Additional suitable habitat is present in the project area; however, it is degraded by maintenance activities and homeless encampments.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species, together with the effects of other activities that are interrelated and interdependent with that action, which will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action, are later in time, and still reasonably certain to occur.

Direct Effects

Excavation, grading, and disturbance associated with equipment and vehicle access would occur on approximately 122.42 acres along Murrieta Creek. The Project will result in the destruction of 20.8 acres of riparian habitat used by vireos for breeding, roosting, foraging, and dispersal (Corps 2012). Since vegetation clearing will be completed outside of the vireo breeding and nesting season when migratory vireos are absent from the area, no eggs, nestlings, or adults will be killed or injured by the proposed Project. Additionally, vegetation removal and other construction activities will be observed by the biological monitor.

Vireos typically return to established breeding territories year after year. We expect four breeding territories within the Project footprint will be destroyed as a result of vegetation removal. When vireos return to the Project area to breed, they would be forced to find and compete for habitat elsewhere until suitable riparian vegetation is restored within the Riparian/Low Flow Corridor. Because suitable habitat will remain downstream and upstream of the Project area, the four affected vireo pairs may attempt to use the adjacent habitat. However, these vireos may be subject to the effects of displacement (e.g., delayed breeding, fewer nesting attempts per season or inability to attract a mate, and increased probability of brood parasitism) resulting in an overall reduction in reproductive output (Beck 1996). This is expected to adversely affect displaced birds, and to some extent may interfere with the mating and rearing success of other vireos as habitat areas become more crowded. If displaced birds cannot find suitable habitat in which to forage and shelter, we anticipate they will be more vulnerable to predation and may otherwise die or be injured.

Construction noise may negatively affect the behavior of vireos located in habitat near the Project area. Noise and vibration are thought to be potentially harmful to a variety of bird species (RECON 1990, Pike and Hays 1992, Kaseloo 2006). There are four major categories of noise effects on wildlife: (1) auditory physiological; (2) non-auditory physiological; (3) behavioral; and (4) masking (i.e., interference with the reception of auditory signals because of interfering environmental noise) (Dufour 1980). Masking and interference from noise may affect breeding behaviors and reproductive success (Ward and Stehn 1989, RECON 1990, Barrett 1996, Schroeder et al. 2012). If construction and maintenance occurs entirely within the non-breeding season (August 15 to March 15), vireos will not be affected by noise, vibration, or human presence from construction activity.

Vireos typically arrive in southern California in mid to late March, with territory establishment and nesting taking place from March through late July (Pike et al. 2011). The species usually departs the breeding grounds by the third week of September. If construction occurs during the breeding season, vireos could be affected by construction-related noise and vibration. Measures to avoid and minimize disturbance from noise and construction impacts include seasonal restrictions on vegetation removal and a biological monitor will be present to ensure that a 500-foot buffer is maintained around any vireos present during construction. After vegetation removal in the construction area, vireos may be present up or down stream from construction activity and in riparian habitat adjacent to the Jefferson Street staging area.

Survey results from 2008 to the present indicate that four territories within the Project area would be affected by this Project. The number of territories in the Project area increased from one to four between 2008 and 2013. The possibility of construction of the Project in stages, means that there is the potential for additional territories to be established within the action area. Because the habitat in the Project footprint is not robust and the completion of the Project is a District priority, there should not be a large time lapse between the construction of each stage. We anticipate that one more territory could be affected by the Project construction. The Corps and the District have incorporated avoidance measures to prevent take of vireos adjacent to construction at each stage. To offset the loss of all currently occupied vireo habitat, and displacement of as many as five pair of vireo, the Project would actively restore approximately 23.67 acres of riparian habitat in an unmaintained vegetated corridor within the Phase II reach of Murrieta Creek.

Restoration Activities

Following construction, 23.67 acres of riparian vegetation will be actively restored (planted with native container plants and seeds) in a variable-width strip along the eastern bank of the creek. The successfully established and maintained vegetation is expected to be re-occupied by vireos. Based on similar restoration completed downstream of the Project (See Environmental Baseline) we estimate it will take about 2 to 3 years for vireo habitat to recover following construction. However, this timeframe could be extended if a large flood event occurs in Murrieta Creek before the vegetation has become established. Because vireo pairs will be breeding in the intact riparian habitat upstream and downstream of the impact area, we expect the revegetated corridor to be re-occupied as soon as it is mature enough to support vireo breeding. Assuming all 23.67 acres of unmaintained riparian habitat are successfully established there will be a small increase in the amount and a large increase in the quality of suitable habitat for vireo.

Indirect Effects

An increase in human activity in and near occupied riparian habitat adjacent to recreational facilities such as trails may disturb vireos. Vireos often react strongly to the close approach of humans, particularly when nestling or fledgling young are also present. Excess human disturbance may reduce vireo nesting success (Salata 1987). The trail and maintenance road adjacent to Murrieta Creek may increase disturbance to occupied habitat. Additionally, the road and trail may facilitate easier trespass into the creek, which may lead to destroyed or damaged habitat and/or additional disturbance to vireos.

Construction of the Project may result in spillage or dispersal of oil, fuel, petroleum products, solvents, pesticides, herbicides and other environmental contaminants in the Project area which is upstream from vireo-occupied habitat. The unmitigated dispersal of environmental contaminants as result of the construction or implementation of the Project could indirectly affect breeding vireos in the Project action area. Nest failure, reduced nestling survival, infertility, and physical deformities are often the result of exposure to environmental contaminants (Hays 1989, Pike and Hays 2000). The implementation of the avoidance, minimization, and conservation measures incorporated into the Project description will reduce the likelihood that deposition or

dispersal of environmental contaminants in the Project action area would impact vireos during construction, operations, and maintenance activities.

Operation and Maintenance Activities

The District will maintain the facility according to the OMRR&R Manual provided by the Corps when the project is turned over to the District. Anticipated operation and maintenance activities consist of vegetation management and sediment removal within the maintained channel zone to preserve the flood flow capacity of the channel as well as annual inspections, maintenance, and repairs to channel side slopes, drop inlets, grade control structures, maintenance roads and access ramps, and storm drain outlets.

Maintenance and access roads and ramps

Regular repairs of the maintenance and access roads would be conducted as needed. The maintenance and access roads are located on top of the channel banks, not within the creek channel. Access ramps into the channel invert are adjacent to the Riparian/Low Flow Corridor at specific sites; however, disturbance to the riparian habitat from repairs is not expected. In general, road and ramp repairs would be scheduled to occur outside of the vireo breeding season. However, in the case that repairs involving the use of heavy machinery are required within approximately 500 feet of the riparian/low flow corridor during the vireo breeding season, Conservation Measure 6 would be complied with. No effect to vireo is expected.

Storm drain outlets and drop inlets

Repairs of the storm drain outlets and drop inlet structures along the bank slopes, channel invert, and at the top of bank would be conducted on an as-needed basis, as described below. Regular clearing of debris, sediment, and weeds would occur at the invert of the outlets on both the east and west banks. Repairs would be conducted from the top of the bank to the maximum extent practicable. In cases where access from the top of the bank is not feasible, access to the damaged structure (e.g., side drain outlet, or channel lining) would be obtained from the invert. An approximate 15-foot width of vegetation clearance through the unmaintained Riparian/Low-Flow Corridor at each side drain (20 on east bank) would be maintained annually for equipment access to the side drain outlets. Equipment used could include a bobcat, dump truck, and/or excavator. Clearing of debris, sediment and weeds would be restricted to the 15-foot width access area and at the storm drain outlet. For larger drains with an energy dissipater, clearing of debris, sediment, and weeds would be limited to the access area, energy dissipater, and at the outlet of the storm drain. Routine maintenance would occur during the vireo non-breeding season. In the case that this regularly occurring maintenance is required during the breeding season, Conservation Measure 6 would apply. No effect to vireo is expected.

Grade control structures

Regular vegetation or sediment removal is not anticipated at the structures, except at those areas designated as regularly Maintained Areas on the Figures 3-1a through 3-1e of the Draft

Environmental Assessment/Environmental Impact Report (2012) prepared for the proposed Phase II design modifications. Repairs of the structures may be needed on as-needed basis, but are expected to be within the Regularly Maintained Area, and are not anticipated to necessitate clearing of vegetation from the Riparian/Low-Flow Corridor. Repairs would be scheduled to occur during the vireo non-breeding season; however, in the case that repairs are required during the breeding season, Conservation Measure 6 would apply. No effect to vireo is expected.

