Riverside County Flood Control and Water Conservation District

Riverside, California

FINAL CEQA INITIAL STUDY

for the

South Norco Channel, Stage 6, Norco MDP Line S-1 Stage 1 and MDP Line S-5 Stage 1 Project

ZONE 2

October 2015

Prepared by:
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7578 El Cajon Boulevard
La Mesa, California 91942

Prepared for:
WARREN D. WILLIAMS
General Manager-Chief Engineer
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1995 Market Street
Riverside, California 92501

South Norco Channel, Stage 6, Norco MDP Line S-1 Stage 1 and MDP Line S-5 Stage 1 Project
Mitigated Negative Declaration/Initial Study

TABLE OF CONTENTS

LIST OF FIGURES

TABLE OF CONTENTS (cont.)

LIST OF TABLES

LIST OF APPENDICES

INTRODUCTION

Regulatory Framework

In accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000–21177), this Initial Study has been prepared to determine potentially significant impacts upon the environment resulting from the construction and operation of the ***South Norco Channel, Stage 6, Norco MDP Line S-1 Stage 1 and MDP Line S-5 Stage 1*** project (collectively hereinafter referred to as the "project"). In accordance with Section 15063 of the State *CEQA Guidelines*, this Initial Study is a preliminary analysis prepared by the Riverside County Flood Control and Water Conservation District (District) as Lead Agency to inform the Lead Agency decision makers, other affected agencies, and the public of potential environmental impacts associated with the implementation of the proposed project.

Organization of the Initial Study

The Initial Study is organized as follows:

- **Introduction**: provides the regulatory context for the review along with a brief summary of the CEQA process.
- **Draft Mitigated Negative Declaration**: the draft document is provided for public review and comment.
- **Mitigation Summary**: compiles all proposed mitigation measures.
- **Project Information**: provides fundamental project information, such as the project description, project location and figures.
- **Environmental Factors Potentially Affected and Evaluating Environmental Impacts**: provides the parameters the District uses when determining level of impact.
- **Lead Agency Determination**: identifies environmental factors potentially affected by the project and identifies the Lead Agency's determination based on the initial evaluation.
- **CEQA Checklist**: provides an environmental checklist and accompanying analysis for responding to checklist questions.
- **References**: includes a list of references and various resources utilized in preparing the analysis.

Environmental Process

The Initial Study (IS) and Mitigated Negative Declaration (MND) describe the expected environmental impacts of the project. The draft IS/MND was circulated for a 30-day public review and comment period, which ended on July 22, 2015 (SCH No. 2015061065).

The District received three comment letters on the draft IS/MND. The first letter was from the California Department of Transportation (District 8), the second letter was from the Soboba Band of Luiseño Indians, and the third letter was from the California Department of Fish and Wildlife.

The District also received a letter from the State Office of Planning and Research (State Clearinghouse), which acknowledges that the District has complied with the State Clearinghouse requirements for draft environmental review pursuant to CEQA.

The comments and the District's responses to comments are included herein commencing on page 37. While some addition text was added to IS/MND responses IV(a), IV(b), and VIII(c) as a result of the comments, the comments and subsequent minor revisions do not change the analyses or conclusions provided in the draft IS/MND. Additionally, some minor revisions were made to the wording of mitigation measures CUL-1, CUL-2, and CUL-3 based on comments received. The District has determined that a Mitigated Negative Declaration is the appropriate CEQA document for the project.

Comments, and related responses, will be included with the Initial Study document for consideration by the Board of Supervisors for the District. If the Board concurs with the findings presented herein, the enclosed MND will be adopted and the project will be approved on January 5, 2016 at 10:30 a.m., at the meeting room of this Board, 1st Floor, County Administrative Center, 4080 Lemon Street, Riverside, California.

MITIGATED NEGATIVE DECLARATION

State Clearinghouse Number:	Contact Person:	Telephone Number:
2015061065	Kris Flanigan	(951) 955-8581 Email: kflaniga@rcflood.org

Lead Agency and Project Sponsor:
Riverside County Flood Control and Water Conservation District

Address:	City:	Zip:
1995 Market Street	Riverside	92501

Project Title and Description: South Norco Channel, Stage 6 MDP Line S-5 Stage 1 and MDP Line S-1 Stage 1 Project

The primary objectives of the project are to stabilize and increase the capacity of the existing earthen channel. Improvements to the South Norco Channel Stage 6 would consist of lining approximately 3,200 lineal feet (LF) of interim trapezoidal channel with concrete side slopes and cobble-lined natural bottom and the construction of approximately 700 LF of reinforced concrete box (RCB) along the existing earthen channel alignment. The open channel extends from the intersection of 2nd Street and Corona Avenue, northeasterly to the southwesterly corner of the Norco Intermediate School property adjacent to Temescal Avenue.

Line S-1 would be a below-ground storm drain extending from the South Norco Channel Stage 6 crossing of 3rd Street easterly within 3rd Street approximately 2,330 LF to Hillside Avenue, then northerly and southerly within Hillside Avenue approximately 150 and 70 LF respectively. Line S-1 sizes would range from 18- to 48-inch diameter reinforced concrete pipe (RCP). Lateral S-1B would be a below-ground storm drain extending from Line S-1 within 3rd Street approximately 110 LF southerly within Golden West Lane. Lateral S-1B would consist of 18-inch and 24-inch diameter RCP.

Line S-5 would be a below-ground storm drain extending from the upstream end of South Norco Channel Stage 6, northeasterly across the Norco Intermediate School, along Hillside Lane, a private street, and then northerly within Hillside Avenue. This facility would range in size from 36-inch RCP to a 6 x 4 foot RCB, and is approximately 3,250 LF. An additional reach of 30-inch and 24-inch RCP extends southerly approximately 140 LF within Hillside Avenue from the intersection with Hillside Lane.

Project Location:

The project alignment is located within the City and bounded to the west by Corona Avenue, to the east by Hillside Avenue, to the north by Hillside Lane, and to the south by 2nd Street. The project alignment is situated in Sections 7, 8, and 18 of Township 3 South, Range 6 West of the U.S. Geological Survey (USGS) 7.5-minute Corona North quadrangle.

The General Manager-Chief Engineer of the Riverside County Flood Control and Water Conservation District has made a finding that the proposed project will not have a significant adverse effect on the environment. An Initial Study supporting this finding is attached. This finding will become final upon adoption of this Mitigated Negative Declaration by the Board of Supervisors of the Riverside County Flood Control and Water Conservation District. Mitigation measures are as follows: Refer to attached Environmental Commitments & Mitigation Monitoring Program Table.

Signature: _____ Dated: 10/28/15

WARREN D. WILLIAMS
General Manager-Chief Engineer

The Board of Supervisors of the Riverside County Flood Control and Water Conservation District, assembled in regular session on January 5, 2016 has determined that the South Norco Channel, Stage 6, Norco MDP Line S-1 Stage 1 and MDP Line S-5 Stage 1 Project will not have a significant adverse effect on the environment and has adopted this Mitigated Negative Declaration.

Signature: _____ Dated: _____

KECIA HARPER-IHEM
Clerk of the Board

Attachment

Copies to: 1) County Clerk
2) Flood Control

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

South Norco Channel, Stage 6, Norco MDP Line S-1 Stage 1 and MDP Line S-5 Stage 1 Project

ENVIRONMENTAL COMMITMENTS & MITIGATION MONITORING PROGRAM TABLE

Issue	Potential Impact	Environmental Commitment, Avoidance, Minimization, and/or Mitigation Measures	Action	Implementation Responsibility	Governing Agency	Implementation Timing
Impact to jurisdictional waters	Filling of South Norco Channel would impact 0.92 acre of United States Army Corps of Engineers (USACE) Waters of the U.S. (WUS), comprised of 0.06 acre wetland WUS and 0.86 acre of non-wetland WUS and 2.05 acres California Department of Fish and Wildlife (CDFW) jurisdictional habitat consisting of intermittent streambed	**BIO-1** Impacts to wetlands shall be mitigated at a ratio of 3:1 or as specified in the associated permit agreements. Impacts to non-wetland WUS/streambed shall be mitigated at a ratio of 1:1 and impacts to CDFW jurisdictional streambed shall be mitigated at a ratio of 0.5:1, or as specified in the associated permit agreements. Mitigation shall be completed through contribution to creation, restoration, or enhancement of offsite jurisdictional waters and/or conservation easement.	Determine and implement appropriate mitigation through contribution to creation, restoration, or enhancement of offsite jurisdictional waters and/or conservation easement.	District	USACE/CDFW	Prior to construction
Bedrock milling sites in Norco Hills suggests potential archeological resources in eastern portion of project area	Discovery of archeological resources	**CUL-1** During project construction activities along Hillside Lane, Hillside Avenue, 3rd Street, and Golden West Lane, the District or the District's construction contractor shall retain a qualified archaeologist and/or a Native American monitor designated by the Soboba Band of Luiseño Indians to be present during ground disturbance activities associated with the installation of the underground drainage pipes that extend into undisturbed sediments. **CUL-2** If cultural resources are encountered, the archaeologist and/or the Native American monitor designated by the Soboba Band of Luiseño Indians, in consultation with the District's construction representative, shall have the	Archeologist monitor during excavation along eastern portion of project area. If cultural resources are discovered, halt trenching while resources are documented and assessed. Recovered materials shall be catalogued and analyzed, and curated, if required.	District's contractor	District	During ground disturbance in Hillside Lane, Hillside Avenue, 3rd Street, and Golden West Lane

ENVIRONMENTAL COMMITMENTS & MITIGATION MONITORING PROGRAM TABLE						
Issue	**Potential Impact**	**Environmental Commitment, Avoidance, Minimization, and/or Mitigation Measures**	**Action**	**Implementation Responsibility**	**Governing Agency**	**Implementation Timing**
		authority to temporarily halt or redirect grading/trenching while the cultural resources are documented and assessed. If significant resources are encountered, appropriate mitigation measures must be developed and implemented. **CUL-3** The treatment and disposition of recovered Native American cultural resources shall be determined by the Native American monitor in consultation with the District. Recovered Native American resources may be returned to the site of discovery, or catalogued and curated with an appropriate institution. Items identified for curation ~~Recovered artifactual materials~~ shall be cataloged and analyzed. ~~Artifacts collected (if any) shall be curated with accompanying catalog to current professional repository standards and transferred to an appropriate curating facility.~~				
Potential for accidental discovery of Paleontological Resources during excavation	Accidental discovery of Paleontological Resources	**CUL-4** Prior to the start of project construction, all field personnel shall be briefed regarding the types of fossils that could be found in the project area and the procedures to follow should paleontological resources be encountered. This training shall be accomplished at the pre-grading kick-off meeting or morning tailboard meeting and shall be conducted by a qualified professional paleontologist or his/her representative. **CUL-5** Prior to the commencement of ground-disturbing activities, a qualified professional paleontologist shall be retained to prepare and implement a Paleontological Resource Impact Mitigation Program (PRIMP) for the project. Initially, full-time monitoring is recommended for grading and excavation	Instruct construction workers to be observant for potential occurrence of paleontological resources, and instruct and authorize them to halt excavation in the area immediately and notify the District's Project Engineer if such resources are discovered. Monitoring by a qualified specialist for Paleontological Resources during excavation. Preparation and curation of significant fossils	District's contractor	District	Prior to construction

ENVIRONMENTAL COMMITMENTS & MITIGATION MONITORING PROGRAM TABLE						
Issue	**Potential Impact**	**Environmental Commitment, Avoidance, Minimization, and/or Mitigation Measures**	**Action**	**Implementation Responsibility**	**Governing Agency**	**Implementation Timing**
		activities that extend to three feet below ground surface , which will disturb previously undisturbed very old axial-channel deposits (Qvoa), very old alluvial fan deposits (Qvof), and sedimentary rocks of the Norco area (QTn), which have a high paleontological sensitivity, according to the criteria set forth by SVP (2010). Monitoring will not be required in project areas underlain by geologic units with no paleontological resource potential (i.e., the rocks of the Cajalco pluton [Kcg, Kmpc]; these areas include the portion of Temescal Avenue south of the existing flood control channel and a small portion of 3rd Street located west of Golden West Lane). Monitoring shall entail the visual inspection of excavated or graded areas and trench sidewalls. In the event that a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. In areas of high sensitivity, monitoring efforts can be reduced or eliminated at the discretion of the project Paleontologist if no fossil resources are encountered after 50 percent of the excavations are completed. **CUL-6** Upon completion of fieldwork, all significant fossils collected shall be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation shall include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossil specimens shall be identified to the lowest taxonomic level, cataloged, analyzed, and delivered the Western Science Center for	collected during project construction.			

ENVIRONMENTAL COMMITMENTS & MITIGATION MONITORING PROGRAM TABLE						
Issue	**Potential Impact**	**Environmental Commitment, Avoidance, Minimization, and/or Mitigation Measures**	**Action**	**Implementation Responsibility**	**Governing Agency**	**Implementation Timing**
		permanent curation and storage. The cost of curation is assessed by the repository and shall be responsibility of the District. At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project area geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the Western Science Center.				
Soil and groundwater impacted by hazardous substances and/or petroleum hydrocarbons may be encountered or generated during excavation for the project.	Workers or public could be exposed to soil and groundwater impacted by hazardous substances and/or petroleum hydrocarbons.	**HAZ-1** The District's construction contractor shall implement the recommendations identified in the Soil and Groundwater Management Plan (Geocon West 2012) prepared for the project. These recommendations are contained in Section 5 – Security Procedures, Section 6 – Health and Safety, Section 7 – Soil Management, Section 8 – Groundwater Management, Section 9 – Laboratory Analysis, Section 10 – Soil Screening and Hazardous Waste Criteria, and Section 11 – Project Documentation. The District's construction contractor shall be required to implement all applicable recommendations identified in the Plan, including, but not limited to: 1. For worker and equipment protection, in the event that contaminated soil is encountered and excavated, temporary orange plastic construction fencing and/or yellow "CAUTION" tape affixed to delineators, traffic cones,	Management encompasses identification and evaluation of impacted soil and groundwater, handling, and onsite reuse or offsite disposal.	District's contractor	District	During construction

ENVIRONMENTAL COMMITMENTS & MITIGATION MONITORING PROGRAM TABLE						
Issue	**Potential Impact**	**Environmental Commitment, Avoidance, Minimization, and/or Mitigation Measures**	**Action**	**Implementation Responsibility**	**Governing Agency**	**Implementation Timing**
		stakes, and/or other suitable supports shall be placed around excavations in excess of three feet deep except during ingress, as appropriate, based on the judgment of the Site Safety Officer and project managers and foremen. 2. Each contractor associated with soil excavation, handling, sampling, stockpiling, truck-loading, and transportation activities shall be responsible for providing and implementing their own project-specific health and safety plan, prepared in accordance with applicable California OSHA requirements. 3. Excavated soils shall be observed for indications of contamination by the general contractor (such as discoloration and chemical odor) and managed according to the provisions outlined in Sections 7.1, 7.2, 7.3, and 7.4 of the Soil and Groundwater Management Plan. 4. Extracted groundwater shall be treated on site pending discharge to the local sewer system or disposal at an approved facility. Discharge to the sewer shall be conducted in accordance with the dewatering permit specifications. The District's construction contractor shall be responsible for complying with the sampling and reporting associated with any discharge permit and shall be responsible for the testing, profiling, and off-site disposal of groundwater.				

ENVIRONMENTAL COMMITMENTS & MITIGATION MONITORING PROGRAM TABLE						
Issue	**Potential Impact**	**Environmental Commitment, Avoidance, Minimization, and/or Mitigation Measures**	**Action**	**Implementation Responsibility**	**Governing Agency**	**Implementation Timing**
		5. Soil samples collected from stockpiles of visibly impacted or excess soil generated during the project shall be analyzed for VOCs according to EPA Test Method 8260B. Soil samples shall be analyzed by a California Department of Public Health-certified laboratory according to industry-standard methods and QA/QC procedures. Sample management shall follow standard chain-of-custody protocol. 6. On-site personnel shall maintain daily field reports including a summary of project activities, excavation equipment location, and soil sampling activities. 7. In the event that impacted soil is encountered during construction of the project, a summary report shall be prepared for submittal to the District. The report shall include the items identified in Section 11 of the Soil and Groundwater Management Plan.				

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

California Environmental Quality Act (CEQA) Initial Study

1. Project title: South Norco Channel, Stage 6, Norco MDP Line S-1 Stage 1 and MDP Line S-5 Stage 1 Project

2. Lead agency name and address:

Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, California 92501

3. Contact person email address and phone number:

Kris Flanigan
kflaniga@rcflood.org
(951) 955-8581

4. Project location: The project is located in the City of Norco in northwestern Riverside County, bordered by Hillside Lane to north and 2nd Street to the south, Corona Avenue to the west and Hillside Avenue to the east (Figures 1 and 2).

5. Project sponsor's name and address:

Riverside County Flood Control and Water Conservation District
1995 Market Street
Riverside, California 92501

6. General plan designation: The project alignment is located within the City of Norco General Plan Land Use area. Based on the City's General Plan Land Use Map, General Plan land use designations along the project alignment include: Residential Agricultural (RA); Residential Low (RL); Existing Schools (S); and Water Related (WR).

7. Description of project: *(Describe the whole action involved, including, but not limited to later phases of the project, and any secondary, support, or offsite features necessary for its implementation. Attach additional sheets if necessary.)*

The District proposes the construction, maintenance, and operation of a segment of the existing South Norco interim earthen flood control channel, as well as construction, maintenance, and operation of two underground storm drain pipes, S-1 and S-5, that would connect from the South Norco Channel (Figure 3). A site photograph location key is provided as Figure 4, with site photographs provided in Figures 5a and b. The primary objective of the project is to stabilize and increase flow capacity of the existing earthen South Norco Channel. The proposed method of stabilization is to convert the earthen channel to a concrete-lined and cobble-bottom channel, thereby eliminating the erosion problems currently experienced within the channel and downstream areas, and reducing the frequency and need of sediment and plant material removal. In addition to stabilization of the main channel segment, the District also proposes to construct underground drainage pipes to convey storm flows in place of existing surface flow facilities. The resulting facilities would consist of an underground storm drain system designed to carry flows

from a 10-year storm event and a 100-year open channel designed to carry flows from a 100-year storm event. These facilities would convey runoff from an approximately 470-acre watershed northeasterly of 2nd Street and Corona Avenue.

The proposed changes to the open channel would consist of the construction of approximately 3,200 lineal feet (LF) of trapezoidal channel with concrete side slopes and a cobble-lined natural bottom, and the construction of approximately 700 LF of reinforced concrete box (RCB) along the existing earthen channel alignment. The open channel would extend from the intersection of 2nd Street and Corona Avenue, northeasterly to Temescal Avenue, transition to an underground box through the campus of Norco High School and then transition back to open channel, continuing to the southwesterly corner of the Norco Intermediate School property adjacent to Temescal Avenue.

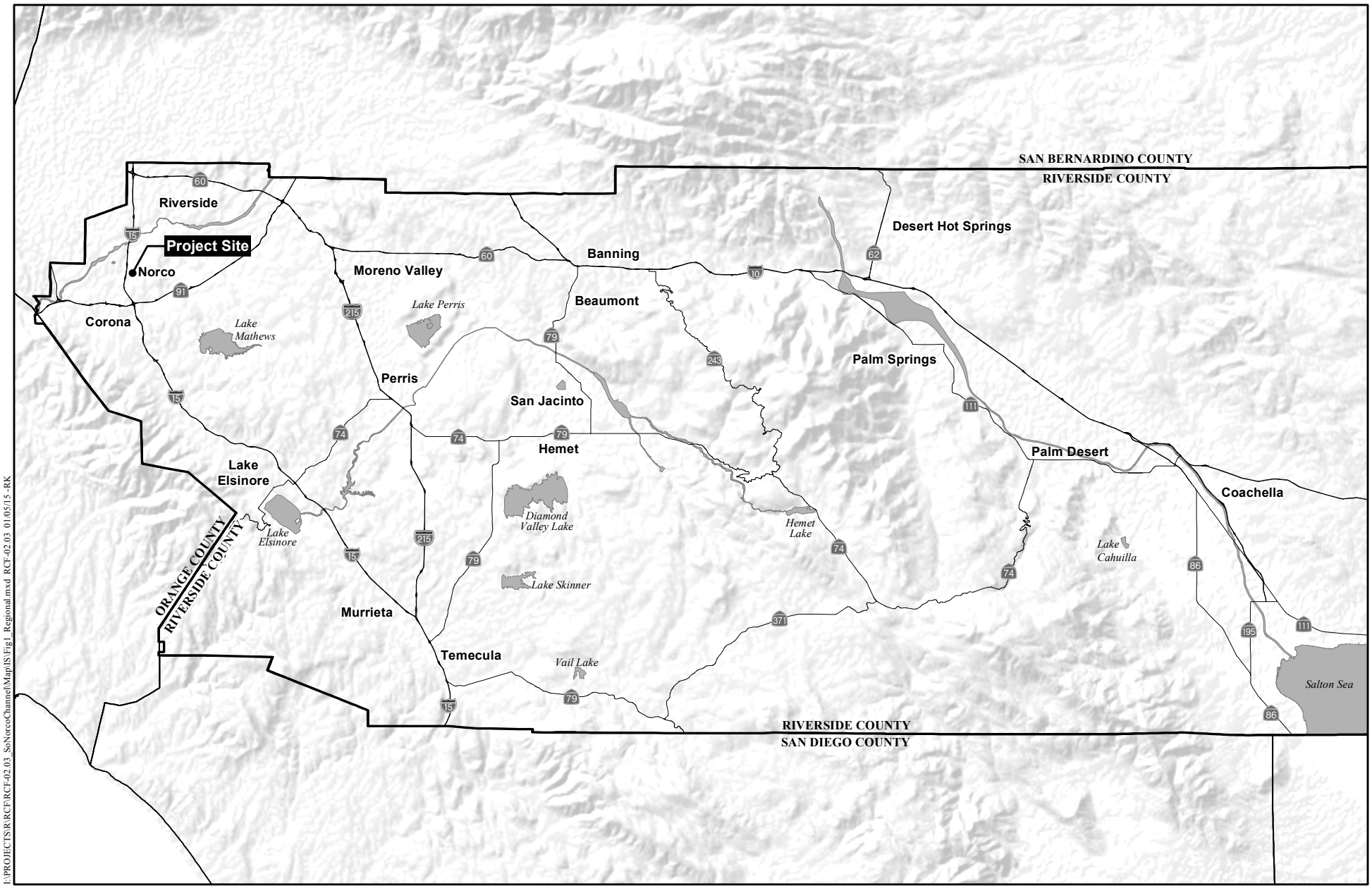
Line S-1 would be a below-ground storm drain extending from the South Norco Channel Stage 6 crossing of 3rd Street easterly within 3rd Street approximately 2,330 LF to Hillside Avenue, then northerly and southerly within Hillside Avenue approximately 150 and 70 LF, respectively. Line S-1 sizes would range from 18- to 48-inch diameter reinforced concrete pipe (RCP). Lateral S-1B would be a below-ground storm drain extending from Line S-1 within 3rd Street approximately 110 LF southerly within Golden West Lane. Lateral S-1B would consist of 18-inch and 24-inch diameter RCP.

Line S-5 would be a below-ground storm drain extending from the upstream end of South Norco Channel Stage 6, east and then north across the Norco Intermediate School property, along Hillside Lane, a private street, and then northerly within Hillside Avenue. This facility would range in size from 36-inch RCP to a 6 x 4 foot RCB, and is approximately 3,250 LF. An additional reach of 30-inch and 24-inch RCP would extend southerly approximately 140 LF within Hillside Avenue from the intersection with Hillside Lane.

The project also would include pavement repair due to excavation and trenching along the channel and storm drain alignment, and additional street improvements along: (1) Temescal Avenue, where an existing discontinuity in the travel width would be replaced with a smooth transition over a length of approximately 175 feet, including new asphalt concrete, and concrete curb and gutter; and (2) Hillside Lane, where the existing asphalt concrete pavement would be replaced with new asphalt concrete pavement over the full travel width (approximately 16 feet) and length (approximately 1,000 feet).

Construction of the project would require relocation of several existing utilities. There would be six waterline relocations consisting of two 6-inch, two 8-inch, one 10-inch, and one 30-inch waterline(s). There would be nine gas line relocations consisting of three 2-inch, four 3-inch, and two 4-inch gas lines. There would be two utility pole relocations and one 10-inch concrete pipe (utility type unknown) to be relocated. Lastly, buried telephone, cable, and/or electric lines may be relocated at two locations.

Construction of the proposed project would occur over a 10-month period. Construction activities would occur during normal daytime hours, in compliance with the City's Municipal Code. Construction activities would include utility trenching and site preparation, construction and grading, and paving. Project construction would require the excavation of approximately 46,700 cubic yards (cy) and approximately 20,100 cy of fill. Export of approximately 26,600 cy would be required. A total of approximately 1,700 truck trips (round trip) would be required for export, with approximately 20 round trips occurring per day. Typical maintenance activities would include erosion repair, sediment and debris removal, and weed management. The project



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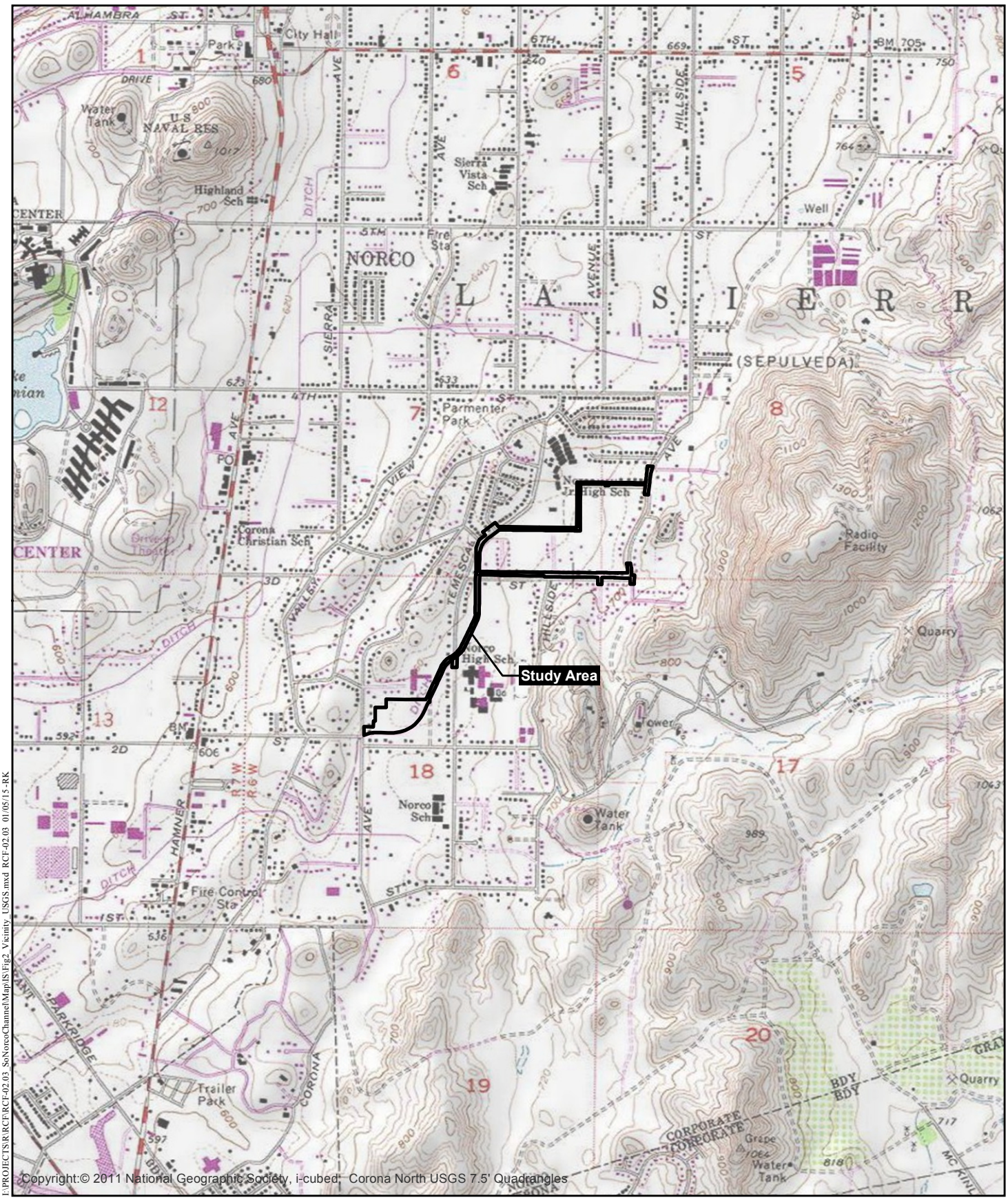
Regional Location

SOUTH NORCO CHANNEL

HELIX Environmental Planning

N 0 10 Miles

Figure 1



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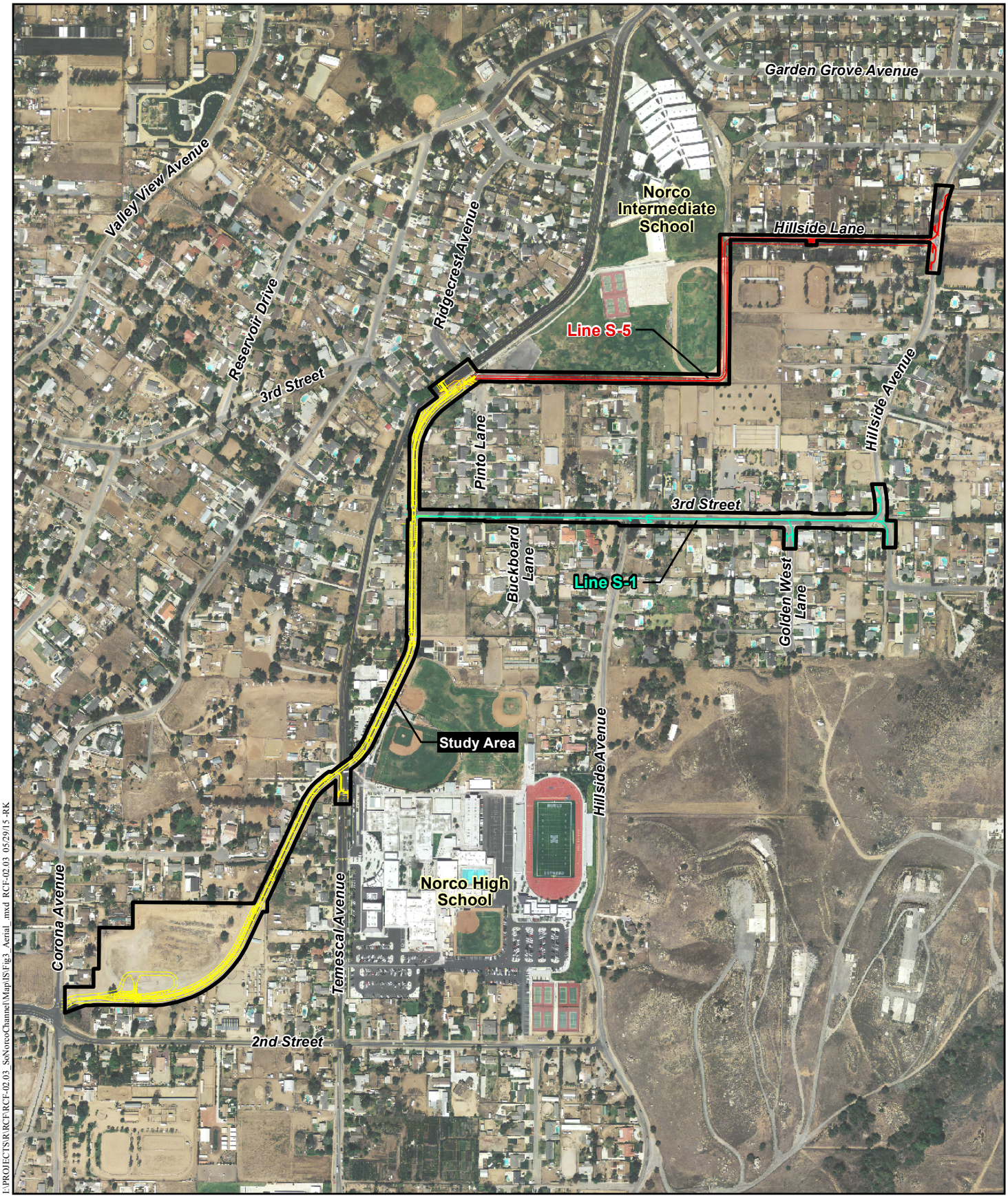
Project Vicinity - USGS Quadrangle