Channel side slopes

Regular maintenance of the channel side slopes would include trimming, cutting, and/or removal of select vegetation on the slopes to maintain a height of 3-4 feet. Vegetation along the slopes would consist of upland coastal sage scrub species. No cutting of vegetation within the Riparian/Low Flow Corridor would occur. Routine maintenance activities would be limited to the vireo non-breeding season. If maintenance activities carry into the breeding season, Conservation Measure 6 would apply. No effect to vireo is expected.

Other maintenance activities along the slopes would also include weeding and watering within the first 5 years of the vegetation establishment period. Weeding and watering activities associated with habitat management activities may occur during the vireo breeding season. As under Conservation Measure 6, a qualified biologist would survey the area to identify if adjacent riparian habitat is occupied by vireos and are nesting. Vireos and active nest sites would be avoided until the end of the nesting season. A qualified biologist would be present on-site during all maintenance activities. No effect to vireo is expected.

Vegetation and sediment maintenance within regularly maintained area

Regular maintenance activities within the Regularly Maintained Area would involve regular recurring (annual) mowing of the vegetation and periodic sediment removal, as needed. These activities would be limited to the Regularly Maintained Area boundaries (see Figures 3-1a through 3-1e) and would not result in disturbance to any vegetation within the Riparian/Low Flow Corridor. These activities would be scheduled to occur during the vireo non-breeding season and would therefore not result in direct or indirect effects to vireo. In the event that maintenance activities need to be scheduled during the vireo breeding season, Conservation Measure 6 would apply. No effect to vireo is expected.

Non-regular and emergency repairs

Non-regular and emergency repairs may be required in situations such as flood waters escaping the channel, failure of channel lining, failure of channel stabilizers or structures, or obstruction of the channel or its laterals by sediment or debris and is typically conducted during and/or immediately after storm events on an as-needed basis. Repairs to the side slopes may require clearing of vegetation along the side slopes and potentially within the Riparian/Low Flow Corridor, depending on the location of the required repairs and its condition. Under a scenario such as this, some vegetation would likely have been scoured or washed out during the same flow event and thus the need for vegetation clearing may not be extensive. However, the scope

of repairs and extent of required clearing of vegetation is difficult to estimate, and therefore, potential effects to vireo from these types of repair activities are unknown. These repairs would be coordinated by the District through standard environmental compliance and permit processes in coordination with the appropriate resource agencies. Environmental compliance and coordination would be based on the nature of the repairs needed and extent of potential impact that may result. This may include authorizations through a Nationwide Permit or other program coordinated with the Corps' Regulatory Division.

Effects on Recovery

According to section 2(b), the primary purposes of the Act are to provide a means whereby the ecosystems upon which listed species depend may be conserved, and to provide a program for the recovery of listed species. Under section 2(c), Congress established a policy requiring all Federal agencies to use their authorities in seeking to recover listed species in furtherance of the purposes of the Act. Consistent with these purposes and Congressional policy, sections 3(5), 4(f), 7(a)(1), the implementing regulations to section 7(a)(2) at 50 CFR § 402.02 and related preamble at 51 FR 19926 (June 3, 1986) generally require Federal agencies to further the survival and recovery of listed species in the use of their authorities. According to these mandates, our analysis below assesses (1) whether the proposed action adequately offsets its adverse effects to the environmental baseline for the vireo, and (2) the extent to which the proposed action would cause "significant impairment of recovery efforts" or adversely affect the "species' chances for survival to the point that recovery is not attainable" (51 FR 19926).

Implementation of the proposed Project is expected to increase the area of suitable vireo habitat in the action area. Conservation measures incorporated into the Project and the commitment to control exotics in the unmaintained corridor will help ensure that the action area continues to provide habitat for the vireo. Over the long term, the action area should support a similar or potentially higher number of vireo pairs as the baseline condition. As previously stated, Phase I of the project became occupied by vireo following construction. We anticipate that the vireo will be maintained in the action area with no appreciable reduction in the numbers, reproduction, or distribution over time. Therefore, these commitments maintain the small vireo population in Murrieta Creek and will continue to support the survival and recovery of the species.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

We have no information on any non-Federal actions affecting listed species that are reasonably certain to occur in the action area considered by this opinion.

CONCLUSION

After reviewing the current status of the vireo, the environmental baseline for the action area, effects of the proposed action, and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the vireo. We based this conclusion on the following:

1. The least Bell's vireo ranges from southern and central California to northwestern Baja California, Mexico; thus, the action area for this Project represents only a small portion of the subspecies' rangewide distribution.

2. Impacts will be limited to no more than 20.8 acres of low quality riparian vegetation suitable for vireo. This marginal habitat will be replaced by 23.67 acres of high quality, structurally diverse riparian habitat.

3. Species-specific avoidance and minimization measures will reduce mortality/injury of individual least Bell's vireos.

4. Project activities are not expected to appreciably reduce the numbers, reproduction, or distribution of least Bell's vireo occurrence or population rangewide.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Harm is further defined to include significant habitat modification or degradation that actually kills or injures listed wildlife by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering. Harass is further defined as an intentional or negligent act or omission that creates the likelihood of injury to listed wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and 7(o)(2) of the Act, such incidental take is not considered a prohibited taking under the Act, provided that such taking is in compliance with this incidental take statement.

The measures described below are non-discretionary, and must be undertaken by the Corps so that they become binding conditions of any permit or grant documents issued to the permittee, as appropriate, for the exemption in section 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity covered by this incidental take statement. If the Corps fails to assume and implement the terms and conditions of the incidental take statement or to make them enforceable terms of all pertinent permit, contract, or grant documents, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of the incidental take, the Corps must report the

progress of the action and its impact on the species to the PSFWO as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

The Service will not refer the incidental take of any migratory bird for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703-712), if such take is in compliance with the terms and conditions (including the amount and/or number) specified herein.

AMOUNT OR EXTENT OF TAKE

We anticipate that up to five (5) vireo pairs will be taken as a result of this proposed action. Incidental take of five vireo pairs is expected to be in the form of harm, as defined in 50 CFR § 17.3, due to the direct loss of habitat use areas. In addition, we anticipate that harm in the form of reduced productivity is likely for returning vireo pairs in habitat adjacent to the action area. We reached this determination based on our review of the proposed Project footprint and the approximate vireo use of habitat drawn from observations during protocol surveys and observation conducted between 2008 and 2013.

No direct death or injury of vireo nestlings or eggs from habitat clearing and construction activities or operations and maintenance activities is anticipated; therefore, none is exempted from the section 9 take prohibitions under the Act.

Incidental take is not anticipated to result from operations and maintenance activities, because such activities will be conducted outside of the breeding season.

If any of the take thresholds described above are reached, the Corps or their agents (i.e., any contractors involved with project construction) shall immediately contact the PSFWO to review the activities resulting in take and to determine if additional protective measures are required.

EFFECT OF TAKE

In the accompanying biological opinion, we have determined the level of anticipated take noted above would not result in an appreciable reduction in the number, distribution, or reproduction of vireo and is thus not likely to result in jeopardy to the species.

REASONABLE AND PRUDENT MEASURE

The Corps shall implement the vireo conservation measures included as part of the proposed action analyzed in this biological opinion to minimize incidental take of the vireo. In addition to these conservation measures, the following reasonable and prudent measure is necessary to minimize the impacts of incidental take on vireo.

1. The Corps shall ensure that the impacts of incidental take on the vireo are minimized during construction and subsequent operation and maintenance activities.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the Corps must comply with terms and conditions below, which implement the reasonable and prudent measures described above.

1.1 Prior to initiating the Project construction, the Corps will provide to the PSFWO a report documenting the results of the vireo protocol breeding season surveys from the previous or most current year.

1.2 Within 30 days of completing removal of riparian habitat, the Corps will provide the PSFWO a report by the biological monitor documenting the extent of vegetation removal and that the Project's construction limits and take thresholds were not exceeded.