SOUTH NORCO CHANNEL

HELIX Environmental Planning

N 0 2,000 Feet

Figure 2



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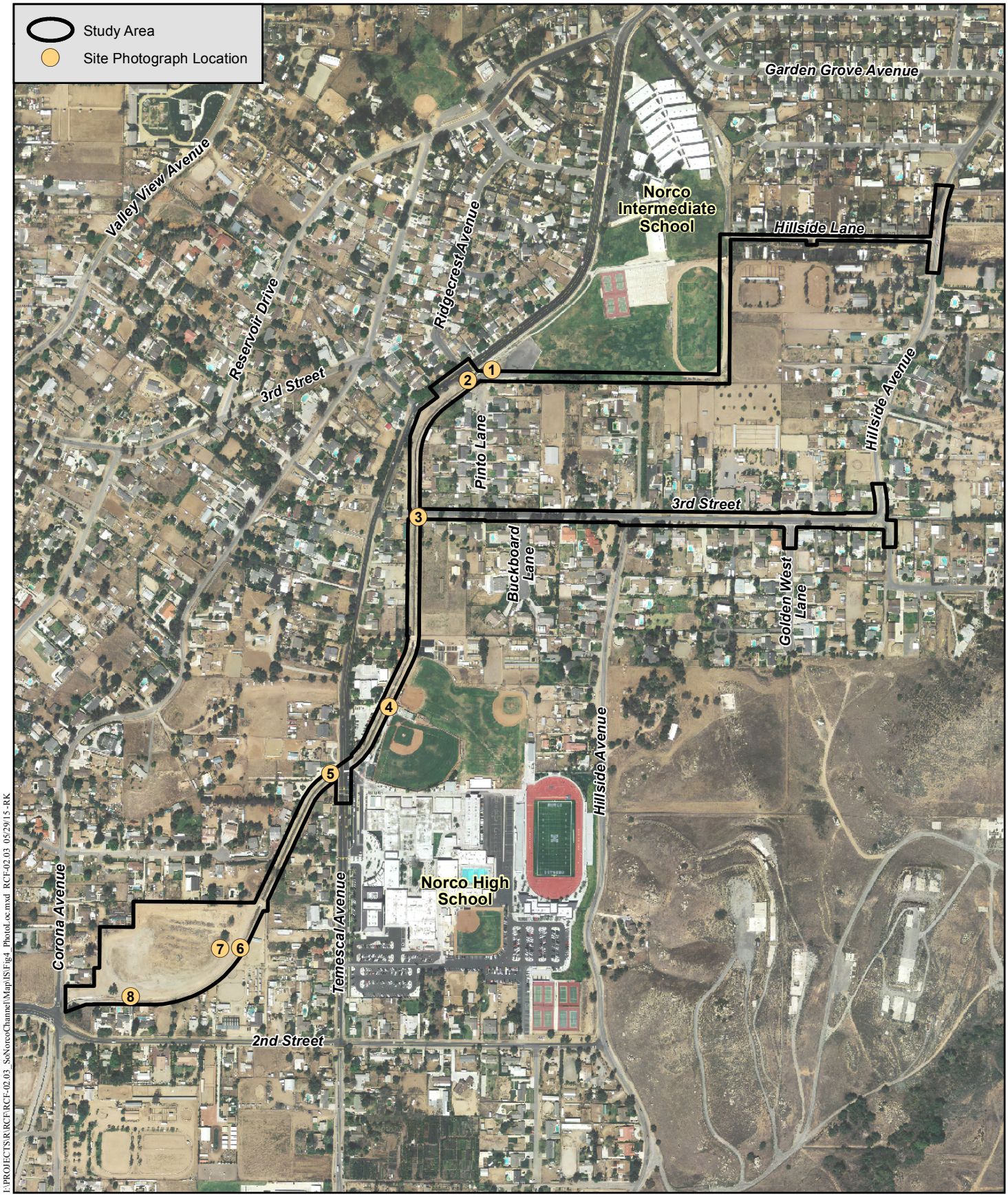
Aerial Photograph

SOUTH NORCO CHANNEL

HELIX Environmental Planning

N 0 650 Feet

Figure 3



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Site Photograph Location Key

SOUTH NORCO CHANNEL

HELIX Environmental Planning

N 0 650 Feet

Figure 4

Photograph 1
View east onto Norco Intermediate School campus

Photograph 2
View northeast towards Norco Intermediate School

Photograph 3
View north at 3rd Street/South Norco Channel intersection

Photograph 4
View south from just north of Norco High School baseball diamond

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Site Photographs

SOUTH NORCO CHANNEL

HELIX Environmental Planning

Figure 5a

Photograph 5
View east near the Temescal Avenue/
South Norco Channel intersection

Photograph 6
View east from South Norco Channel

Photograph 7
View east from property adjacent
South Norco Channel

Photograph 8
View west towards Corona Avenue

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Site Photographs

SOUTH NORCO CHANNEL

HELIX Environmental Planning

Figure 5b

also includes grading an existing District parcel to drain to South Norco Channel. The parcel is located northeast of the 2nd Street/Corona Avenue intersection.

Earlier Analyses Used: N/A

Impacts Adequately Addressed in Earlier Analyses: N/A

Mitigation Measures from Earlier Analysis: N/A

8. Surrounding land uses and setting: *(Briefly describe the project's surroundings)*

The proposed project is located within an area that is primarily residential, with two schools, Norco Intermediate School and Norco High School, located adjacent to the project alignment.

The project would traverse or otherwise affect the following assessor's parcel numbers (APNs):

123100001	123120026	123120027
123120028	123120029	123120030
123120031	123120032	123120033
123120034	123120035	123120036
123120037	123130010	123280017

9. Other public agencies whose approval is required: (*e.g., permits, financing approval, or participation agreement.)*

City/County Agencies

- California Department of Fish and Wildlife – Section 1602 Streambed Alteration Agreement
- City of Norco (City) – Approval of construction activities within City-maintained roads; permit for discharge of treated groundwater to the local sewer system
- Regional Water Quality Control Board (RWQCB) – Section 401 Certification; Waste Discharge Requirements
- State Water Resources Control Board – National Pollutant Discharge Elimination System (NPDES) Statewide General Construction Permit
- United States Army Corps of Engineers – Clean Water Act Section 404 Permit

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors, as checked below, would potentially be affected by this project.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

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

☐ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project.

Signature

6/17/15
Date

WARREN D. WILLIAMS, General Manager-Chief Engineer
Printed Name and Title

EVALUATION OF ENVIRONMENTAL IMPACTS:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved *(e.g., the project falls outside a fault rupture zone).* A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards *(e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).*

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: No Impact or Less Than Significant" applies when the proposed project will not have a significant effect on the environment, does not require the incorporation of mitigation measures, and does not require the preparation of an Environmental Impact Report. The lead agency must briefly describe the reasons that a proposed project will not have significant effect on the environment and does not require the preparation of an environmental impact report.

5. "Mitigated Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced any effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

6. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. (CEQA Guidelines Section 15063(c)(3)(D)). The use of an earlier analysis as a reference should include a brief discussion that identifies the following:

    a. Earlier Analysis Used. Identify and state where they are available for review.

    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated", describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts *(e.g., general plans, zoning ordinances).* Reference to a previously prepared or

outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

8. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

9. The explanation of each issue should identify:

    a. The significance criteria or threshold, if any, used to evaluate each question; and

    b. The mitigation measure identified, if any, to reduce the impact to less than significance.

I. AESTHETICS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
The proposed project consists of improvements to an existing flood control channel and construction of two underground storm drain pipes. The project would not result in the construction of new aboveground structures which would obstruct views in the project area. There are no identified scenic vistas in the immediate project area. Thus, the project would not result in an adverse effect on a scenic vista. No impact would occur.				
b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
There are no state-designated scenic highways or other scenic resources adjacent to or in close proximity to the project alignment (Caltrans 2014). No impact would occur.				
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
The proposed project would consist of improvements to an existing flood control channel and construction of two underground storm drain pipes. Temporary construction-related effects on views could occur along the project alignment, and include the presence of construction equipment and personnel and construction activities. Following completion of the construction and stabilization work, the stabilized flood control channel would look similar to the existing channel and the two underground storm drains would not be visible. Periodic maintenance-related operational work conducted for the channel and pipes would be typical of similar maintenance activities currently conducted for the existing channel, as well as activities occurring throughout the City and Riverside County, and would not be visually incompatible with the nearby residential uses or the schools. As such, visual changes in the project area would be short-term and temporary, and would be less than significant.				
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
Existing outdoor lighting sources within the project area include those associated with residential and school uses (athletic fields) and street lighting. Project construction would be conducted during daylight hours and no nighttime lighting would be required. No new long-term lighting would be associated with the proposed project. Thus, no impact associated with light or glare would occur.				

II. AGRICULTURAL AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
The project alignment traverses an existing flood control channel and along roadways in a developed area containing residential and school uses. The project alignment is designated as "Urban and Built-up Land" by the Farmland Mapping and Monitoring Program (California Department of Conservation 2012). As such, the proposed project would not result in the conversion of Prime or Unique Farmland or Farmland of Statewide Importance. No impact would occur.				

b) Conflict with existing agricultural zoning, agricultural use or land subject to a Williamson Act contract or land within a Riverside County Agricultural Preserve?	☐	☐	☐	☒
The project alignment is located within a residential area, with adjacent land uses include schools, residences, a horse corral, and a vacant lot owned by the District. Zoning adjacent to the project alignment includes Agricultural – Low Density 20,000 square feet (A-1-20) and Limited Development (LD; City of Norco 2012). The LD zoning occurs on the two school properties and along the existing flood control channel. The A-1-20 zoning is located along and adjacent to the rest of the project alignment. The A-1 zone is intended "to provide and encourage the development of agriculturally oriented low-density living areas designed to take advantage of the rural environment, as well as the outdoor recreation potential of the community by maintaining contiguous undeveloped open land on each and every residential lot" (City of Norco Zoning Code Section 18.13.02). Although land adjacent to the project alignment includes areas with agricultural zoning, these parcels are generally used for low-density residential development. The project would not result in changes to zoning on adjacent parcels, including those zoned A-1-20. The project would not conflict with existing agricultural zoning or agricultural uses. The project alignment and adjacent land uses do not include areas within an agricultural preserve (County of Riverside 2015). The proposed work would be in an existing flood control channel and the placement of two underground pipes would not conflict with a Williamson Act contract or land within a Riverside County Agricultural Preserve. No impact would occur.				
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒
The project does not include components which would result in the conversion of Farmland to non-agricultural use. Project construction activities would occur along the existing flood control channel alignment, along area roadways, and on a portion of the Norco Intermediate School campus. Based on the existing land uses along the project alignment, the project would not result in the conversion of Farmland to non-agricultural use. No impact would occur.				
d) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
The project alignment does not include forest land or timberland. No impact to such resources would occur.				
e) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
The project alignment does not include and is not located adjacent to forest land. Thus, the project would not result in impacts associated with the loss of conversion of forest land to non-forest land.				

III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
The project is located within the South Coast Air Basin (Basin) under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD develops and administers local regulations for stationary air pollutant sources within the Basin, and also develops plans and programs to meet attainment requirements for both federal and State Ambient Air Quality Standards (AAQS). SCAQMD and the Southern California Association of Governments (SCAG) are responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. The AQMP is a series of plans adopted for the purpose of reaching short- and long-term goals for those pollutants that the Basin is designated as a 'nonattainment' area because the SCAQMD does not meet federal and/or State AAQS. To determine consistency between the project and the AQMP, the project must comply with all applicable SCAQMD rules and regulations; comply with all proposed or adopted control measures; and be consistent with the growth forecasts				

utilized in preparation of the AQMP, which are based on regional population, housing, and employment projections prepared by SCAG.

The project would not result in a significant air quality impact from operational activity, as described further in response III(b). Moreover, as discussed in Item XII(a), under Population and Housing, the proposed project does not include growth-generating components. As such, the project would be consistent with growth projections contained in the City's General Plan and also consistent with SCAG and AQMP forecasts. Based on these considerations and pursuant to SCAQMD guidelines, project-related emissions are accounted for in the AQMP, and no impact would occur.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐

Operational emissions generated from the proposed project would be limited to emissions associated with maintenance activities for the storm drains and flood control channel and would be well below significance levels.

The SCAQMD has developed the *CEQA Air Quality Handbook* (1993) that establishes suggested significance thresholds based on the volume of pollution emitted. According to the *Handbook*, any project in the Basin with daily construction emissions that exceed any of the following thresholds should be considered to have a significant air quality impact:

- 75 pounds per day of volatile organic compounds (VOC);
- 100 pounds per day of oxides of nitrogen (NO_X);
- 550 pounds per day of carbon monoxide (CO);
- 150 pounds per day of oxides of sulfur (SO_X)
- 150 pounds per day of particulate matter equal to or less than 10 microns in diameter (PM_{10}); and
- 55 pounds per day of particulate matter 2.5 microns or less in diameter ($PM_{2.5}$).

During project construction, emissions associated with fugitive dust and exhaust from grading activities and construction equipment would be generated. The resultant emissions associated with construction project are summarized in Table 1.

Table 1
MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS

Emission Source	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Maximum Construction Emissions, lbs/day						
Utility Trenching	1	11	7	<1	1	1
Site Preparation	2	23	13	<1	1	1
Grading and Construction	7	76	38	<1	4	3
Paving	2	20	13	<1	1	1
Maximum Daily Emissions[1]	9	95	51	<1	5	4
SCAQMD Regional Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: SCAQMD 2009 (thresholds). See Appendix A for CalEEMod model outputs.
[1] Maximum daily emissions occur when Grading and Construction activities overlap with Paving.
ROG – reactive organic gases; NO_X-nitrogen oxides; CO – carbon monoxide; SO_X – sulfur oxides;
PM_{10} – particulate matter 2.5 to 10 microns in diameter; $PM_{2.5}$ – particulate matter 2.5 microns in diameter or less.

As shown in Table 1, project construction emissions would not exceed SCAQMD significance thresholds for any pollutants. Project construction would employ dust control measures as required by SCAQMD Rule 403 and would not result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be less than significant.

Localized Significance Thresholds (LST) are only applicable to the following criteria pollutants: oxides of nitrogen (NO_X), carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM_{10}), and particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA) and distance to the nearest sensitive receptor. Local pollutant concentrations were calculated using the SCAQMD LST methodology. In the LST analysis, only on-site emissions are considered; off-site emissions such as haul trucks and worker commutes are not included. Therefore, the emissions used for the LST calculation in Table 2 are less than the regional emissions shown in Table 1. The applicable thresholds are taken from the SCAQMD's LST tables. The project alignment is located in Source Receptor Area (SRA) 22, Norco/Corona. The SCAQMD considers residences, schools, hospitals, or convalescent facilities to be sensitive receptors for $PM_{2.5}$ and PM_{10}. Sensitive receptors along the project alignment include residential uses, Norco High School, and Norco Intermediate School. The results of the LST calculations are shown in Table 2.

Table 2
MAXIMUM DAILY LOCAL CONSTRUCTION EMISSIONS

Emission Source	NO_X	CO	PM_{10}	$PM_{2.5}$
Maximum Onsite Construction Emissions, lbs/day				
Utility Trenching	11.4	6.2	0.6	0.5
Site Preparation	22.8	12.4	1.1	1.0
Grading and Construction	70.6	32.6	3.3	2.8
Paving	19.7	11.7	1.0	1.0
SCAQMD Localized Significance Thresholds	*118*	*674*	*4*	*3*
Above Threshold?	**No**	**No**	**No**	**No**

Source: SCAQMD 2009 (thresholds). See Appendix A for CalEEMod model outputs.
Note: Thresholds for SCAQMD Source Receptor Area 22, Norco/Corona, 1 acre project site, and 25 meter receptor distance.

As shown in Table 2, the maximum daily CO, NO_X, PM_{10}, and $PM_{2.5}$ emissions would fall below the LSTs. Therefore, the local impact of construction activities would be less than significant.

c) Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard *(including releasing emissions which exceed quantitative thresholds for ozone precursors)?*	☐	☐	☒	☐

SCAQMD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and state Clean Air Acts. As discussed in response III(a), the proposed project would be consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants. In addition, and as discussed in response III(b), daily emissions would be below significance thresholds and temporary in duration. Accordingly, cumulative impacts would be less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Sensitive receptors near the project alignment include Norco Intermediate School, Norco High School, and residences. During the project construction period, which would occur over a maximum of 10 months, diesel exhaust particulate matter would be generated from heavy construction equipment. Diesel exhaust particulate matter is known to the State of California to contain carcinogenic compounds. The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure, which is defined in the California Air Pollution

Control Officers' Association Air Toxics "Hot Spots" Program Risk Assessment Guidelines as 24 hours per day, 7 days per week, 365 days per year, for 70 years. Because diesel exhaust particulate matter is considered to be carcinogenic, long-term exposure to diesel exhaust emissions have the potential to result in adverse health impacts. Due to the short-term nature of project construction, however, exposure to diesel exhaust emissions during construction would be less than significant.

e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

The proposed project would not generate substantial odors. Diesel exhaust from construction vehicles may create odors noticeable at the adjacent residences and schools during project construction; however, the diesel exhaust odors would be temporary and minor, and would occur along different portions of the project alignment as the project is completed. Thus, receptors at a given location along the alignment would be exposed to the minor odors for only a few days before construction activities progress along the alignment. The stabilization of the existing flood control channel and the installation of underground storm drains would not generate objectionable odors on a long-term basis, and impacts would be less than significant.

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

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, and certain hydro-fluorocarbons. These gases, known as greenhouse gases (GHGs), allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contributing to what is termed "global warming," the trend of warming of the Earth's climate from anthropogenic activities. Global climate change impacts are by nature cumulative; direct impacts cannot be evaluated because the impacts themselves are global rather than localized impacts.

The effect each GHG has on climate change is measured as a combination of the volume of its emissions and its global warming potential. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere, and is expressed as a function of how much warming would be caused by the same mass of CO_2. For instance, CH_4 has a global warming potential of 21, meaning that 1 gram of CH_4 traps the same amount of heat as 21 grams of CO_2.

SCAQMD established interim GHG significance thresholds in 2008 that use an annual threshold of 3,000 metric tons per year of GHG emissions to determine significant impacts. GHG emissions from construction activities are amortized (divided) over a period of 30 years and added to a project's annual operational emissions.

GHG emissions associated with the proposed project would be short-term and temporary and are summarized in Table 3. These emissions would be generated from construction activities, including through use of heavy equipment and vehicle trips. Construction GHG emissions associated with the project would occur during the 10-month construction period and as shown in Table 3, would be well below the significance threshold of 3,000 metric tons of CO_2e (carbon dioxide equivalent) recommended by SCAQMD. When amortized over a 30-year period, construction GHG emissions would be negligible. In addition, long-term operation of the project would reflect a continuation of existing maintenance activities and would generate minimal, if any, additional GHG emissions. Impacts would be less than significant.

Table 3
GHG EMISSIONS FROM CONSTRUCTION

Emission Source	MT CO_2e
Utility Trenching	10
Site Preparation	19
Grading and Construction	798
Paving	16
Total Construction Period Emissions	843
Amortized Emissions[a]	28

MT CO_2e: metric tons of carbon dioxide equivalent
[a] Combined total amortized over 30 years
Note: Totals may not add due to rounding.

As discussed in Item III(f), the proposed project would result in negligible GHG emissions. The proposed project would not result in emissions that would adversely affect state-wide attainment of GHG emission reduction goals as described in Assembly Bill 32 and Executive Order S-21-09. Construction emissions would therefore have a less than cumulatively considerable contribution to global climate change impacts, and the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. No impact would occur.

IV. BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐

Sensitive Animal Species. There are 30 sensitive animal species, 11 of which are listed at federal and/or state level, that are known to occur in the general vicinity of the project. The developed nature of the project alignment and the surrounding area combine to drastically reduce the potential for sensitive species to occur along the alignment. Two of the federal or state listed species have low potential to occur, and the remaining nine listed species are not expected to occur in the project alignment, due to a lack of habitat. The two listed species with potential to occur are both fairy shrimp, Riverside fairy shrimp (Streptocephalus woottoni) and vernal pool fairy shrimp (*Branchinecta lynchi*). The project alignment was surveyed for habitat, such as vernal pools or seasonal basins, which could support fairy shrimp. Indicators of potential fairy shrimp habitat that were searched for include basins; ruts, cracked mud, algal mats, and drift lines. Fairy shrimp (species unknown) were visually observed in December 2014 in one of the seasonal basins that occur at the southern terminus of the project alignment. A focused wet season fairy shrimp survey began on January 8, 2015 to determine the species present in the seasonal basins. Subsequent visits occurred on January 23, 2015, February 6, 2015, March 18, 2015, and May 26, 2015. Three basins were observed to hold water during the survey. One non-listed species of fairy shrimp was determined to be present (*Branchinecta lindahli*); however, no federally listed threatened or endangered fairy shrimp were observed in this wet season fairy shrimp survey. Additionally, three soil samples were collected from the site and determined to contain anostracan eggs, which were judged to be potentially suitable for special status shrimp species. Cultures from three soil samples produced large numbers of the nonlisted fairy shrimp *Branchinecta lindahli*. No federally threatened or endangered species were cultured from the soil samples and none have been identified as occurring at the project site. Only one of the remaining 19 sensitive animal species, the California horned lark (Eremophila alpestris actia) has potential to occur along the project alignment.

This species is tolerant of disturbance and has low potential to use the horse paddocks that occur immediately adjacent to the project alignment for foraging. Refer to the General Biological Resources Assessment prepared for the project (HELIX 2015) for more detailed information regarding sensitive species that were determined to have no potential to occur along the project alignment. Impacts to listed and sensitive animal species would be less than significant.

Sensitive Plant Species. There are five sensitive plant species, one of which is federally listed, which were determined to have potential to occur in the project vicinity. The listed species is the Santa Ana River woolystar (*Eriastrum densifolium sanctorum*). The remaining sensitive species include chaparral sand verbena (*Abronia villosa* var. *aurita*), smooth tarplant (*Centromadia pungens* spp. *laevis*), many-stemmed dudleya (*Dudleya multicaulis*), and Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*). None of the sensitive plant species were observed and none are expected to occur along the project alignment.

The Western Riverside County Multiple Species Conservation Plan (MSHCP) lists 23 sensitive plant species that have potential to occur in Riparian/Riverine and vernal pool habitats. The South Norco Channel is primarily an unvegetated natural bottom channel. The vegetation that was observed in the channel was a mix of native and non-native species dominated by Mexican sprangletop (*Leptochloa fusca ssp. uninervia*) and water speedwell (*Veronica anagallis-aquatica*). None of the 23 Riparian/Riverine plant species were observed or are expected to occur. No impacts to these species would occur.

Critical Habitat. The search of the United States Fish and Wildlife Service (USFWS) critical habitat portal shows that critical habitat does not occur in the project alignment. The nearest critical habitat occurs along the Santa Ana River to the north and west of the project. This critical habitat occurs 4 kilometers to the northwest at its closest point to the project alignment. The project alignment is not within the Riverside County Habitat Conservation Plan (HCP) Fee Plan Area for the federally listed endangered/state listed threatened Stephens' kangaroo rat (*Dipodomys stephensi*; SKR). No impacts to critical habitat would occur.

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

Most of the project alignment consists of either developed or disturbed habitat. The project alignment also includes seasonal basins in the disturbed open lot at the southern terminus of the project and small amounts of herbaceous wetland and disturbed wetland within the channel (Table 4, Figures 6a and b). The existing open soft bottom channel occurs primarily within the disturbed habitat. Each vegetation community is described in more detail below.

Table 4
EXISTING AND AFFECTED VEGETATION COMMUNITIES WITHIN THE PROJECT AREA

Habitat Type	Acre(s)
Herbaceous wetland	0.02
Disturbed wetland	0.04
Seasonal basins	1.06
Disturbed habitat	9.99
Developed	8.39
TOTAL	19.5

Herbaceous Wetland. This vegetation community often occurs in habitats that are subject to frequent or regular flooding. This community is often dominated by low growing herbaceous species that are adapted to an anaerobic environment, but can also include species that obtain a height of up to two meters. This habitat on the project site is dominated by the native Mexican sprangletop (*Leptochloa fusca* ssp. *uninervia*), with a few emergent cattails (*Typha* sp.). A total of 0.02 acre of herbaceous wetland was observed in the project alignment.

Disturbed Wetland. This vegetation community is dominated by exotic wetland species that invade areas that have been disturbed or have undergone periodic disturbances. These non-natives become established more readily following natural or human-induced habitat disturbance than the native wetland flora. Characteristic species of disturbed wetlands include giant reed (*Arundo donax*), bristly ox tongue (*Picris echioides*), cocklebur (*Xanthium strumarium*), and tamarisk (*Tamarix* sp.). Disturbed wetlands are usually considered sensitive and declining by the USFWS, United States Army Corps of Engineers, and California Department of Fish and Wildlife (CDFW). In the project alignment this community is dominated by the non-native water speedwell (*Veronica anagalis-aquiatica*) and also includes small numbers of willow weed (*Persicaria lapathifolia*), London rocket (*Sisymbrium irio*), sow thistle (*Sonchus oleraceus*) and cheeseweed (*Malva parviflora*). A total of 0.04 acre of disturbed wetland was observed in the project alignment.

Seasonal Basin. Seasonal basins are depressions that periodically hold water. Several seasonal basins were present at the southern end of the study area during the December 23, 2014 site visit. A review of historical photographs shows that the area of the basin is an incidental artifact of the grading and compaction of the soils during the creation of the flood control channel. The area of the basins is used for storage of materials, including those materials removed from various flood control facilities (mud, vegetation, and other debris that clog flood control drains). The basins are mostly unvegetated and no vernal pool indicator plants were present. The seasonal basins are not vernal pools. Fairy shrimp were observed within a small area near the western end. A wet season survey and soil cultures were conducted to determine the species of fairy shrimp present at the site. As discussed in response IV(a), no federally threatened or endangered species were identified during the wet season survey or as a result of the soil culture. ~~A fairy shrimp survey is currently being conducted to determine the species present in the pools.~~ A total of 1.06 acres of seasonal basin is present in the project alignment.

Disturbed Habitat. Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as native or naturalized vegetation. Disturbed habitat either lacks any vegetation, or supports only non-native species. The disturbed habitat in the study area includes the unlined portion of Norco Channel and the area with the seasonal basins that exists near the southern terminus of the channel. A total of 9.99 acres of disturbed habitat occurs within the Norco Channel and at the southern terminus of the project alignment.

Developed. Developed land within the project alignment includes the school site paved roads, and adjacent residential lots. Portions of the existing Norco Channel that are concrete lined or that occur as a culvert are also included as developed land. The total amount of developed land within the project alignment is 8.39 acres.

The proposed project would alter the existing Norco Channel, but nearly all of the impacts would be to areas that were previously disturbed or developed. A small amount of wetland vegetation would be impacted, including 0.02 acre of herbaceous wetland and 0.04 acre of disturbed wetland. The project would also impact 0.06 acre of seasonal basin from a proposed access road. The entire project alignment may be affected by the project and the remaining 1.00 acre of the basins is expected to be impacted, temporarily, as that area would be used as a staging area for the project. Impacts to upland habitats and associated species would be addressed through compliance with the MSHCP, resulting in a less than significant impact.

c) Have a substantial adverse effect on biological resources involved within a jurisdictional water feature as defined by federal, state or local regulations (e.g., Section 404 of the Clean Water Act, Section 401 of the Clean Water Act, Section 1602 of California Fish and Game Code, Porter-Cologne Water Quality Control Act, etc.) through direct removal, filing, hydrological interruption, or other means?	☐	☒	☐	☐

United States Army Corps of Engineers (USACE) Jurisdiction. USACE jurisdictional waters in the study area are comprised of intermittent streambed within the existing Norco Channel. No naturally occurring USACE jurisdictional waters occur within the project alignment. A delineation conducted in December 2014 showed that a small portion of the channel supported several patches of sparse wetland vegetation. Data was collected at two areas that had wetland vegetation and it was determined that these area met the USACE wetland definition. The project alignment included a total of 0.92 acre of Waters of the U.S. (WUS), comprised of 0.06 acre wetland WUS and 0.86 acre of non-wetland WUS (Table 5; Figures 7a and b).

Study Area

Habitat

Disturbed Wetland

Disturbed Habitat

Developed

Corona Avenue

Ridgecrest Avenue

Temescal Avenue

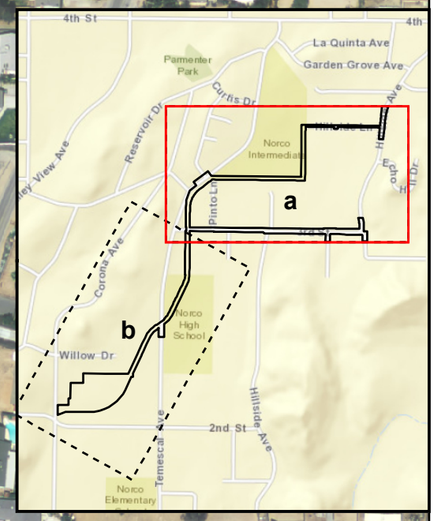
3rd Street

Pinto Lane

Citation Drive

Hillside Lane

Hillside Avenue



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Vegetation

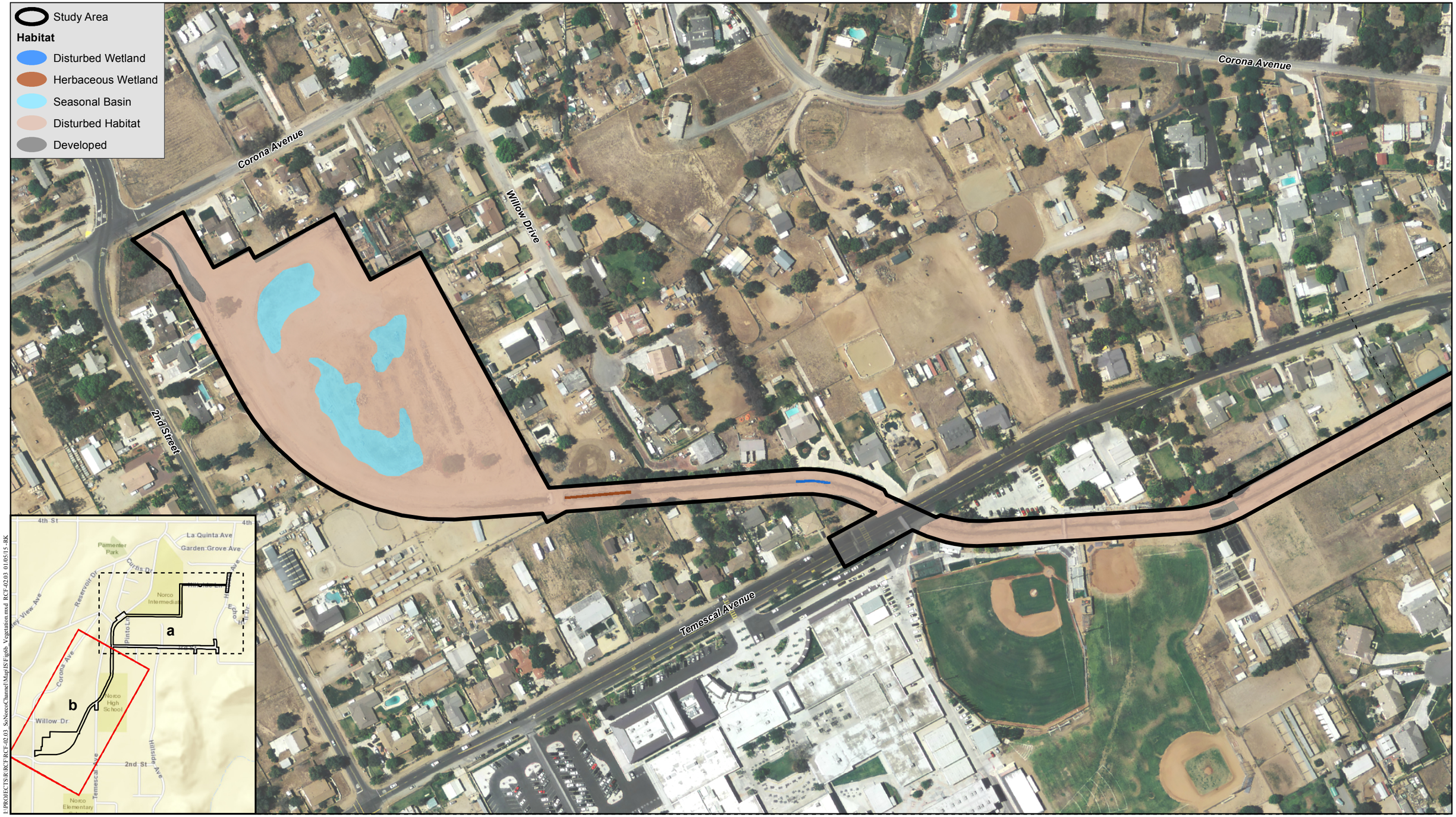
SOUTH NORCO CHANNEL

HELIX Environmental Planning

N

0 200 Feet

Figure 6a



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Vegetation

SOUTH NORCO CHANNEL

HELIX Environmental Planning

0 200 Feet

Figure 6b

Study Area

Non-juridictional Features

Roadside Ditch

3' Diameter Culvert

Sheet Flow from Street

Waters of the U.S.