1.3 To avoid and minimize unauthorized injury or death of vireos, the Corps, or their agents shall not conduct construction activities in or immediately adjacent to vireo habitat from March 15 to August 15 unless specifically authorized by the Service. Construction may be authorized during this period if it is demonstrated that listed species or nesting migratory birds are not present adjacent to the construction area.

1.4 The Project will use best management practices to prevent the discharge or dispersal of crude oil, petroleum products, or other toxic substance or hazardous material into the creek. The Corps or their agents shall be responsible for inspecting the Project area to ensure that habitat, including creation and conservation areas, are free from petroleum products and contaminant spills prior to, and during the implementation of the Project.

1.5 The Corps (during construction) and the District (during operations and maintenance) shall monitor and report on compliance with the established take thresholds for vireos associated with the proposed action by: (1) yearly reporting on the extent of vireo habitat altered and the number of vireos harmed or harassed as a direct or indirect result of Project-construction activities; and (2) the yearly timing and extent of operation and maintenance activities. The reporting period will be from March 1 to March 1 and the report is due on July 15 each year.

DISPOSITION OF SICK, INJURED, OR DEAD SPECIMENS

The Corps shall notify the PSFWO (see address and phone number below) within 3 working days if any endangered or threatened species is found dead or injured as a direct or indirect result of Project implementation. Notification must include the date, time, and location of the injured animal or carcass, and any other pertinent information. In addition, mark dead animals appropriately, photograph, and leave the carcass on site; transport injured animals to a qualified veterinarian; and contact the PSFWO regarding the final disposition of any treated animals that survive.

REINITIATION NOTICE

This concludes formal consultation regarding the Project as described in materials submitted to us. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In all instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

For further information about this biological opinion, please contact Karin Cleary-Rose of the PSFWO, 777 E. Tahquitz Canyon Way, Suite 208, Palm Springs, California 92262; or at 760-322-2070, extension 206.

Sincerely,

G. Mendel Stewart
Field Supervisor

Enclosure

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Jones, E., United States Army Corps of Engineers, email with attachments to K. Cleary-Rose Palm Springs Fish and Wildlife Office, March 6, 2014.

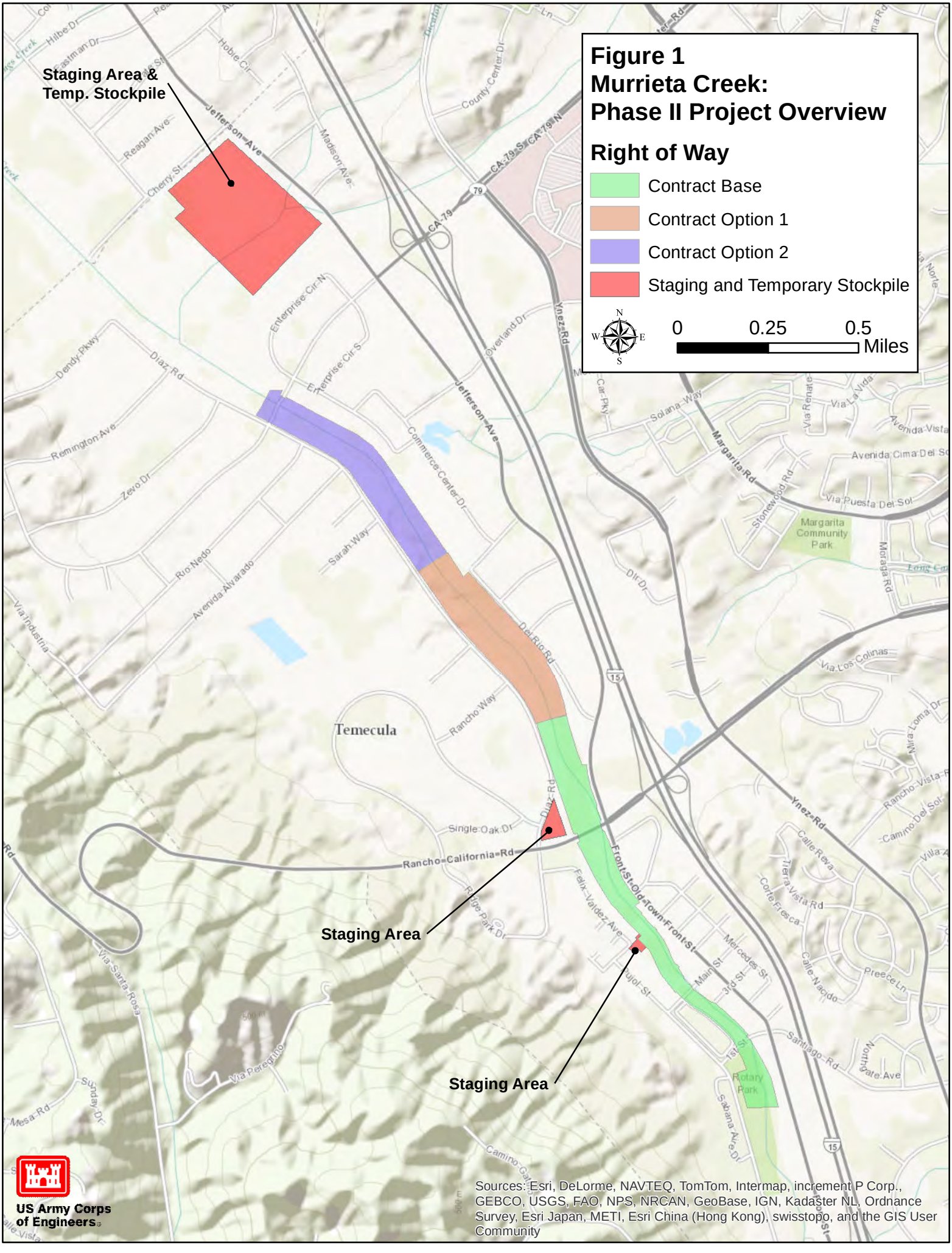
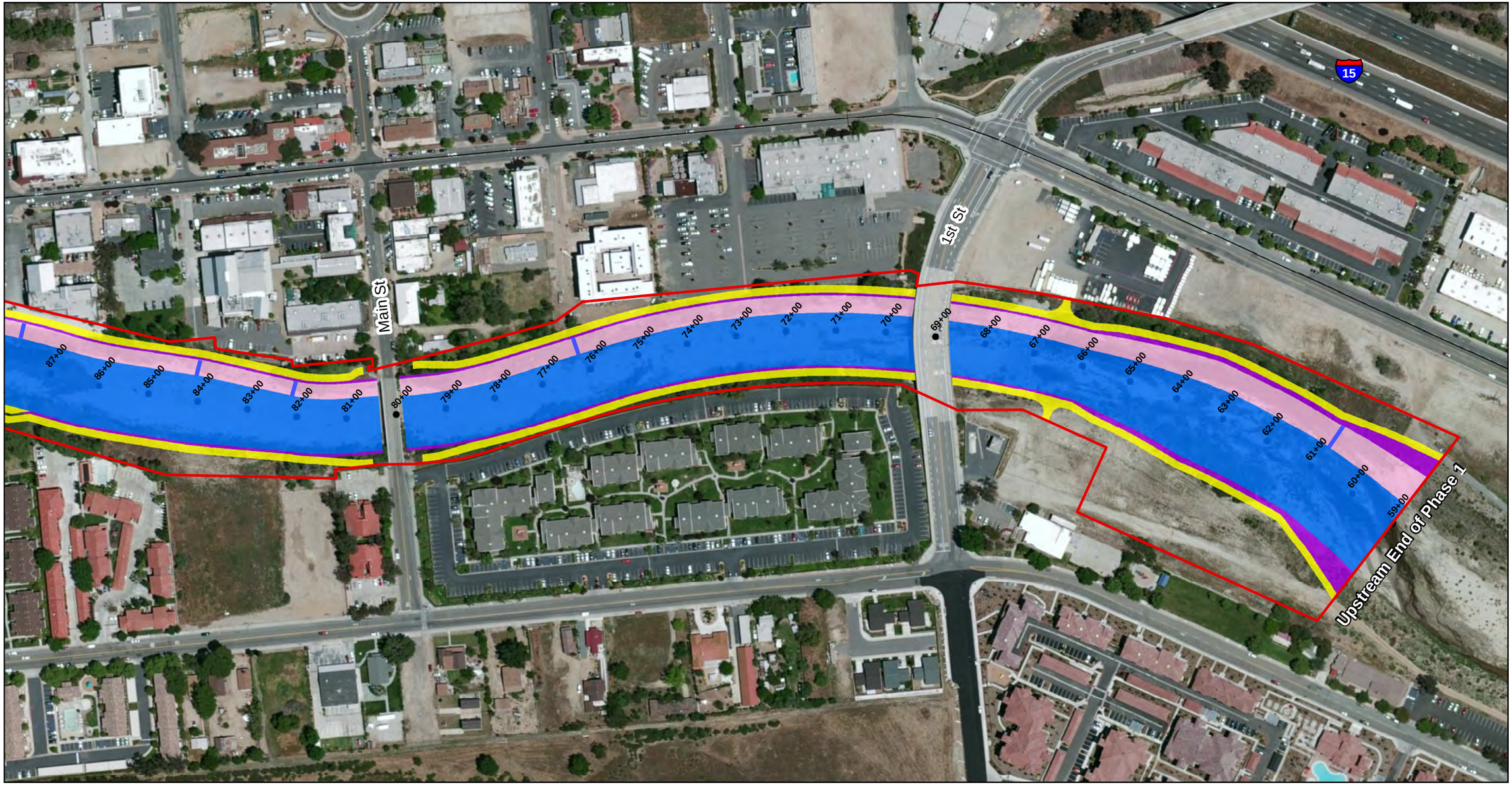


Figure 1
Murrieta Creek:
Phase II Project Overview
Right of Way
Contract Base
Contract Option 1
Contract Option 2
Staging and Temporary Stockpile
N
W
E
S
0
0.25
0.5
Miles
Staging Area &
Temp. Stockpile
Staging Area
Staging Area
Temecula
Jefferson Ave
CA-79
Ynez Rd
Rancho California Rd
Front St/Old Town Front St
Diaz Rd
Del Rio Rd
Margarita Rd
Margarita Community Park
Rotary Park
US Army Corps of Engineers
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community



Legend

- Right of Way
- Grade Control Structures
- Regulary Maintained Area
- Maintenance Roads
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope
- Side Drain Access

N

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
Copyright:© 2012 Esri, DeLorme, NAVTEQ, TomTom

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

0 100 200 400 Feet

Figure 3-1a Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT
Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Legend

- Right of Way
- Grade Control Structures
- Regulary Maintained Area
- Maintenance Roads
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope
- Side Drain Access

N

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
Copyright:© 2012 Esri, DeLorme, NAVTEQ, TomTom

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

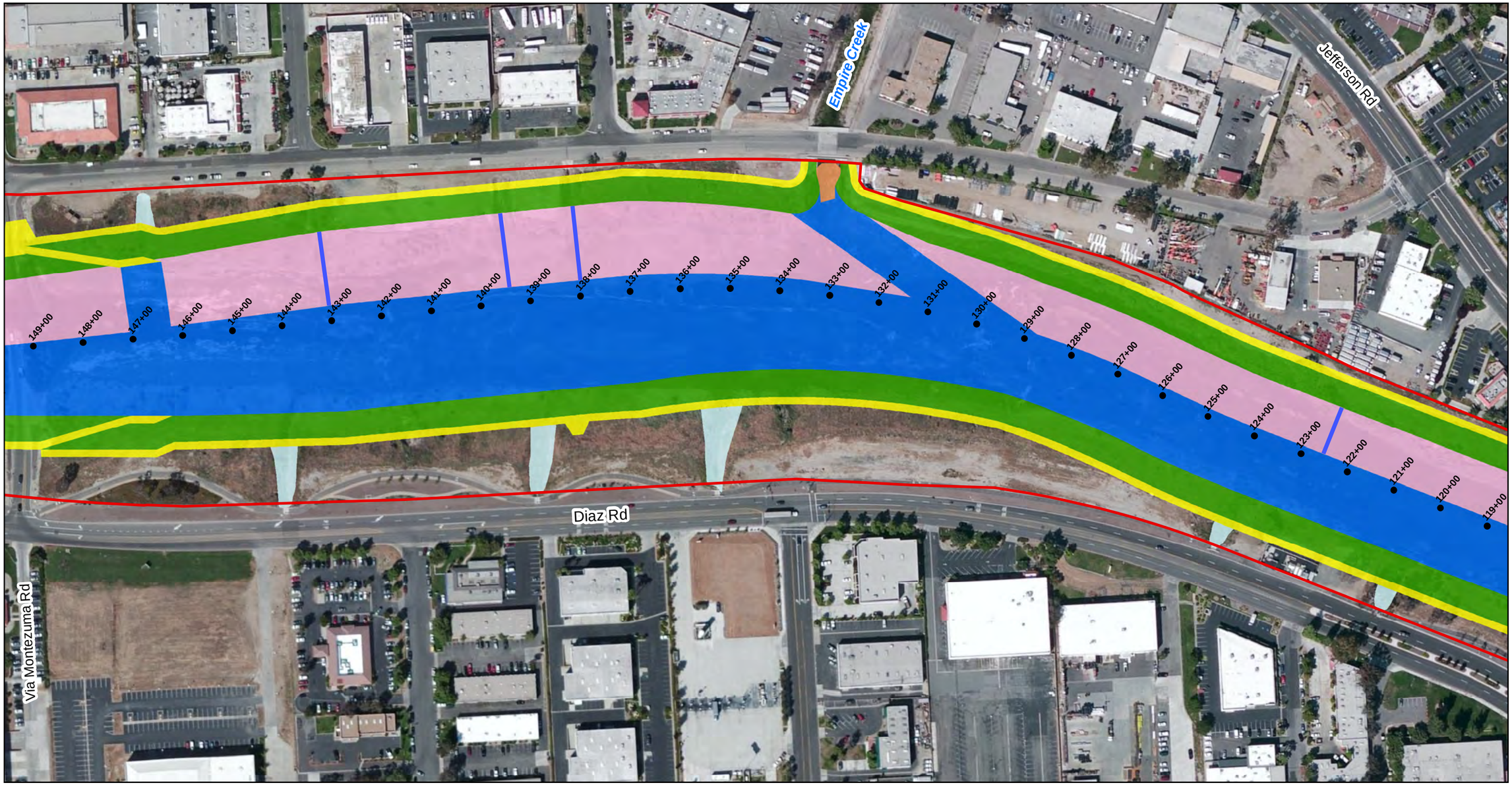
0 100 200 400 Feet

Figure 3-1b Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT



Legend

- Right of Way
- Grade Control Structures
- Regulary Maintained Area
- Maintenance Roads
- Side Drain Access
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope
- Side Drains

N

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
Copyright:© 2012 Esri, DeLorme, NAVTEQ, TomTom

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

0 100 200 400 Feet

Figure 3-1c Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Legend

- Right of Way
- Grade Control Structures
- Regulary Maintained Area
- Maintenance Roads
- Side Drain Access
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope
- Side Drains

N

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
Copyright:© 2012 Esri, DeLorme, NAVTEQ, TomTom

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

0 100 200 400 Feet

Figure 3-1d Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

Legend

- Right of Way
- Buffered Riparian/Low Flow Corridor
- Grade Control Structures
- Regulary Maintained Area
- Side Drain Access
- Maintenance Roads
- Riparian/Low Flow Corridor
- Soil Cement Slope
- Vegetated Slope

N

Sources:

Imagery Background:
ESRI ArcGIS Online Basemap Sources
Copyright:© 2012 Esri, DeLorme, NAVTEQ, TomTom

Coordinate System:
State Plane California VI (FIPS 406, Feet)
Datum: NAD 1983

Map Created: January 2014

0 100 200 400 Feet

Figure 3-1e Project Features

MURRIETA CREEK FLOOD CONTROL/ ENVIRONMENTAL RESTORATION AND RECREATION PROJECT

Supplemental Environmental Assessment and Environmental Impact Report for Phase II Modifications

U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT

APPENDIX J

Section 401 Water Quality Certification

California Regional Water Quality Control Board
San Diego Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/rwqcb9/
9174 Sky Park Court, Suite 100, San Diego, California 92123
Phone (858) 467-2952 • FAX (858) 571-6972

Gray Davis
Governor

Action on Request for
Clean Water Act section 401 Water Quality Certification

PROJECT: Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project (File No. 03C-046)

In reply refer to:
WPN:18-2003046.02:haasj

APPLICANTS: Ruth Villalobos
Chief of Planning
U.S. Army Corps of Engineers, Los Angeles District
911 Wilshire Blvd., # 14007
Los Angeles, CA 90017

Warren Williams
General Manager, Chief Engineer
Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, CA 92501

ACTION:

1. ☐ Order for Standard Certification

2. ■ Order for Technically-conditioned Certification

3. ☐ Order for Denial of Certification

I. STANDARD CONDITIONS:

The following three standard conditions apply to all certification actions, except as noted under Condition 3 for denials (Action 3).