Disturbed Wetland *(Width shown in feet)*

Non-wetland Waters of the U.S. *(Width shown in feet)*

Hillside Lane

Hillside Avenue

Corona Avenue

Ridgecrest Avenue

Temescal Avenue

3rd Street

Drain Inlet

2' CMP Outlet

7' 3'

10'

6'

10'

10'

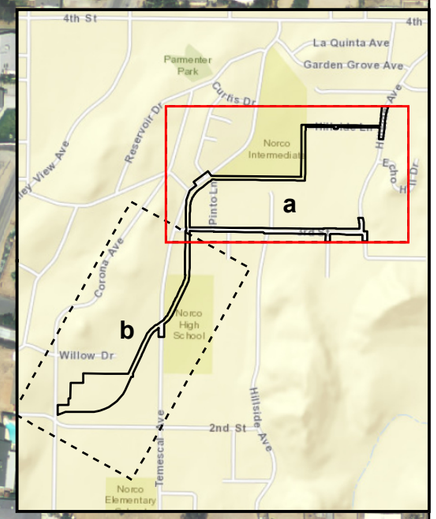
4' 3'

10'

Pinto Lane

Citation Drive

3rd Street



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Waters of the U.S.

SOUTH NORCO CHANNEL

HELIX Environmental Planning

N

0 200 Feet

Figure 7a

Study Area
Sampling Point

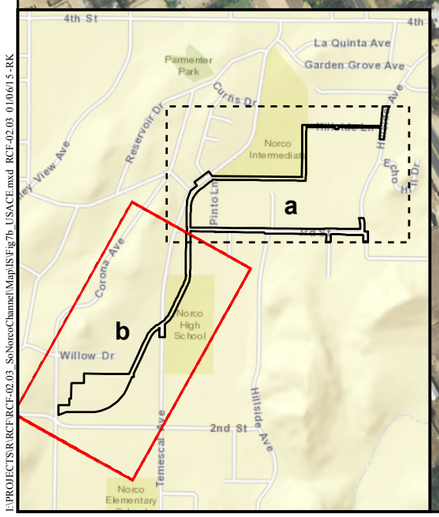
Non-juridictional Features

3 - 2' Diameter Squashed Corrugated Metal Pipes
Seasonal Basin
Concrete and Riprap
Concrete-lined Channel

Waters of the U.S.

Herbaceous Wetland *(Width shown in feet)*
Disturbed Wetland *(Width shown in feet)*
Non-wetland Waters of the U.S. *(Width shown in feet)*

Corona Avenue
Willow Drive
2nd Street
Temescal Avenue
7'
11'
13.5'
16'
9'
6'
SP 2
10'
6'
4'
SP 3
10'
10'
SP 1
9'
10'
Concrete and Riprap



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Waters of the U.S.

SOUTH NORCO CHANNEL

HELIX Environmental Planning

0 200 Feet

Figure 7b

Table 5
WATERS OF THE U.S.

WUS	**Area** (acres)	**Length** (feet)
Wetlands		
Herbaceous wetland	0.02	148
Disturbed wetland	0.04	390
Subtotal	**0.06**	**538**
Non-wetlands		
Intermittent drainage (Constructed flood control channel)	0.86	3,201
TOTAL	**0.92**	**3,739**

Source: HELIX 2015

As the purpose of the project is to alter the existing unlined Norco Channel with cobblestone bottom and concrete side slope, avoidance of impact to the channel is not feasible. Thus, the proposed project would result in impacts to the 0.92 acre WUS identified within the project alignment (Table 5). The WUS are comprised of 0.06 acre of wetland WUS and 0.86 acre of non-wetland WUS. These impacts would require a permit from the USACE under Section 404 of the Clean Water Act and are considered significant, requiring mitigation. Implementation of mitigation measure **BIO-1** would reduce impacts to a less than significant level. Impacts to WUS are regulated by the USACE under Section 404 of the Clean Water Act (33 United States Code [U.S.C.] 401 et seq.; 33 U.S.C. 1344; U.S.C. 1413; and Department of Defense, Department of the Army, Corps of Engineers 33 Code of Federal Regulations [CFR] Part 323). A California Regional Water Quality Control Board Section 401 Certification must be obtained as part of the Section 404 application process.

California Department of Fish and Wildlife (CDFW) Jurisdiction. CDFW jurisdictional habitats in the project alignment consist of streambed within the existing Norco Channel. The channel was artificially created in an area that historically did not have any drainage features. In other words, no naturally occurring CDFW jurisdictional habitats occur in the project alignment. A total of 2.05 acre of CDFW streambed occurs along 3,739 LF in the project alignment (Figures 8a and b).

The proposed project would result in impacts to 2.05 acres of CDFW jurisdictional habitat comprised entirely of intermittent streambed. The channel (i.e., streambed) is disturbed habitat that lacks vegetation except for several small patches of herbaceous wetland. These small patches of wetland habitat are part of the intermittent streambed acreage and due to a Memorandum of Understanding between the District and CDFW, which allows the District to maintain the channel. Given this MOU, these vegetation types are not regarded as CDFW jurisdictional habitats, but the maintained channel is regarded as a CDFW streambed. Impacts to CDFW habitat would require a Section 1602 Streambed Alteration Agreement (SAA) from the CDFW. The CDFW regulates alterations or impacts to streambeds or lakes under California Fish and Game Code 1602, and requires a SAA for projects that will divert or obstruct the natural flow of water; change the bed, channel, or bank of any stream; or use any material from a streambed. The SAA is a contract between the applicant and CDFW stating what activities can occur in the riparian zone and stream course.

Waters of the State. The basins near the southern end of the project alignment are regarded as Waters of the State (WS) and are jurisdictional pursuant to the Porter-Cologne Water Quality Act. These basins are not regarded as WUS or CDFW jurisdictional habitat due to their isolation from any WUS or lake or streambed. These basins may occupy up to 1.06 acres in a wet year. Areas subject to regulation under the Porter-Cologne Water Quality Act consist of up to 1.06 acres of unvegetated basins. Waste Discharge Requirements (WDRs) may be issued by the RWQCB if proposed improvements impact the basins.

The mitigation for impacts to WUS, CDFW jurisdictional habitat, and WS will be determined in consultation with the agencies during the permitting process. It is anticipated that the wetlands will be mitigated at a ratio of 3:1, non-wetland WUS/streambed will be mitigated at a 1:1 ratio, and impacts to CDFW jurisdictional streambed will be mitigated at a 0.5:1 ratio, or as specified in the associated permit agreements. The finished channel will retain some of the functions and values of the existing channel and should figure into the mitigation. The improved channel bottom will include a pervious surface over 0.45 acre along 2,610 LF. The mitigation for impacts to the WUS, CDFW jurisdictional habitat, and WS would also cover the mitigation that would be required if these waters met the definition of Riparian/Riverine or vernal pool resources under the MSHCP. Implementation of mitigation measure **BIO-1** would reduce impacts to a less than significant level.

BIO-1 Impacts to wetlands shall be mitigated at a ratio of 3:1 or as specified in the associated permit agreements. Impacts to non-wetland WUS/streambed shall be mitigated at a ratio of 1:1 and impacts to CDFW jurisdictional streambed shall be mitigated at a ratio of 0.5:1, or as specified in the associated permit agreements. Mitigation shall be completed through contribution to creation, restoration, or enhancement of offsite jurisdictional waters and/or conservation easement.

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

The project includes work in an existing flood control channel and the installation of underground storm drain pipes. The project does not include structures which would interfere substantially with the movement of native residents, migratory fish, or wildlife species. No impact would occur.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

The project alignment is located within the boundaries of the Western Riverside MSHCP. Consistency with the MSHCP is discussed in response IV(a) below. The project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impact would occur.

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

The project alignment is located within the boundaries of the Western Riverside MSHCP. Consistency with sections of the MSHCP as discussed below.

Cities of Riverside/Norco Area Plan (MSHCP Section 3.3.17). The project alignment is located within the Cities of Riverside and Norco Area Plan of the MSHCP, but is not within a subunit or Criteria Cell. No proposed Core, Linkage, or Constrained Linkage occurs within the project alignment. The project alignment does not include any Public/Quasi Public Lands or previously conserved lands. Since the project alignment is not within any Sub Unit, there are no Planning Species to be addressed. There is no biological issue or conservation consideration related to any Criteria Cell because none would be affected. The project is consistent with the Cities of Riverside and Norco Area Plan.

Riparian/Riverine and Vernal Pool (MSHCP Section 6.1.2). Section 6.1.2 of the MSHCP focuses on protection of Riparian/Riverine areas and vernal pool habitats capable of supporting MSHCP covered species, particularly within the identified Conservation Area. The Norco Channel and the seasonal basins do not include habitat that is considered Riparian/Riverine as both the channel and basins are artificially created, and were not created from the alteration of a natural stream course, or for the purpose of providing wetland habitat. The seasonal basins have potential to support Riverside fairy shrimp and vernal pool fairy shrimp, both of which are species protected under MSHCP Section 6.1.2 as species associated with Riparian/Riverine and vernal pool habitats. The seasonal basins would be a MSHCP protected habitat if the fairy shrimp survey results demonstrate that one or more species of sensitive fairy shrimp are present. Surveys for fairy shrimp were conducted in 2015. One non-listed species of fairy shrimp was determined to be present (*Branchinecta lindahli*); however, no sensitive fairy shrimp were ~~observed~~identified as occurring on the project site; thus, the seasonal basins are not considered MSHCP protected habitat.

Study Area

Non-juridictional Features

Disturbed Wetland *(Width shown in feet)*

Roadside Ditch

3' Diameter Culvert

Sheet Flow from Street

CDFW Jurisdictional Habitats

Streambed *(Width shown in feet)*

Hillside Lane

Hillside Avenue

Corona Avenue

Ridgecrest Avenue

Temescal Avenue

3rd Street

Drain Inlet

2' CMP Outlet

22'

3'

1916'

25'

25'

19' 6'

25'

Pinto Lane

Citation Drive

3rd Street

4th St

La Quinta Ave

Garden Grove Ave

Parmenter Park

Curtis Dr

Reservoir Dr

Corona Ave

Norco Intermediate

Norco High School

Willow Dr

2nd St

Hillside Ave

Temescal Ave

Norco Elementary

a

b

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CDFW Jurisdictional Habitats and Waters of the State

SOUTH NORCO CHANNEL

HELIX Environmental Planning

N

0 200 Feet

Figure 8a

Study Area
Sampling Point

Non-juridictional Features

Disturbed Wetland *(Width shown in feet)*
Herbaceous Wetland *(Width shown in feet)*
3 - 2' Diameter Squashed Corrugated Metal Pipes
Concrete and Riprap
Concrete-lined Channel

CDFW Jurisdictional Habitats

Streambed *(Width shown in feet)*

Waters of the State

Seasonal Basin

Corona Avenue
Willow Drive
2nd Street
Temescal Avenue
19.5'
25'
23'
25'
19' 6"
SP 2
22'
16' 6"
SP 3
22'
23'
SP 1
24'
25'
Concrete and Riprap

4th St
La Quinta Ave
Garden Grove Ave
Parmenter Park
Curtis Dr
Reservoir Dr
Sky View Ave
Norco Intermediate
Pintoleta Dr
Hillside Ave
Corona Ave
Norco High School
Willow Dr
2nd St
Temescal Ave
Norco Elementary
a
b

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CDFW Jurisdictional Habitats and Waters of the State

SOUTH NORCO CHANNEL

HELIX Environmental Planning

0 200 Feet

Figure 8b

Protection of Narrow Endemic Plant Species (MSHCP Section 6.1.3). The project alignment is not within an area identified by the MSHCP as occurring within the Narrow Endemic Plant Species Survey Area (NEPSSA). No surveys are required and no impacts would occur.

Guidelines Pertaining to Urban/Wildlands Interface (MSHCP Section 6.1.4). The following measures as part of the project are designed to minimize the identified potential indirect impacts, including:

- Because the project involves the lining of an existing channel, the flows within the channel will not be altered by the project. No new flows will be introduced into the channel.
- The project is not adjacent to a conservation area; therefore, any lighting that may be associated with the project will not affect the MSHCP reserve.
- No plants included on the California Invasive Plant Council's list of invasive species (or in Table 6-2 of the MSHCP) should be used anywhere on the site, and only native species or non-invasive non-native species would be used in erosion control.
- The project is designed so that no take of conserved habitat would be necessary for fuel modification purposes.
- The project is not adjacent to an MSHCP conservation area and as such will not result in impacts to the MSHCP reserve.

The above measures would serve to minimize the adverse effects of the project on MSHCP conservation configuration.

Additional Survey Needs and Procedures (MSHCP Section 6.3.2). The property is not within an area identified by the MSHCP as being within the Criteria Area Species Survey Area (CASSA) or requiring focused animal surveys, with the exception of burrowing owl. The project alignment includes a parcel that requires a burrowing owl habitat assessment and surveys if habitat exists on the parcel. The habitat assessment revealed that burrowing owl habitat does not occur in the project alignment; thus, no surveys are required and no impacts to burrowing owl would occur.

As discussed above, while the project alignment is within the Cities of Riverside/Norco Area Plan, none of the parcels that are part of the project alignment are within any Criteria Cell, Cell Group, or Sub Unit. There is no proposed Core, Linkage, or Constrained Linkage within the project alignment. The proposed project is not expected to affect implementation of the MSHCP.

The project alignment is not within the Riverside County Habitat Conservation Plan (HCP) Fee Plan Area for the federally listed endangered/state listed threatened Stephens' kangaroo rat (*Dipodomys stephensi*; SKR). The project would not result in conflicts with the SKR HCP.

V. CULTURAL RESOURCES. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒

A Cultural Resources Report (Applied Earthworks 2015) was prepared for the project. During the project's cultural resources survey, two newly identified historical cultural resources were located within the project's Area of Potential Effects (APE). These include a segment of the South Norco Channel (P-33-024099) and a concrete irrigation weir box

(P-33-024199). P-33-024099 is a 4,100-foot-long segment of the South Norco Channel consisting of an earthen flat-bottomed cut channel with sloping sides built between January 1968 and March 1969. The historic segment traverses from the southern project terminus near Corona Avenue and 2nd Street, and continues along the alignment to the southwest corner of Norco Intermediate School. It features hard-earth, sloped embankments, and is flanked by dirt access roads that measure as much as 15 feet wide. The concrete irrigation weir box (P-33-024100) is located at the north edge of a District retention basin south of Willow Drive and east of Corona Avenue. It consists of a board-framed, poured concrete irrigation weir box that is rectangular and measures approximately 3.5 feet long by 2 feet wide and 4 feet tall. The weir box dates to the mid twentieth century. The historical South Norco Channel (P-33-024099) and irrigation feature (P-33-024100) were documented and evaluated for historical significance and neither was recommended as eligible for the National Register of Historic Places or the California Registry of Historic Resources. Neither resource qualifies as a "historic property" under the National Historic Preservation Act (NHPA) or a "historical resource" under CEQA. As such, no impact to historic resources would occur.

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

An intensive-level field survey of the project site did not result in the discovery of potentially significant archaeological resources of prehistoric or historic age, and the results of the cultural resources study prepared for the project (Applied Earthworks 2015) indicate that the archaeological sensitivity of project site is considered to be low. Ground disturbance associated with the project would primarily occur along the sides and bases of the existing flood control structures, which have been previously disturbed by construction and maintenance activities. As the potential for encountering intact cultural deposits in these areas is relatively low, no impacts to archeological resources at the project site would occur.

Due to the lack of ground visibility, much of the project alignment along Hillside Lane, Hillside Avenue, 3rd Street, and Golden West Lane could not be inspected for archaeological resources. However, the presence of several large bedrock milling sites in the nearby Norco Hills area suggests that archaeological sensitivity in the eastern portion of the project area is moderate to high. Trenching and excavation associated with the construction of underground storm drain pipes may extend to a depth of approximately 10 feet and as such, have the potential to disturb deeply buried archaeological deposits. This is a potentially significant impact, requiring mitigation. Implementation of mitigation measures **CUL-1** through **CUL-3** would reduce impacts to a less than significant level.

CUL-1 During project construction activities along Hillside Lane, Hillside Avenue, 3rd Street, and Golden West Lane, the District or the District's construction contractor shall retain a qualified archaeologist and/or a Native American monitor designated by the Soboba Band of Luiseño Indians to be present during ground disturbance activities associated with the installation of the underground drainage pipes that extend into undisturbed sediments.

CUL-2 If cultural resources are encountered, the archaeologist and/or the Native American monitor designated by the Soboba Band of Luiseño Indians, in consultation with the District's construction representative, shall have the authority to temporarily halt or redirect grading/trenching while the cultural resources are documented and assessed. If significant resources are encountered, appropriate mitigation measures must be developed and implemented.

CUL-3 The treatment and disposition of recovered Native American cultural resources shall be determined by the Native American monitor in consultation with the District. Recovered Native American resources may be returned to the site of discovery, or catalogued and curated with an appropriate institution. Items identified for curation shall be cataloged and analyzed. ~~Recovered artifactual materials shall be cataloged and analyzed. Artifacts collected (if any) shall be curated with accompanying catalog to current professional repository standards and transferred to an appropriate curating facility.~~

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

A Paleontological Resource Assessment (Applied Earthworks 2014) was prepared for the project. Based on this assessment, the project area is directly underlain by Cretaceous age rocks of the Cajalco pluton and Pliocene to

Pleistocene age nonmarine deposits, including the sedimentary rocks of Norco area (QTn), very old alluvial-fan deposits (Qvof), and very old axial-channel deposits (Qvoa). The underlying geologic units in the project area have been completely obscured by development, vegetation, and soil development. The project area has been heavily modified and disturbed from its natural geologic setting. The slopes of the earthen channel system have been eroded by a moderately well-developed gully network to depths of approximately 6 to 36 inches below ground surface. The gully erosion has exposed buried sediments, which consist of red clay soil with scant amounts (1 to 10 percent) of fine to coarse sand and angular pebbles. Exposures in several of the gullies indicate that the red clay soil has been removed and replaced with imported fill, probably following localized erosion or a larger flood event. The Pliocene to Pleistocene sedimentary deposits mapped within the project area were not visible beneath the red clay soil, which was observed to be at least to 0.5 to 1.5 feet thick. Although native sediments were not visible on the channel, or retention basin in the project area, they are likely present at shallow depth below.

A records search of the project area indicates that no previously recorded vertebrate localities are located within the project boundaries or within a 1-mile buffer around the project alignment; however, four localities from within unnamed Pleistocene age deposits have been reported in Riverside County from within the same or similar geologic units as those that underlie the project area.

The paleontological field survey established that shallow grading would likely not impact the Pliocene to Pleistocene age sedimentary rocks of the Norco area and Pleistocene alluvium mapped within the project area because the deposits have been previously disturbed to a depth of approximately three feet; however, significant excavations in the project area may impact native sediments. Exposures of Cretaceous plutonic rock have been previously disturbed by road building and would not be impacted by project-related ground disturbance.

No fossil resources were discovered during the course of fieldwork. However, 100 percent of the survey area was obscured by vegetation, soil development, or anthropogenic disturbances that limited surface visibility. The Pleistocene age deposits, which underlie the majority of the project alignment, are characterized by fine to medium-grained sediments that have proven to be conducive to the preservation of vertebrate remains. Therefore, these rock units may contain an unknown number of fossil resources at the subsurface.

Based on the literature review, museum records search results, and field survey, the geologic units underlying the project area are determined to have a paleontological sensitivity ranging from none to high. The Early to Middle Pleistocene age alluvium mapped in the project area has a high potential to contain intact paleontological resources because similar deposits have yielded significant vertebrate fossils in Riverside County. The lithology of the Pliocene to Pleistocene sedimentary rocks of the Norco area is coarse-grained, which is typically not conducive to the preservation of fossil remains. However, similar deposits of Pliocene age have yielded vertebrates in the vicinity of the project area; therefore, a high paleontological resource potential is assigned. The rocks of the Cajalco pluton have been determined to have no paleontological resource potential due to their high heat of formation; however, the portions of the project alignment containing Cajalco pluton are small and include a portion of Temescal Avenue south of the channel and a small portion of 3rd Street located west of Golden West Lane.

In general, the potential for a given project to result in adverse impacts to paleontological resources is directly proportional to the amount of ground disturbance associated with the project. Since the proposed project entails construction of underground storm drain pipes, considerable new ground disturbances are anticipated. Ground disturbance is planned for portions of the project area that are underlain by the highly sensitive Pliocene age sedimentary rocks of the Norco area and Pleistocene age very old alluvial-fan and axial-channel deposits, which may impact previously undisturbed lithology in those deposits that have proven to yield vertebrate remains in Riverside County. This is a potentially significant impact, requiring mitigation. Implementation of mitigation measures **CUL-4** through **CUL-6** would reduce impacts to a less than significant level.

CUL-4 Prior to the start of project construction, all field personnel shall be briefed regarding the types of fossils that could be found in the project area and the procedures to follow should paleontological resources be encountered. This

training shall be accomplished at the pre-grading kick-off meeting or morning tailboard meeting and shall be conducted by a qualified professional paleontologist or his/her representative.

CUL-5 Prior to the commencement of ground-disturbing activities, a qualified professional paleontologist shall be retained to prepare and implement a Paleontological Resource Impact Mitigation Program (PRIMP) for the project. Initially, full-time monitoring is recommended for grading and excavation activities that extend to three feet below ground surface , which will disturb previously undisturbed very old axial-channel deposits (Qvoa), very old alluvial fan deposits (Qvof), and sedimentary rocks of the Norco area (QTn), which have a high paleontological sensitivity, according to the criteria set forth by SVP (2010). Monitoring will not be required in project areas underlain by geologic units with no paleontological resource potential (i.e., the rocks of the Cajalco pluton [Kcg, Kmpc]; these areas include the portion of Temescal Avenue south of the existing flood control channel and a small portion of 3rd Street located west of Golden West Lane). Monitoring shall entail the visual inspection of excavated or graded areas and trench sidewalls. In the event that a paleontological resource is discovered, the monitor shall have the authority to temporarily divert the construction equipment around the find until it is assessed for scientific significance and collected. In areas of high sensitivity, monitoring efforts can be reduced or eliminated at the discretion of the project Paleontologist if no fossil resources are encountered after 50 percent of the excavations are completed.

CUL-6 Upon completion of fieldwork, all significant fossils collected shall be prepared in a properly equipped paleontology laboratory to a point ready for curation. Preparation shall include the careful removal of excess matrix from fossil materials and stabilizing and repairing specimens, as necessary. Following laboratory work, all fossil specimens shall be identified to the lowest taxonomic level, cataloged, analyzed, and delivered the Western Science Center for permanent curation and storage. The cost of curation is assessed by the repository and shall be responsibility of the District. At the conclusion of laboratory work and museum curation, a final report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project area geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the Western Science Center.

d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

There are no known human remains along the project alignment and the project area is not known to have been used for disposal of historic or prehistoric human remains. In the unlikely event that human remains are uncovered during project construction, State Health and Safety Code Section 7050.5 requires construction activities to halt until the County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to Public Resources Code Section 5097.98. Compliance with these regulations would ensure that impacts associated with the discovery of human remains would be less than significant.

VI. GEOLOGY AND SOILS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant**	**No Impact**
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a Known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒

The project alignment is located within the Peninsular Ranges Geomorphic Province in an area of alluvial filled valleys and low bedrock hills. The Peninsular Ranges extend south into Mexico and are bounded by the Sierra Madre Fault Zone and San Gabriel Mountains on the north, the San Andreas fault to the east, and the coastal plain (Newport-Inglewood fault) to the west (Geocon West 2013). The project alignment is not within a currently established Alquist-Priolo Earthquake Fault Zone for surface fault rupture hazards (Geocon West 2013). Additionally, no faults have been geologically mapped on or in the immediate vicinity of the project alignment. As such, no impact associated with rupture of a known earthquake fault is anticipated.

ii) Strong seismic ground shaking?	☐	☐	☒	☐

The project alignment is within a seismically active region, and is potentially subject to strong ground shaking from earthquake events along major regional faults. Although the proposed project would be subject to strong ground shaking, it would be designed and constructed in accordance with all applicable local, state, and federal requirements, including conformance with applicable regulatory standards and appropriate site preparation, loading design, excavation parameters, and fill composition/placement. Specific regulatory standards include the current (2013) California Building Code (CBC), as well as the International Building Code (IBC, which encompasses the former Uniform Building Code [UBC]). Based on conformance with these regulatory standards, the proposed project would not be subject to significant impacts related to seismic ground acceleration. Impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐

Liquefaction is the phenomenon in which surficial materials located below the water table undergo a rapid loss of shear strength when subjected to strong earthquake-induced ground acceleration. Ground acceleration of sufficient duration can result in the loss of grain-to-grain contact due to a rapid rise in pore water pressure, and cause the soil to behave as a fluid for a short period of time (with an associated loss of support for surface and subsurface structures). Liquefaction is known generally to occur in saturated or near-saturated cohesionless soils at depths shallower than 50 feet below ground surface. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and the intensity and duration of ground acceleration.

According to the geotechnical report prepared for the project, the project alignment is located within an area identified by the Riverside County Land Information System as being susceptible to liquefaction; however, based on the dense nature of subsurface soils (very old alluvial deposits), the geotechnical report concludes that liquefaction along the project alignment is considered unlikely. The probability of liquefaction occurring within layers of the alluvial deposits between about 15 and 30 feet below current ground surface is considered remote (Geocon West 2013). Impacts would be less than significant.

iv) Landslides or mudflows?	☐	☐	☐	☒

The project alignment does not contain areas of steep slopes or soil subject to potential landslides. The project would result in the stabilization of the existing flood control channel. No impact would occur.

b) Result in substantial changes in topography, unstable soil conditions from excavation, grading or fill, or soil erosion or the loss of topsoil?	☐	☐	☒	☐

The project would not result in substantial changes in topography, as the project would result in modifications to an existing channel, and the installation of subsurface storm drains.

Additional possible issues related to unstable soil conditions involve the stability of storm drain trenches (and related safety effects for construction workers). Trench excavations typically involve vertical or near-vertical walls, and can exhibit instability and the potential for collapse related to loose or unstable soil and geologic materials. Such instability can be exacerbated through the presence of groundwater. Conformance with applicable Occupational Safety and Health Administration (OSHA) requirements involving efforts such as trench slope limitations and shoring requirements, adherence to the recommendations for temporary excavations identified in Section 7.11 of the geotechnical investigation, and related regulatory requirements would avoid or reduce potential impacts related to trench stability below a level of significance.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
Subsidence occurs when a large portion of the land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils with high silt or clay content are particularly subject to subsidence. The project site is located within a zone of potential subsidence (Geocon West 2013); however, no large-scale extraction of groundwater, oil, or natural gas is proposed as part of the project. Thus, the potential for subsidence is low, and impacts would be less than significant. As discussed in response VI(a)(iii) above, liquefaction impacts would be less than significant. Impacts associated with unstable soil conditions are discussed in response VI(b) above, with less-than-significant impacts identified.				
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994 or most current edition), creating substantial risks to life or property?	☐	☐	☒	☐
Laboratory test results associated with the project's geotechnical investigation indicate that site soils are considered "expansive" based on CBC parameters (Geocon West 2013). However, due to high groundwater and relatively high moisture content of the soils along the project alignment proposed for installation of underground storm drains, the soil is moderately to well hydrated and not expected to increase substantially in volume with the addition of moisture. The storm drain lines would be bedded in clean sand and the pipe zone would be either backfilled with clean sand or slurry. Based on the proposed construction methods described, the expansive soils are suitable for project construction and impacts would be less than significant.				
e) Have soils incapable of adequately supporting any structures, fill or other improvements associated with the project?	☐	☐	☒	☐
The geotechnical investigation completed for the project indicates that alluvial deposits and localized areas of surficial undocumented fill would be exposed along the storm drain excavation portion of the alignment, with very old alluvium exposed along the bottom of the storm drain excavation. The geotechnical investigation indicates that the alluvial soil is suitable for support of the proposed storm drain system (Geocon West 2013). As discussed in response VI(d), the proposed construction methods for the project include the placement of clean bedding for the storm drain pipes and backfilling of clean sand or slurry in the pipe zone. Impacts associated with suitable soils to support structures would be less than significant.				

VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant**	**No Impact**
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
The proposed project would not involve the routine transport, use, or disposal of hazardous materials. During project construction, hazardous substances used to maintain and operate construction equipment (such as fuel, lubricants, adhesives, solvents, and asphalt) would be present. Transport, use, and disposal of hazardous materials would be conducted in accordance with applicable federal and state laws. Impacts would be less than significant.				
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
The potential release of hazardous materials associated with the proposed project is limited to construction activities, as described above in response VII(a). Given the size of the proposed project and the types of hazardous materials needed during construction, hazardous materials on site would not be present in any significant quantity and a spill, if any, is				

likely to be easily contained. Because the use of these materials would be conducted in accordance with all applicable state and federal laws, which include requirements for secondary containment of hazardous materials and appropriate spill response procedures, and because quantities of these materials present along the project alignment during construction would be small, impacts would be less than significant.

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

The project alignment is located within close proximity to two schools–Norco High School and Norco Intermediate School. However, the project would not emit hazardous emissions nor result in handling of acutely hazardous materials, substances, or waste, and thus, would not present a risk associated with acutely hazardous materials or hazard emissions within one-quarter mile of a school. No impact would occur.

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

A Phase I Environmental Site Assessment (ESA) was prepared for the project by Geocon West (2012), which discusses potential impacts resulting from hazardous materials sites within and immediately surrounding the project alignment. As part of the Phase I ESA, a search of federal, state, and local environmental records databases was conducted for the project alignment and surrounding area (up to one mile from the project alignment). Potential recognized environmental concerns along the project alignment are present due to a groundwater contaminant plume associated with Wyle Laboratories, a 429-acre property that was used as a former defense, aerospace, and consumer-product testing facility from the late 1950s to 2004. Potential contaminants of concern include perchlorate, trichloroethylene (TCE), polychlorinated biphenyls (PCBs), and volatile organic compounds (VOCs). The plume appears to have impacted groundwater below the existing channel and 3rd Street sections of the project alignment. A Soil and Groundwater Management Plan (Geocon West 2012) was prepared for the project, based on recommendations identified in the Phase I ESA. Samples of on-site soils and groundwater were collected to determine the presence of contaminants of concern associated with the nearby Wyle Laboratories. Fifteen soil samples and two groundwater samples were collected. The soil samples were tested for VOCs and perchlorate. Two of the soil samples were selected randomly for additional analysis of n-nitrosodimethylamine (NDMA). VOCs, perchlorate, and NDMA were not detected in the 15 soil samples that were analyzed. The lack of reported contaminants of concern in the soil suggests that the contaminants of concern are not likely to be encountered in soil during project excavation; however, there is still some potential for encountering contaminated soil during project construction. This would be a significant impact, requiring mitigation. The implementation of mitigation measure **HAZ-1** would reduce these impacts to a less than significant level.