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent

certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial certification action (Actions 1 and 2) shall be conditioned upon total payment of the full fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

II. ADDITIONAL CONDITIONS:

A. PROJECT CONDITIONS

1. The U.S. Army Corps of Engineers (USACE) and the Riverside County Flood Control and Water Conservation District (District) (hereinafter applicants) shall plan, design, and construct the Murrieta Creek Flood Control project (project) consistent with the engineering plans, specifications and technical reports submitted with this application for 401 Water Quality Certification and all subsequent submittals required as part of this certification.

2. The District shall, at all times, fully comply with the requirements of the Municipal Separate Storm Sewer NPDES Permit (NPDES No. CAS0108766) for Riverside County issued by the San Diego Regional Water Quality Control Board.

3. **Construction NPDES Permit:** The applicants shall, at all times, fully comply with the requirements of State Water Resources Control Board Water Quality Order No. 99-08-DWQ, the NPDES General Permit for Storm Water Discharges Associated with Construction Activity. The Storm Water Pollution Prevention Plan (SWPPP) created and implemented pursuant to the Construction NPDES permit's requirements shall also include the following provisions:

   a) All construction debris shall be removed from the Murrieta Creek channel as often as necessary to prevent material from being washed downstream.
   b) No construction activities shall take place during rain events, except under emergency conditions or to repair erosion control measures.
   c) No runoff from equipment repair and maintenance activities shall be discharged to Murrieta Creek.
   d) Trash and debris accumulated in construction areas shall be removed at the close of each working day.
   e) No waste material from construction activities shall be discharged to waters of the State.
   f) Refueling and maintenance of equipment and vehicles shall be prohibited within 50 feet of Murrieta Creek and its tributaries.
   g) Routine maintenance activities shall not be conducted from December 1 through February 28 in order to avoid winter rains.

h) During construction activities there shall be no net increase in sediment from the project site. The applicants shall establish a water quality monitoring program to measure sediment above and below the construction sites. An increase greater than 5 percent above background (upstream site) shall result in work stoppage and installation of appropriate best management practices (BMPs). Water quality monitoring shall occur after every significant rainfall and results shall be reported to the Regional Board within 5 working days of the sampling event.

i) To avoid impacts to water quality from turbidity and other effects, the project construction and maintenance activities shall not be performed in flowing water except under emergency conditions and situations involving repair of erosion control BMPs.

j) Hydroseed used as temporary erosion control shall consist of native species, and hay bales or hay wattles used as sediment or erosion control shall be sterile certified.

4. **Multipurpose Basin (Basin) and Sediment Catchment Area:** Design, construction, and operation/maintenance of the Basin and sediment catchment area, located with the multipurpose basin and at the confluence of Murrieta Creek and Warm Springs Creek, shall include the following provisions:

   a) The Basin shall be designed to minimize impacts to downstream water resources and beneficial uses caused by flood attenuation (see Condition IV.5).

   b) The sediment catchment area will not be placed in a manner that interrupts the contiguous canopy of the upstream unmaintained vegetated corridor and the unmaintained vegetated areas within the multipurpose basin.

   c) The planned frequency of sediment removal from the sediment catchment area shall not be more often than once in a 10-year period.

   d) The outlet of the sediment catchment area shall be designed to allow passage of aquatic species during times of flow.

   e) Maintenance activities within the sediment catchment area shall not impact habitat within the wildlife enhancement area or mitigation areas of the Multipurpose Basin and unmaintained vegetated corridor.

   f) The applicants shall routinely monitor the condition of Murrieta Creek downstream of the Multipurpose Basin and shall notify the Regional Board within 14 days of discovery of any excessive scour, erosion or aggradation caused by the modifications to the stream channel and sediment transport regime. If significant degradation or aggradation impacts from post-construction runoff are determined to be a result of the project, the applicant shall also propose mitigation measures.

5. **Tributaries:** Hydrologic continuity shall be preserved between Murrieta Creek and existing tributaries (Temecula Creek, Empire Creek, Long Canyon Creek, Santa Gertrudis Creek, Warm Springs Creek, Kamia Wash/Line F, Line D, and Line E), within the project areas for all construction and post-construction phases. Flap gates or other restrictive structural devices shall not be installed for the tributaries to Murrieta Creek.

6. **Grade Control:** Any drop structures or grade control measures within Murrieta Creek or its confluences with tributary waters of the State shall be designed to:

   a) Allow for fish and wildlife passage during all storm events;
   b) Not impede stormflows greater than the 2-year storm event; and
   c) Provide functional habitat connectivity between the upstream and downstream reaches.

7. **Recreational Use BMPs.** The applicants shall design, construct, and implement best management practices (BMPs) to address urban runoff and stormwater discharges from recreational uses of the equestrian trail, bike/walk trail, and multipurpose basin. These BMPs shall include site design, source control, pollution prevention, and treatment BMPs as appropriate.

   a) The applicants shall identify recreational use BMPs within the specific construction plans for each phase of construction submitted pursuant to Condition II.A.12 above.
   b) BMPs to be considered shall include at a minimum: Site design to disconnect impervious surfaces from recreational areas to storm drain conveyances; Educational signage regarding trash and horse waste; Structural devices; Use of drought-tolerant landscaping; On-site infiltration; and others recommended by the Regional Board following review of construction specific plans.

8. **Bridge Replacements**: The applicants shall design, construct, and implement post-construction best management practices (BMPs) to reduce the discharge of pollutants and the contribution to downstream erosion caused by urban runoff and stormwater discharges from bridges replaced as part of this project.

   a) Energy dissipaters used at runoff discharge locations from any deck drains shall be planted with native vegetation, where possible.
   b) The applicants shall routinely monitor the condition of Murrieta Creek in the vicinity of the bridge replacement projects, including the outfall discharge location(s) of any deck drains, and shall report to the Regional Board any excessive scour and/or erosion caused by the placement of the structure. If significant impacts from post-construction runoff are determined to be a result of the project, the applicant shall notify the Regional Board and propose mitigation measures.

9. **Rare Avian Species:** Prior to any construction activities that occur between March 15 and September 15, the applicants shall conduct a USFWS-protocol survey for southwestern willow flycatcher and least bell's vireo in the planned construction area.

   a) If vireos or flycatchers are found to occur within the project area, all construction activities between March 15 and September 15 shall occur outside occupied habitat, unless the activities are approved by the U.S. Fish and Wildlife Service and California Department of Fish and Game.

b) Within 7 days of the survey, the applicants shall notify the Regional Board by email, phone, fax, or letter of any discovery of vireo and flycatcher within the project area.

10. **Maintenance of Channel and Mitigation Corridor:** Operations and maintenance activities shall implement the following provisions:
    a) Mowing, clearing, grading, sediment removal, and installation of riprap or other hardscape materials shall be prohibited within the areas designated as unmaintained vegetated corridor, upland slope transition zone, and/or mitigation zones.
    b) If the low-flow, active channel of Murrieta Creek meanders into the unmaintained vegetated corridor, routine channel maintenance activities shall not divert the flow back into the maintained channel zone.
    c) Routine maintenance activities within the channel (e.g., annual mowing) shall not occur between March 15 and September 15.

11. **Emergency Maintenance:** Impacts to waters of the U.S./State resulting from emergency maintenance operations are not authorized under this certification.

    a) The applicants shall obtain a Section 401 Water Quality Certification for any emergency maintenance measures performed during the life of the project that result in fill of waters of the U.S.
    b) Channel sideslopes subject to emergency erosion repairs shall be hydroseeded with native species at the completion of emergency repairs.

12. **Isolated Waters:** In the event the Army Corps of Engineers or future reconnaissance surveys (see Condition IV.4.A.7) determines that isolated waters (e.g., vernal pools) not regulated by the USACE occur within the project boundaries, the Applicants shall submit a Report of Waste Discharge to the Regional Board, and receive Waste Discharge Requirements prior to implementation of the construction phase that would impact such waters.

13. **Dewatering**: This certification does not address dewatering; separate authorization (e.g., per Regional Board Order No. 2001-96) will be required from the Regional Board for any dewatering impacts.

14. The applicants shall permit the Regional Board or its authorized representatives at all times, upon presentation of credentials:

    a) Entry onto project premises, including all areas on which waters of the U.S./State fill or mitigation is located or in which records are kept;
    b) Access to copy any records required to be kept under the terms of this certification; and
    c) Sampling of any discharge or surface water covered by this Order.

B. MITIGATION

1. The applicants shall implement mitigation measures as specified in the application for 401 water quality certification and all subsequent submittals required as part of this certification.

2. **Anticipated Impacts Requiring Mitigation.** Although the entire channel of Murrieta Creek within the project area will be impacted during construction, the exact nature of impacts to waters of the U.S./State are uncertain due to the phased construction schedule and differing assessments conducted within the project area. Exact impacts shall be identified prior to the initiation of the later construction phases. The Regional Board has estimated, however, that the applicants have the ability to mitigate for all impacts, according to ratios prescribed by this Certification, within the project area, including within the multipurpose basin if necessary. Mitigation for impacts to certain habitats, including Cismontane Alkali Marsh and depressional wetlands, are expected to occur within the multipurpose basin.

   The following table was provided within the Environmental Impact Statement/Environmental Impact Report (EIS/EIR), September 2000, and describes anticipated impacts during construction.

   a) Only impacts to waters of the U.S./State identified in the EIR/EIS table or subsequent specific plans (see Condition "B.2.c" below) are subject to this Certification. Such impacts during future operations and maintenance include those related to periodic mowing and sediment removal of the managed channel and sediment catchment area as described within the 401 application and additional submittals.
   b) Mitigation shall be provided by the applicants for impacts to wetland and waters habitats that are described in the Table as "Non-jurisdictional Habitats," including but not limited to Cismontane Alkali Marsh, Ephemeral Wetland, Freshwater Marsh, Southern Cottonwood-willow Riparian Forest, Mulefat Scrub, Mixed Riparian Scrub, and Open/Sand.
   c) The applicants shall provide detailed impacts for each construction phase prior to the start of construction of that phase (as described in Reporting Conditions below).
   d) Impacts to the areas identified as Reaches within the Table are expected to occur according to the following construction schedule:
      i. Reach 1 – Construction Phases 1 and 2.
      ii. Reach 2 – Construction Phase 2
      iii. Reach 3 (includes the Basin) – Construction Phase 3
      iv. Reach 3 upstream of Basin – Construction Phase 4
      v. Reaches 4, 5 and 6 – Construction Phase 4

Table from p. 4-72 of Murrieta Creek Final EIR/EIS:

4.5 Biological Resources

Table 4.5-10
Alternative 6: Summary of Impacts to Vegetation and Jurisdictional Waters and Wetlands
(In acres)

	Reach 1	Reach 2	Reach 3	Reach 4	Reach 5	Reach 6	TOTAL
U.S. Army Corps of Engineers and California Dept. of Fish and Game Jurisdiction Waters and Wetlands							
Freshwater marsh	21.4	57.6	19.0	1.1	0.1	–	99.2
Southern willow scrub	2.9	–	–	–	–	0.9	3.8
Mulefat scrub	0.6	–	–	0.4	0.6	0.1	1.7
Open channel/sand*	1.5	–	0.5	36.9	8.7	11.5	59.1
California Department of Fish and Game Only Jurisdictional Waters and Wetlands							
Southern willow scrub	–	–	–	0.4	0.2	1.6	2.2
Mulefat scrub	–	–	–	0.2	–	–	0.2
Non Jurisdictional Habitats							
Cismontane alkali marsh	–	0.5	0.7	–	–	–	1.2
Developed	6.5	3.4	–	0.8	1.7	1.9	14.3
Disturbed habitat	5.1	19.6	133.0	30.4	11.5	3.1	192.7
Disturbed riparian	0.1	1.6	23.0	2.0	0.9	–	27.6
Ephemeral wetland	2.7	4.1	0.8	7.6	0.4	0.4	16.0
Freshwater marsh	–	–	2.6	–	–	–	2.6
Mulefat scrub	7.5	3.9	22.1	1.3	0.7	0.9	36.4
Mixed riparian scrub	–	–	1.1	–	–	–	1.1
Non-native grassland	1.8	11.4	44.8	6.7	2.2	3.4	70.3
Non-native woodland	–	–	–	0.4	0.3	–	0.7
Open/sand	–	–	9.2	31.4	–	0.2	40.8
Riversidian sage scrub	0.5	–	–	–	–	–	0.5
Southern cottonwood-willow riparian forest	2.0	–	7.6	–	0.3	0.1	10.0
TOTAL	52.6	93.1	264.4	119.6	27.6	24.1	581.4

Notes:
Reach 3 includes the area for the multi-purpose detention basin.

* defined as USACOE waters of the United States

3. Mitigation for temporary and permanent impacts to waters of the State/U.S. for the entire flood control project shall include a 2:1, in-kind ratio for all impacts to waters of the State, except for temporary impacts to unvegetated streambed and freshwater marsh, which shall be mitigated at a 1:1 ratio.

   a) The mitigation shall be achieved in the following locations:
      i. Restoration of the Murrieta Creek streambed (for temporary streambed impacts);
      ii. The creation of the unmaintained vegetated riparian area (of no less than 73 acres outside the multipurpose basin);
      iii. Continuation of the vegetated corridor within the multipurpose basin;
      iv. Portions of the ecological restoration area within the multipurpose basin; and

v. Other mitigation identified in specific plans for subsequent phases necessary to reach the minimum ratios.

b) The 2:1 ratios must be achieved for the cumulative project (Phases 1 through 4);
c) Each Phase of construction shall be accompanied by mitigation that achieves no less than an in-kind, 1:1 ratio for impacts. Additional mitigation required to achieve the cumulative 2:1 ratio may be met during construction of the multipurpose basin in Phase 3;
d) No more than 5 years may lapse between impacts to waters of the State/U.S. and mitigation planting that achieves the 2:1 ratio. For example, mitigation "debt" from Phase 1 or Phase 2 to be met by construction in the Basin must occur within 5 years of impacts sustained during Phase 1 and Phase 2.

4. **Phase 1 Mitigation:** Mitigation for impacts to waters of the State/U.S. from construction of Phase 1 shall include implementation of "The *Revegetation and Monitoring Plan for Murrieta Creek Phase 1"* (preliminary draft, July 2003).

5. **Mitigation Timing:** The USACE and District shall initiate vegetated-corridor mitigation planting for each phase of construction within 90 days of completion of grading for that phase is completed, or within 12 months of impacts, whichever is sooner. Mitigation planting to be performed within the Basin shall be in accordance with Condition II.B.3 above.

6. **Exotic Species Control.** The applicants shall implement the following mitigation measures for control of exotic species that threaten beneficial uses of the post-construction project area:

a) Giant Reed (*Arundo donax)* shall be absent from the channel;
b) Salt Cedar (*Tamarix spp.)* shall comprise no more than 2% of the vegetation present in the channel bottom and sideslopes;
c) Total non-native vegetation shall comprise no more than 5% of the vegetation present in the channel bottom and sideslopes;
d) The applicants shall implement a bullfrog control program intended to facilitate colonization of Arroyo Toads; and
e) Ornamental vegetation planted on the levees (only native vegetation shall be planted within the channel and sideslopes) shall not include any species listed on the California Exotic Pest Plant Council (CalEPPC) Pest Plan Lists (current lists include "List A", "List B", "Red Alert", "Annual Grasses", and "Need More Information." Updated lists are available at http://groups.ucanr.org/ceppc/Pest_Plant_List/) .