The groundwater samples were also analyzed for VOCs, percholorate, and NDMA. VOCs, perchlorate, and NDMA were not detected in the 15 soil samples. TCE was detected in the groundwater samples at concentrations of 54 and 7.1 micrograms per liter, which is in excess of the California Department of Health Services' Maximum Contaminant Level (MCL) for TCE of 5.0 micrograms per liter. Other VOCs including bromomethane, chloroform, and trichlorofluoromethane were reported in one groundwater sample at concentrations of 0.89, 0.80, and 0.88 micrograms per liter, respectively. Bromomethane and chloroform do not have established MCLs from the California Department of Health Services, but the San Francisco Bay RWQCB Environmental Screening Levels (ESLs) for these two contaminants are 9.8 and 70.0 micrograms per liter, respectively, meaning that the bromomethane and chloroform in the groundwater sample were below the San Francisco Bay RWQCB ESLs. Neither the California Department of Health Services MCLs, the San Francisco RWQCB ESLs, nor the Santa Ana RWQCB Discharge Requirements contain a threshold for trichlorofluoromethane. The remaining VOCs, perchlorate, and NDMA were not detected in the groundwater samples. Due to the presence of TCE and other VOCs in the groundwater, it is anticipated that groundwater extracted as part of construction dewatering would require off-site disposal or pretreatment prior to a permitted discharge to the local sewer system. Disturbance of the impacted groundwater or the release of contamination during the project's construction activities is a potentially significant impact, requiring mitigation. Implementation of mitigation measure **HAZ-1** would reduce impacts to a less than significant level.

HAZ-1 The District's construction contractor shall implement the recommendations identified in the Soil and Groundwater Management Plan (Geocon West 2012) prepared for the project. These recommendations are contained in Section 5 – Security Procedures, Section 6 – Health and Safety, Section 7 – Soil Management, Section 8 – Groundwater Management, Section 9 – Laboratory Analysis, Section 10 – Soil Screening and Hazardous Waste Criteria, and Section 11 – Project Documentation. The District's construction contractor shall be required to implement all applicable recommendations identified in the Plan, including, but not limited to:

1. For worker and equipment protection, in the event that contaminated soil is encountered and excavated, temporary orange plastic construction fencing and/or yellow "CAUTION" tape affixed to delineators, traffic cones, stakes, and/or other suitable supports shall be placed around excavations in excess of three feet deep except during ingress, as appropriate, based on the judgment of the Site Safety Officer and project managers and foremen.

2. Each contractor associated with soil excavation, handling, sampling, stockpiling, truck-loading, and transportation activities shall be responsible for providing and implementing their own project-specific health and safety plan, prepared in accordance with applicable California OSHA requirements.

3. Excavated soils shall be observed for indications of contamination by the general contractor (such as discoloration and chemical odor) and managed according to the provisions outlined in Sections 7.1, 7.2, 7.3, and 7.4 of the Soil and Groundwater Management Plan.

4. Extracted groundwater shall be treated on site pending discharge to the local sewer system or disposal at an approved facility. Discharge to the sewer shall be conducted in accordance with the dewatering permit specifications. The District's construction contractor shall be responsible for complying with the sampling and reporting associated with any discharge permit and shall be responsible for the testing, profiling, and off-site disposal of groundwater.

5. Soil samples collected from stockpiles of visibly impacted or excess soil generated during the project shall be analyzed for VOCs according to EPA Test Method 8260B. Soil samples shall be analyzed by a California Department of Public Health-certified laboratory according to industry-standard methods and QA/QC procedures. Sample management shall follow standard chain-of-custody protocol.

6. On-site personnel shall maintain daily field reports including a summary of project activities, excavation equipment location, and soil sampling activities.

7. In the event that impacted soil is encountered during construction of the project, a summary report shall be prepared for submittal to the District. The report shall include the items identified in Section 11 of the Soil and Groundwater Management Plan.

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

The nearest airport to the project alignment is Corona Municipal Airport, located approximately 2.7 miles southwest of the southern extent of the project alignment at the intersection of 2nd Street and Corona Avenue. The project is not located within the airport land use plan for the Corona Municipal Airport and would not result in an airport safety hazard. No impact would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

There are no private airstrips within a 5-mile radius of the project alignment. The project consists of temporary construction and would not result in the exposure of residents or workers to safety hazards associated with private airstrips. No impact would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
Roadway segments within the project area would be subject to temporary lane closures during project construction; however, most closures would maintain one lane of travel at all times. If road closures would be necessary, they would last for no more than a few days on the affected road segment, and alternate routes/detours would be established to accommodate diverted traffic. The project would include street improvements along Temescal Avenue and Hillside Lane, including the placement of a smooth transition along a 175-foot portion of Temescal Avenue to correct an existing discontinuity in the travel width and the replacement of asphalt concrete pavement over Hillside Lane. The proposed project would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan. Accordingly, potential impacts to emergency response or evacuation plans from the proposed project would be less than significant.				
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where Wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
The project alignment is located in a developed area and would not be subject to hazards associated with wildfires. Additionally, the project does not include components which would introduce new residences or employment centers. No impact would occur.				

VIII. HYDROLOGY AND WATER QUALITY. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant**	**No Impact**
a) Violate or conflict with any adopted water quality standards or waste discharge requirements?	☐	☐	☒	☐

Potential water quality impacts associated with the proposed project would be limited to short-term construction-related erosion and sedimentation and the disposal of extracted groundwater (if necessary). Long-term project operations generally would be limited to continuance of current routine inspection and maintenance of proposed facilities, and would not involve activities or materials that could result in significant water quality impacts.

As required under the National Pollutant Discharge Elimination System (NPDES), administered by the Regional Water Quality Control Board, a Stormwater Pollution Prevention Plan (SWPPP) would be created for the proposed project. The plan would address erosion control measures that would be implemented to avoid erosion impacts to exposed soil associated with construction activities. The SWPPP would include a program of Best Management Practices (BMPs) to provide erosion and sediment control and reduce potential impacts to water quality that may result from construction activities. BMPs would be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable and may include, but not be limited to, the following:

- Protection of storm drain inlets located within the project impact footprint and in downstream off-site areas with the use of BMPs acceptable to the District, local jurisdictions, and the Santa Ana RWQCB.
- Sweeping of dirt and debris from paved streets in the construction zone on a regular basis, particularly before predicted rainfall events.
- Proper storage, use, and disposal of construction materials.
- Removal of sediment from surface runoff before it leaves the project site through use of silt fences or other similar devices around the laydown area perimeters.

- Protection of tracking soil off site through use of a gravel strip or wash facilities at exits from project laydown areas.
- Protection or stabilization of stockpiled soils.

Additionally, the District would obtain coverage under the NPDES Construction General Permit. Construction activities would be required to comply with the conditions of this permit, including, but not limited to, preparation of a SWPPP, implementation of BMPs, and monitoring, to ensure impacts to water quality are minimized.

Groundwater could potentially be present and require extraction/disposal (dewatering) to facilitate proposed construction operations. If construction-related dewatering is necessary, the project would be required to conform to applicable requirements for construction dewatering wastes contained in the Riverside County Municipal Stormwater Permit (Order No. R8-2010-0033) and, as applicable, the General Waste Discharge Requirements for discharges to surface waters that pose a de minimus threat to water quality (Order No. R8-2009-0003). . These requirements are generally applicable to all groundwater discharge regardless of volume, with certain exceptions as noted in the permit text. Specific requirements for permit conformance include: (1) implementing an appropriate sampling and analysis/ monitoring program; (2) providing at least 45 days notification to the appropriate local agency prior to discharging to a municipal storm drain system; (3) conforming with applicable water quality standards, including (but not limited to) the Basin Plan, CWA, and State Porter-Cologne Water Quality Control Act; and (4) submittal of applicable monitoring reports.

Potential water quality impacts would be avoided or reduced below a level of significance through conformance with NPDES permit conditions. Impacts would be less than significant.

b) Result in substantial discharges of typical stormwater pollutants *(e.g., sediment from construction activities, hydrocarbons, and metals from motor vehicles, nutrients and pesticides from landscape maintenance activities, metals of other pollutants from industrial operation)* or substantial changes to surface water quality including, but not limited to, temperature, dissolved oxygen, pH, or turbidity?	☐	☐	☐	☒

The proposed project would not create new sources of discharge of stormwater pollutants, but would handle stormwater flows. No impact associated with this issue would occur.

c) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level *(e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*	☐	☐	☒	☐

The proposed project may require dewatering during construction. Additionally, the introduction of new impervious surfaces, which would occur from converting the earthen channel to concrete sides and cobble-lined natural bottom, would result in a slight reduction in groundwater recharge for the area. The Temescal sub-basin of the Upper Santa Ana Valley Groundwater Basin underlies the project alignment. Based on the California's Groundwater Bulletin 118, the Temescal sub-basin has an unknown groundwater storage capacity and an unknown amount of groundwater in storage, but covers an area of 23,500 acres. The project proposes improvements to the earthen South Norco Channel. The improvements would include placement of concrete side slopes and a cobble-lined natural bottom along 3,200 lineal feet of channel. The cobble-lined natural bottom would cover approximately 0.86 acre, which accounts for a tiny fraction of a percent (less than one one-thousandth of a percent) of the total area of the sub-basin. The cobble-lined natural bottom would allow some continued infiltration of water to the underlying basin. Water that does not infiltrate would continue through the District's storm drain system to earthen channels further downstream. Based on the overall size of the groundwater basin, the partial infiltration that would occur within the improved, cobble-lined natural bottom, and the fact that downstream facilities include earthen channels where further infiltration into the groundwater basin would occur, impacts associated with the loss of groundwater recharge associated with the project would be less than significant. Dewatering during construction and a slight reduction in groundwater recharge for the area would not substantially deplete groundwater supplies, ~~or~~ interfere substantially with groundwater recharge, or contribute significantly to a cumulative loss of groundwater recharge. Impacts would be less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of a watercourse or wetland, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
The proposed project would consist of improvements to an existing flood control channel and construction of two underground storm drain pipes. The proposed storm drain system would collect and convey storm water runoff through the project area and discharge to the existing downstream watercourse, maintaining existing drainage patterns. Therefore, the potential for on-site and off-site flooding would be reduced and no impact would occur.				
e) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
The proposed project would not alter any stream course or river. The proposed project lies within an area that is already developed and does not alter existing or proposed land-use within the area; therefore, the proposed project would not increase the quantity of surface water runoff. Implementation of the proposed project would result in the construction, maintenance, and operation of a segment of the existing South Norco interim earthen flood control channel to reduce on- or off-site flooding, as well as construction, maintenance, and operation of two underground storm drain pipes. No impact would occur.				
f) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems?	☐	☐	☐	☒
The proposed project would not create or contribute new sources of stormwater runoff or polluted runoff. The purpose of the project is to alleviate flooding by constructing drainage improvements per the Norco MDP compatible with the capacity of existing or planned drainage systems. No impact would occur.				
g) Place housing within a 100-year flood hazard area as mapped on Federal Flood Hazard boundary of Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
The proposed project does not include the placement of housing within a 100-year flood hazard area. The project would reduce the risk of flooding to homes and potentially remove properties from Special Flood Hazard Areas shown on the Flood Insurance Rate Map. No adverse impact associated with housing in a 100-year flood hazard area would occur.				
h) Place structures or fill within a 100-year flood hazard area, which would impede or redirect flood flows?	☐	☐	☐	☒
The project is a storm water management project and no structures or fill would be placed which would impede or redirect flows. No impact would occur.				
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
The project alignment is not located down gradient of a dam or reservoir, and as such, is not submitted to flooding as a result of dam failure (Geocon West 2013). The project consists of a flood control channel and storm drains. The project would help handle storm flows, and improve the overall drainage system and would not expose people or structures to a significant risk associated with flooding. No impact would occur.				
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
The project alignment is not located adjacent to large, enclosed bodies of water which would subject the alignment to inundation as a result of a seiche (i.e., a wave-like oscillatory movement in an enclosed or semi-enclosed body of water such as a lake or reservoir). Flooding from a seiche is considered unlikely (Geocon West 2013). Additionally, the project alignment is not located in areas directly adjacent to steep hills and is not expected to be susceptible to mudflows. The project alignment is located over 30 miles from the Pacific Ocean and is not expected to be subject to tsunami impacts. No impact related to these issues would occur.				

IX. LAND USE PLANNING. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
The proposed project would not physically divide an established community. New storm drains would be underground, and the flood control channel already exists in the project area. In some reaches, the existing open channel would be converted to an underground storm drain, removing an existing community division. No impact associated with dividing a community would occur.				
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
The project alignment is located within the City of Norco. Land uses within the project alignment, as identified by the City of Norco General Plan Land Use Map (City of Norco 2012), include Residential Agricultural (RA), Residential Low (RL), Existing Schools (S), and Water Related (WR). The proposed project does not include any requests for change to existing land uses along the alignment, nor does it propose any changes to the City's land use designations. No impact would occur. The project alignment traverses a developed area, which consists of single-family residential uses and two schools. The stabilization, maintenance, and operation of a segment of the existing South Norco interim earthen flood control channel, as well as construction, maintenance, and operation of two underground storm drain pipes, are not anticipated to conflict with the existing land uses or result in the placement of any incompatible uses in the area. No impact would occur.				

X. MINERAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
The project alignment is located in a developed area consisting of residential uses and schools. There are no mineral resource extraction activities occurring in the immediate vicinity of the project alignment. The County of Riverside General Plan (2008) identifies the project area as Mineral Resource Zone 3 (MRZ-3). MRZ-3 denotes that mineral deposits are likely to exist; however, the significance of the deposit is undetermined. Because the project alignment is located within an area already containing existing development, it is highly unlikely the project area would be used in the future for mineral extraction activities. The proposed project would not conflict with or prevent any proposed mineral extraction activities, nor would it remove any mineral resources from availability. No impact to mineral resources would occur.				

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
As discussed in response X(a), the project alignment is in a developed area, including the existing flood control channel, area streets, and portions of school campuses. It is unlikely that the project area would be used for future mineral extractions, and no mineral extraction activities are occurring along the project alignment. No impact to locally-important mineral resource recovery sites would occur.				

XI. NOISE. Would the project result in:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant**	**No Impact**
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
The project alignment is located within the City of Norco. The City's Municipal Code (City of Norco 2012b) contains provisions related to hours of construction. Construction of the proposed project would require the use of heavy equipment for grading, excavation, trenching, and/or storm drain installation activities. Construction activities also would involve the use of smaller power tools, generators, and other sources of noise for construction of the proposed project. Each construction activity would create elevated short-term construction noise impacts. Construction activities would be temporary and limited to daytime hours in accordance with Section 15.30 of the City of Norco Municipal Code, which limits construction activity (including equipment start-up and use and the loading, unloading, and handling of materials) to the hours of 6:30 a.m. through 7:00 p.m. Monday through Friday. Construction on the weekends is limited to single-building permits for expansion and upgrades to existing buildings, which is not applicable to the proposed project. Compliance with City requirements for construction noise would ensure impacts would remain less than significant.				
b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐
The project does not include activities that would expose persons to or generate excessive ground-borne vibration or ground-borne noise levels. While some construction equipment could generate low levels of vibration to nearby receivers and structures, these levels of minor vibration would be temporary and less than significant.				
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
Construction noise associated with the project would be temporary. Once the project construction is completed, the flood control channel and two storm drains would require only limited, periodic maintenance. The level of noise generated by maintenance activities is not expected to be substantially perceptible within the overall noise environment of the project area and would not contribute to significant, long-term increase in ambient noise levels. Impacts would be less than significant.				
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
Construction of the proposed project may potentially create some elevated short-term construction noise impacts, particularly from trenching and excavation activities. Residential areas and two schools are located adjacent to the project alignment. Construction of the proposed project would produce elevated short-term noise levels that could potentially impact these nearby properties. Assuming an initial removal and over excavation of materials with an excavator filling a dump truck for removal of excess materials, and ongoing work including reshaping and compaction of fill with a loader and vibratory compactor, the loudest potential noises would be expected from the excavator and dump truck. The loudest maximum construction noise levels are expected to be approximately 78 A-weighted				

decibels (dBA) equivalent sound level (L_{EQ}) at 50 feet. This noise level would only occur in any single location for a brief time period as the work progresses along the length of the alignment, thus minimizing the duration that active construction would be adjacent to a single residence or the adjacent schools. Construction activities at Norco Intermediate School would be conducted in such a manner as to kept disruption to the school as a minimum. District work would be limited to locations along the property line, as far from instruction classrooms as possible. Further, the construction site would be shielded from students. These noise levels would be intermittent (i.e., operating in brief alternating cycles of full power and low power) and would only occur adjacent to the same receptors for a relatively short period of time before construction work progresses along the alignment. Impacts would be less than significant.				
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
The nearest airport to the project alignment is Corona Municipal Airport, located approximately 2.7 miles southwest of the southern extent of the project alignment at the intersection of 2nd Street and Corona Avenue. The project is not located within the airport land use plan for the Corona Municipal Airport and would not result in the exposure of residents or workers to excessive airport noise levels. No impact would occur.				
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
There are no private airstrips within a five-mile radius of the project alignment. The project consists of temporary construction and would not result in the exposure of residents or workers to excessive noise levels associated with a private airstrip. No impact would occur.				