7. **On-Site Biologist/Monitor:** A qualified biologist will monitor construction activities daily for approximately one month at the initiation of each construction phase, after that the biologist will monitor construction activities at least monthly. The biologist/monitor will provide field notes to the construction crew and brief them on environmental commitments during pre-construction meetings. The biologist/monitor will participate in the construction meetings to ensure that environmental commitments/ mitigation measures are followed

during construction. The biologist/monitor will instruct the Contracting Officer to stop construction or correct the problem and provide a warning if a violation to an environmental commitment were to occur or has the potential to occur.

8. If at any time impacts from the project are determined by the Regional Board to be substantial and not proportional to the mitigation measures, the Regional Board may specify additional mitigation measures.

III. DISCHARGE PROHIBITIONS:

1. The project shall not cause a discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050.

2. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or this water quality certification is prohibited.

3. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the Regional Board pursuant to this water quality certification.

4. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by this water quality certification.

5. The discharge of waste into a natural or excavated site below historic water levels is prohibited.

6. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

IV. MONITORING AND REPORTING:

1. **Related Projects Report:** By November 1, 2003 the Riverside County Flood Control and Water Conservation District shall submit a report to the Regional Board that describes all projects within the proposed Project area that have been implemented or approved by the District within the last five years or planned for implementation within the next five years that are related to the proposed activity or that may impact the same receiving water body(ies) as the proposed project. The report shall identify the precise locations of any projects involving revegetation, restoration, or habitat creation within the proposed Flood Control project area.

2. **Semi-Annual Progress Reports:** The applicants shall submit semi-annual progress reports to the Regional Board until six months after the completion of the last phase construction (Phase IV).

   a) The reports shall be submitted in electronic and hardcopy formats.
   b) The reports shall be due March 31 and September 30 of each year.
   c) The reports shall identify and provide a discussion of activities conducted during the prior 6 months.
   d) The reports shall provide a discussion of projected activities and plans for the next six months.
   e) The reports shall include the results and description of the most monitoring surveys of mitigation sites conducted within the previous six months and in accordance to the schedule in the Final Revegetation and Monitoring plans for each phase.

3. **Bridge Replacements BMP Reports**: The applicants shall submit a report to the Regional Board identifying the post-construction BMP plan for each bridge to be replaced and shall demonstrate compliance with Condition II.A.8 above. This Bridge BMP report is due at least 120 days prior to initiation of bridge replacement activities.

4. **Final Specific Project Plan Reports:** The applicants shall submit Specific Plan Reports to the Regional Board for review and comment by December 1, 2003 for Phase1 and prior to 120 days of initiating impacts for each subsequent phase (Phases 2, 3, and 4). These reports shall consist of Construction Specific Plans, Draft or Final Maintenance Plans, and Final Restoration, Mitigation and Monitoring Specific Plans:

   a) Construction Specific Plans: The Construction Specific Plans shall demonstrate each phase will be designed, constructed, operated and maintained in a manner that does not cause or contribute to a violation of State water quality standards.

      i. These plans shall also include the following:

a. A discussion that identifies any significant changes to the conceptual plans that have already been submitted as part of the application for 401 Certification; and
b. Identification of the locations of any Waters of the State that are not subject to Federal Section 404 jurisdiction (e.g., isolated or ephemeral wetlands) that would be impacted by planned construction activities.

ii. The applicants shall notify the Regional Board within 21 days following revisions to the specific plans that would change the reported impacts to Waters of the U.S./State, change revegetation plans, add structural elements to the channel or sideslopes, alter or restrict flows of Murrieta Creek or its tributaries, and constitute any other significant change to the plans

b) Final Maintenance Plans: The Maintenance Specific Plans for each phase shall demonstrate compliance with Condition A.II.10 above. If draft Maintenance Plans are submitted for the "120-day deadline," then the Final Plan shall be submitted within 90 days of completion of that construction phase.

c) Final Restoration, Mitigation and Monitoring Plans:

i. Final specific mitigation plans for each phase of construction shall clearly identify the precise location of mitigation areas to facilitate future compliance inspections.

ii. The Final Mitigation and Monitoring Plans for each phase shall include construction plans and specifications that include, but are not limited to, the following:
   a. Proposed channel designs and earthwork for all mitigation areas, including appropriate cross sections and plan views;
   b. A detailed planting plan, including species lists, plant sizes and quantities, planting designs. densities, and maintenance requirements;
   c. Detailed implementation schedules, including but not limited to, dates for initiation and completion of mitigation installation, recordation of conservation easements, initiation of monitoring period, reporting dates, etc.;
   d. An irrigation plan;
   e. Specific details regarding hydrologic, habitat, and biochemical monitoring, including function-based performance standards, sample locations, periodicity, and qualitative and quantitative indicators; and
   f. All other information as appropriate and requested by the Regional Board based on review of previous submittals.

iii. Hydrogeomorphic (HGM) Functional Success Criteria: The Final Revegetation and Monitoring Plan for each phase shall include function-based success criteria. Criteria may be based on *Function-Based Performance Standards for Evaluating*

the Success of Riparian and Depressional/Emergent Mitigation Sites (Prepared by PCR Services Corporation for the U.S. Army Corps of Engineers, Los Angeles District; 1999), or equivalent functional analysis. Functional analysis shall include functions for Habitat, Biogeochemical/water quality, and Hydrologic functions.

a. Success criteria for each mitigation phase shall only be considered met following at least 12 months without irrigation of mitigation areas.

iv. Unmaintained Corridor: Final specific restoration, mitigation, and monitoring plans for each phase of construction shall include a permanent, continuous, and unmaintained vegetated corridor throughout the entire project length, from the USGS stream gauge upstream to Tenaja Road. The unmaintained vegetation corridors within the channel, including the Basin, shall be at widths and areas no less than specified in the EIR/EIS.

a. Minimum corridor areas: The minimum vegetated corridor areas shall be:

Stream/Study Reach per EIR/EIS	Anticipated Construction Phase	Minimum Area
Reach 1	1 and 2	6 acres
Reach 2	2	14.6 acres
Basin	3	145 acres
Reach 3 (above the basin) through Reach 6	4	50 acres

b. Corridor widths: The vegetated corridor width within each Reach shall not be less than specified in the EIR/EIS and subsequent section 401 application submittals. The average width of the vegetated corridor construction Phase One shall be approximately 80 feet, and the minimum width shall not be less than 60 feet. The corridor within the Basin shall include the entire basin except for the sediment catchment area, recreation area, and two 100-foot wide managed corridors for Murrieta Creek flood control.

v. Terraces: Specific mitigation plans for each phase of mitigation shall include a terrace feature within the unmaintained vegetated riparian corridor that will be designed to allow overbank flooding onto the lowermost terrace at approximately the 2-year recurrence interval.

vi. "Ephemeral Wetlands": Mitigation plans for creation of habitat within the multipurpose basin (Phase 3) shall include the creation of ephemeral/depressional wetlands to compensate for losses of ephemeral/depressional wetlands.

vii. Reconnaissance Surveys: In the Spring or Summer prior to initiation of construction of each Phase of the project, but at least 5 months following annual

mowing of the Creek, the applicants shall conduct a reconnaissance survey within each planned construction area to record biological conditions and verify HGM values. These surveys will serve to document expected impacts to waters of the State/U.S. with more precision than the conceptual plans submitted with the application for 401 Certification. The results from Spring/Summer surveys shall be submitted to the Regional Board for review and comment with the proposed Revegetation/mitigation plans for each construction Phase of the project.

5. **Estimating Flood Attenuation Impacts from Multipurpose Basin:** The application for 401 Certification lacks conclusive documentation to quantify potential impacts to beneficial uses of downstream habitats caused by flood attenuation within the planned multipurpose basin (Basin) that is planned for Construction Phase 3. Mitigation for potential impacts from flood attenuation of storms up to the 25-year event was not proposed. As a result, **prior to March 1, 2004** the applicants shall submit to the Regional Board a report of anticipated impacts to downstream water resources and beneficial uses caused by flood attenuation of the Basin.

   a) The Report shall assess potential impacts at several storm frequencies between the 2-year and 25 year storm events;
   b) The Report shall address potential impacts to habitats upstream and downstream of the Santa Margarita River "Gorge" area; and
   c) If downstream impacts to WARM, COLD, WILD, or RARE beneficial uses are expected to result from flood attenuation within the Basin, the applicants shall propose mitigation in consultation with CDFG and USFWS as appropriate. The proposal for mitigation shall assess opportunities for avoiding and minimizing impacts caused by attenuation of flows during intermediate storm events.

6. **Mitigation As-built Plan Reports:** The USACE shall submit a report (including topography maps and planting locations) to the Regional Board within 60 days of completion of mitigation for each phase of construction describing the as-built status of the mitigation projects.

V. NOTIFICATIONS

1. This Certification is not transferable to any person except after notice to the Executive Officer of the San Diego Regional Water Quality Control Board (Regional Board). The applicant shall submit this notice in writing at least 30 days in advance of any proposed transfer. The notice must include a written agreement between the existing and new owner containing a specific date for the transfer of this Certification's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgement that the existing owner is liable for violations up to the transfer date and that the new owner is liable from the transfer date on.

2. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under state law. For purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

3. In response to a suspected violation of any condition of this certification, the Regional Water Quality Control Board (SDRWQCB) may require the holder of any permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the SDRWQCB deems appropriate, provided that the burden, including costs, of the reports shall be a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

4. In response to any violation of the conditions of this certification, the SDRWQCB may add to or modify the conditions of this certification as appropriate to ensure compliance.

5. All information requested in this Certification is pursuant to California Water Code Section 13267, subsequently, civil liability may be administratively imposed by the Regional Board for failure to furnish requested information pursuant to CWC § 13268.

6. All applications, reports, or information submitted to the Regional Board shall be signed and include the following certification:

   "*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for*

submitting false information, including the possibility of fine and imprisonment for knowing violations."

7. Funds from grants distributed from the State Water Resources Control Board or Regional Board cannot be used to implement mitigation measures associated with this project, unless expressly authorized by language within the grant contract. The use of such grant funds may jeopardize the acceptance of proposed mitigation measures.

PUBLIC NOTIFICATION OF PROJECT APPLICATION:

On May 5, 2003 receipt of the project application was posted on the SDRWQCB web site to serve as appropriate notification to the public.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Jeremy Haas
California Regional Water Quality Control Board, San Diego Region
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WATER QUALITY CERTIFICATION:

I hereby certify that the proposed discharge from the Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project (File No. 03C-046) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. In accordance with the Water Quality Control Plan for the San Diego Basin (9) (Basin Plan), the conditions specified in this Water Quality Certification constitute the conditions for waiving waste discharge requirements for the alteration of the Murrieta Creek stream channel. This waiver of waste discharge requirements may be terminated or modified for cause including but not limited to a violation of any condition specified in this Water Quality Certification.

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicants' project description and/or on the attached Project Information Sheet, and (b) on compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).

JOHN H. ROBERTUS
Executive Officer
Regional Water Quality Control Board

8/15/03
Date

Attachments 1 and 2

ATTACHMENT 1

PROJECT INFORMATION

Applicant:

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Warren Williams
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909-955-1250
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Applicant Representatives:

n/a

Project Name:

Murrieta Creek Flood Control, Environmental Restoration, and Recreation Project (File No. 03C-046)

Project Location:

The proposed project site is located along 7 miles of Murrieta Creek from approximately the USGS stream gage in Temecula to Tenaja Road in Murrieta. The location includes the entire stream channel along this length and some adjacent floodplain and upland areas.

Type of Project:

Flood Control

Project Description:

The primary purpose of the project is to alleviate flooding along Murrieta Creek within the Cities of Temecula and Murrieta by providing capacity to manage a 100-year flow in the project area. The U.S. Army Corps of Engineers will design and construct the project and the Riverside County Flood Control and Water Conservation District will maintain the area. Development has encroached upon the 100-year floodplain throughout the project area, and this project will remove all properties within the 100-year floodplain. The project will excavate and widen the channel and construct levees to confine the 100-year storm event within the modified channel.

The proposed project consists of the construction, operation and maintenance of a flood control channel and a 270-acre multipurpose detention basin (Basin). The project includes the construction of a recreational trail system, a regional sports park, bridge replacements, and

environmental restoration. The modified channel bottom will vary between 140 and 275 feet and will remain earthen. Side slopes will be primarily earthen. Gabions will be used only to line the creek adjacent to Old Town Temecula. Hardscape will be limited to protection of water line infrastructure. Buried riprap/soil cement bank protection will be placed only where necessary, with specific locations determined as specific plans are developed. Levees will be built around the multipurpose basin, on the eastern bank from the Basin to the upstream project limit, and on the west bank along portions of the project upstream of the Basin. All levees will be covered with 2-3 feet of soil and planted with native vegetation on the inner slopes.

The reconstructed channel will include a managed corridor and an unmaintained corridor. Maintenance of the managed area will include annual mowing along the entire project length and periodic removal of sediments. The unmaintained vegetated corridor of varying widths will be constructed within the channel along the entire project length, and side slopes will also remain unmaintained.

The multipurpose basin (Basin) will include a sediment catchment area at the confluence of Warm Springs creek. The Basin will be designed to not substantially impede flows less than the 25-year flood event, and it will be dredged every 10 to 15 years. The Basin will also include a restoration area of 163 acres, part of which may serve as mitigation for impacts from the flood control project. In addition, the Basin will include a sports park located outside of the recreated channel.

Conceptual plans have been submitted for the entire project, and specific plans have been submitted for Phase I. The project is expected to be designed and constructed in four phases and completed by September 2008:
Phase I – from USGS stream gage to 1st Street in Temecula
Phase II – from 1st Street to Winchester Road in Temecula
Phase III – the Multipurpose Basin
Phase IV – from the Basin to Tenaja Road in Murrieta

Federal Agency/Permit:	Because this is a Federal project, a Section 404(b)(1) analysis was conducted in-lieu of issuance of a Section 404 permit.
Other Required Regulatory Approvals:	California Department of Fish and Game Streambed Alteration Agreement.
California Environmental Quality Act (CEQA) Compliance:	The Riverside County Flood Control and Water Conservation District issued a Notice of Determination for the EIR on January 28, 2003.
Receiving Water:	Murrieta Creek, tributary to Santa Margarita River (HA 902.30)

Impacted Waters of the United States:	The proposed project would impact the entire length of Murrieta Creek within the project area. The exact impacts for future construction phases are unknown as habitats within the project area may change, and future delineations will identify specific impacts. Based on the 2000 EIS/EIR, impacted habitats for the entire project include freshwater marsh (~100 acres), southern willow scrub (~4 acres), mulefat scrub (~37 acres), open channel (~60 acres), cismontane alkali marsh (~1 acre), depressional wetland (~16 acres), southern cottonwood/willow riparian forest (~10 acres). The majority of the impacts to channel waters of the U.S./State are considered temporary. Impacts for Phase 1, based on a May 2003 reconnaissance include: Temporary: - 6.9 acres of Marsh - 0.5 acres of Open Channel - 2.8 acres of Willow Riparian Cottonwood Forest - 0.34 acres of Mulefat Scrub Permanent: - No impacts to jurisdictional waters were identified as permanent.
Dredge Volume:	Estimated 6.2 million cubic yards
Related Projects Implemented/to be Implemented by the Applicant(s):	The Riverside County Flood Control and Water Conservation District is involved in several projects within the project area. These include mitigation for prior impacts, routine channel maintenance, approval and/or design of revegetation and structural projects by the Cities of Murrieta and Temecula, and others.
Avoidance/Minimization Measures:	The use of hardscape materials was minimized. Construction will be phased.
Compensatory Mitigation:	Mitigation would be performed in accordance with the conceptual mitigation/revegetation plan for the entire project and specific mitigation plans developed for each construction phase. Mitigation ratios include a. 1:1 for temporary impacts to open water freshwater marsh habitat by restoring temporary impacts b. 2:1 for all other impacts to waters of the U.S./State.
Best Management Practices:	Construction BMPs will be implemented in accordance with the Statewide General Construction stormwater permit, including prompt reseeding/revegetation following emergency bank stabilization efforts. Post-construction BMP plans will be submitted for the recreation areas.
Public Notice	On May 5, 2003 receipt of the project application was posted on the SDRWQCB web site to serve as appropriate notification to the public.

ATTACHMENT 2
DISTRIBUTION LIST

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Division of Water Quality

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