XII. POPULATION AND HOUSING. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant**	**No Impact**
a) Induce substantial population growth in an area, either directly *(e.g., by proposing new homes and businesses)* or indirectly *(e.g., through extension of roads or other infrastructure)* resulting in substantial adverse physical impacts or conflicts with the adopted general plan, specific plan, or other applicable land use or regional plan?	☐	☐	☐	☒
The stabilization of the existing flood control channel and the placement of new storm drains are not population-inducing components. The project is for the protection of existing development. There would be no new housing or employment centers associated with the project. The project is a temporary construction project, with construction workers from the local work force. The population would not result in direct or indirect population growth. No impact associated with population growth would occur.				
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
The proposed project would not result in a need to construct replacement housing. The new storm drains would be located underground, and the stabilization of the channel would occur within boundaries of the existing channel. No impact associated with displacement of housing would occur.				
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
The proposed project would not result in a need to relocate residents. The new storm drains would be located underground, and the stabilization of the channel would occur within boundaries of the existing channel. No impact associated with displacement of people would occur.				

XIII. PUBLIC SERVICES	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
Fire protection?	☐	☐	☒	☐
The proposed project would not have operational impacts to fire protection and would not cause a need for new or altered fire protection facilities or related infrastructure; however, the construction phase of the project could potentially impact existing services. Impacts to fire protection services could potentially occur on a short-term basis if construction equipment-related fires were accidentally started. The probability for such fires to occur is low, and construction equipment would be outfitted with spark arrestors and other fire-protective measures. Such a potential impact would not result in the need for new or altered facilities. Some of the roadway segments within the project area would be subject to temporary lane closures during trenching and construction of the new storm drains; however, most closures would maintain one lane of travel at all times. If road closures would be necessary, they would last for no more than a few days on the affected road segment, and alternate routes/detours would be established to accommodate diverted traffic. Emergency vehicles would be allowed access through construction zones. Construction of the proposed project is not expected to affect emergency service providers' ability to provide a timely response to priority calls. Accordingly, impacts to fire protection would be less than significant.				
Police protection?	☐	☐	☒	☐
The proposed project would not result in the construction of uses that would typical require police protection services, and thus, would not have operational impacts to police protection or cause a need for new or altered police protection facilities. A police protection need could occur during project construction if theft or crime associated with the construction equipment or construction site would occur; however, these types of events would not trigger an increase above already provided police protection levels. Emergency access issues associated with the construction period would be than same as those identified above for fire protection. Impacts to police protection would be less than significant.				
Schools?	☐	☐	☐	☒
The proposed project does not include components which would generate new students attending local schools; thus, the project would not result in the need for new or altered school facilities associated with increases in school enrollment. Project construction activities would occur adjacent to two schools: Norco Intermediate School and Norco High School. Construction activity impacts to these schools are addressed as part of the overall environmental analysis for the project contained in this Initial Study. Please refer to the appropriate environmental topics for discussion of environmental impacts as it pertains to Norco Intermediate and Norco High schools.				
Parks?	☐	☐	☐	☒
The project does not include any components that would result in a population increase, nor in increased usage of parks and other recreational facilities. The project alignment is not located adjacent to any public parks and project construction would not result in impacts to existing or proposed parks. No impact to parks would occur.				
Other public facilities?	☐	☐	☐	☒
The proposed project would not result in increases in population or new job-generating sources. As such, no impacts to other public facilities would occur.				

XIV. RECREATION	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
The project does not include any components that would result in a population increase, nor in increased usage of parks and other recreational facilities. The project alignment is not located adjacent to any public parks and project construction would not result in impacts to existing or proposed parks. Athletic fields associated with Norco High School and Norco Intermediate School are located adjacent to and within the project alignment. Disturbance of the fields associated with project construction would be temporary. The fields would be returned to their original condition following completion of construction activities. Construction activities at Norco Intermediate School would be conducted in such a manner as to kept disruption to the school as a minimum. District work would be limited to locations along the property line, as far from instruction classrooms as possible. Further, the construction site would be shielded from students. At Norco High School, disturbance of athletic fields would be minor, along the western boundary of the school property, and would not be significant. The proposed project would not result in impacts to existing parks or require the expansion of existing recreational facilities. Impacts would be less than significant.				
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
The proposed project does not include recreational facilities and would not require the construction or expansion of recreational facilities. No impact would occur.				

XV. TRANSPORTATION AND TRAFFIC. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant	No Impact
a) Conflict with an adopted plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
No long-term increase in traffic generation would occur as a result of the proposed project, as only minimal maintenance activity is anticipated for project, such activity would occur infrequently, and is similar to the maintenance activities already occurring at the channel. The project alignment traverses along portions of existing roadways, including Hillside Lane, Hillside Avenue, 3rd Street, Golden West Lane, and Temescal Avenue. Project-related traffic increases that may occur along these and other area roadways would be temporary and associated with project construction. Such traffic would be minor, including deliveries of equipment and materials, construction employee travel to and from the work site, and hauling export materials (export would result in approximately 20 trips per day), and would not have a significant impact on the circulation system. Many of the roadway segments within the project area would be subject to temporary lane closures during storm drain trenching and construction; however, most closures would maintain one lane of travel at all times. If road closures would be necessary, they would last for no more than a few days on the affected road segment, and alternate means of accessing properties or alternate routes/detours would be established to accommodate diverted traffic.				

Driveway closures would be kept to a minimum, with blockages likely occurring for no more than a few hours at a time. Residents would be notified well in advance of impending closures or blockages related to project construction.

The short-term construction traffic resulting from the proposed project would not conflict with an adopted plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. Impacts would be less than significant.

b) Conflict with an adopted congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the appropriate congestion management agency for designated roads or highways?	☐	☐	☒	☐

The proposed project would not result in the generation of long-term traffic in the project area, with the exception of a small amount of trips associated with maintenance activities. Temporary traffic increases would occur during construction activities, as discussed in response XV(a) above. Based on the temporary nature of the traffic increases in the project area, and the minor amounts of daily trips associated with construction (resulting from of equipment and materials, construction employee travel to and from the work site, and hauling of export materials), impacts associated with adopted congestion management programs, level of service standards, and travel demand measures would be less than significant.

c) Substantially increase hazards due to a design feature *(e.g., sharp curves or dangerous intersections)* or incompatible uses *(e.g., farm equipment)?*	☐	☐	☐	☒

The proposed project includes the placement of underground storm drains and the stabilization of an existing flood control channel. There are no changes proposed to the design of the roads proposed for storm drain placements. There would be no increase in hazards associated with design feature and no impact would occur.

d) Would the project result in inadequate emergency access?	☐	☐	☒	☐

The proposed project would not significantly impact current or future emergency access to the community. Emergency access routes to all parts of the surrounding community would be maintained during the temporary construction phase of the project. As noted under Section XIII, Public Services, roadway segments along the project alignment would be subject to temporary lane closures during trenching and construction of the storm drains; however, most closures would maintain one lane of travel at all times. If road closures would be necessary, they would last for no more than a few days on the affected road segment, and alternate routes/detours would be established to accommodate diverted traffic. Project construction would not be expected to affect emergency service providers' ability to provide a timely response to priority calls. The project includes street improvements along Temescal Avenue and Hillside Lane. These improvements include the placement of a smooth transition along a 175-foot portion of Temescal Avenue to correct an existing discontinuity in the travel width and replacement of asphalt concrete pavement over Hillside Lane. The proposed project would result in improvements of existing street conditions, and would not result in long-term negative effects to emergency access. Impacts would be less than significant.

e) Would the project result in inadequate parking capacity?	☐	☐	☐	☒

The project does not include uses that would result in the need for parking. During long-term operation of the project, maintenance trucks may occasionally visit the project; however, they would not require long-term parking and would likely park within the easement for the flood control channel. The maintenance is already an on-going activity, and the proposed project would not result in changes to or increase needs for parking associated with the project. The project would not result in inadequate parking capacity. No impact would occur.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, pedestrian facilities, or other alternate transportation or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐
Although the project includes street improvements along Temescal Avenue and Hillside Lane, these improvements would not affect alternative transportation. The project does not include land uses which would require the use of or benefit from alternative transportation, as no residential or employment-generating uses are proposed. Temporary lane closures may occur during storm drain trenching and construction. As discussed above, closures would be no more than a few days on the affected road segment, and alternative routes/detours would be established to accommodate bicyclists, pedestrians, and buses. Impacts would be less than significant.				

XVI. UTILITIES AND SERVICE SYSTEMS. Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant**	**No Impact**
a) Impact the following facilities requiring or resulting in the construction of new facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				
Electricity	☐	☐	☒	☐
Prior to project construction, Underground Service Alert would be notified to locate buried utilities within the construction footprint. The project would not result in the placement of new electricity-generating uses nor require the use of electricity during the long-term operation of the project. The proposed construction would result in the relocation of two utility poles and potentially buried electric lines; however, relocation of existing utilities is typical of the type of construction proposed, and would result in temporary impacts to service during the relocation process. As such, impacts would be considered less than significant.				
Natural Gas	☐	☐	☒	☐
Prior to project construction, Underground Service Alert would be notified to locate buried utilities within the construction footprint. The project would not result in the placement of new uses that would require natural gas service. Several gas line relocations would be required during construction of the new storm drains; however, relocation of existing utilities is typical of the type of construction proposed, and would result in temporary impacts to service during the relocation process. As such, impacts would be considered less than significant.				
Communication System	☐	☐	☒	☐
Prior to project construction, Underground Service Alert would be notified to locate buried utilities within the construction footprint. The project would not require connections to existing or new communication systems, but would potentially require relocation of existing communication lines, resulting in temporary impacts to service. Impacts would be less than significant.				
Street lighting	☐	☐	☐	☒
The project does not include components that would result in the removal, relocation, or placement of street lighting. No impact would occur.				
Public facilities, including roads and bridges	☐	☐	☒	☐
The proposed project includes pavement replacement along Hillside Lane, Hillside Avenue, 3rd Street, Golden West Lane, and Temescal Avenue following placement of the new storm drains as well as additional street improvements. The additional street improvements would occur along: (1) Temescal Avenue, where an existing discontinuity in the travel width would be replaced with a smooth transition over a length of approximately 175 feet, including new asphalt concrete, and concrete curb and gutter; and (2) Hillside Lane, where the existing asphalt concrete pavement would be replaced with new asphalt concrete pavement over the full travel width (approximately 16 feet) and length				

(approximately 1,000 feet). Street improvements and new pavement would occur as part of the proposed project. The project would not result in increased wear and tear on existing roads and bridges, or an increase in usage along area roads. Impacts associated with public facilities would be less than significant.				
b) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
The proposed project consists of the construction of new stormwater drainage facilities and stabilization of existing facilities. The project would not result in a need for additional facilities, beyond those included in the project. No impact would occur.				
c) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
The project would not require new or expanded entitlements for water service, as it would not result in new long-term water uses, and water use requirements during construction would be small and temporary. Impacts would be less than significant.				
d) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
The proposed project does not include wastewater generating uses. As such, no impact to wastewater treatment providers would occur.				
e) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
Minimal solid waste would be generated by the construction of the proposed project. Operation and maintenance of the storm drains and the flood control channel stabilization would generate very little, if any, solid waste. Project-related impacts to landfills would occur associated with construction, but would be minor and temporary, and thus less than significant.				
f) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
Both construction and operation of the proposed project would comply with applicable federal, state, and local statutes and regulations related to solid waste, and impacts would be less than significant.				

XVII. MANDATORY FINDINGS OF SIGNIFICANCE.	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant**	**No Impact**
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
Project impacts would be temporary during the construction period. No long-term impacts would be associated with the project, and activities along the project alignment would be a continuation of the existing condition following construction. The project would result in potentially significant biological and cultural resource impacts associated with jurisdictional areas, archaeological resources, and paleontological resources, but all impacts would be reduced to a less-than-significant level with implementation of mitigation (mitigation measures **BIO-1** and **CUL-1** through **CUL-3)**. Implementation of mitigation would ensure that the project would not degrade the quality of the environment for plant or animal communities, substantially reduce the habitat of a fish or wildlife species, cause fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, nor reduce the number or				

restrict the range of endangered plants or animals, with implementation of mitigation. The project would not eliminate important examples of the major periods of California history or prehistory, with implementation of mitigation. As described, the project's impacts would be avoided by incorporation of mitigation measures.				
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
Cumulative impacts are defined as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the development when added to the impacts of other closely related past, present, and reasonably foreseeable or probable future developments. Cumulative impacts can result from individually minor, but collectively significant, developments taking place over a period of time. Project impacts would only occur during the construction period, which would be short-term and less than significant with incorporation of mitigation measures. No long-term impacts would occur as a result of the project, and thus, the project would not contribute to a long-term cumulative impact. For most of the topics analyzed in this Initial Study (for example, aesthetics or noise), the potential for cumulative impacts is more localized and directly driven by anticipated development. Because of the existing nature of the project area, it is unlikely that localized cumulative impacts would occur. The proposed project, along with other projects occurring in the area, would adhere to the construction hour requirements of the City of Norco Municipal Code. Some cumulative impacts, such as air quality and greenhouse gases, are not localized to the immediate project area and can contribute to cumulative impacts over a larger area. However, project emissions would only occur during the construction period and would not be cumulatively considerable. The project would not result in the generation of substantial long-term traffic and thus, would not contribute to a cumulatively considerable increase in traffic in the project area. The project would not include the construction of uses that would induce population growth and thereby, directly or indirectly, contribute to cumulative impacts to public services, utilities, or recreation. For these reasons, impacts associated with cumulative effects would be less than significant.				
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐
The proposed project would not have environmental effects which would cause substantial adverse impacts on human beings, either directly or indirectly. Project impacts would be temporary during the construction period, and no long term impacts would occur. Project implementation is not anticipated to result in adverse direct or indirect effects to human beings because the proposed project includes a number of mitigation to avoid or minimize potential impacts related to issues including biological resources and cultural resources. Impacts would be less than significant.				

COMMENTS AND RESPONSE TO COMMENTS

The District received three comment letters on the draft IS/MND. The first letter was from the California Department of Transportation (District 8), the second letter was from the Soboba Band of Luiseño Indians, and the third letter was from the California Department of Fish and Wildlife.

The District also received a letter from the State Office of Planning and Research (State Clearinghouse), which acknowledges that the District has complied with the State Clearinghouse requirements for draft environmental review pursuant to CEQA.

While some addition text was added to IS/MND responses IV(a), IV(b), and VIII(c) as a result of the comments, the comments and subsequent minor revisions do not change the analyses or conclusions provided in the draft IS/MND. Additionally, some minor revisions were made to the wording of mitigation measures CUL-1, CUL-2, and CUL-3 based on comments received.

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A-1

A-1 This comment letter confirms that the Draft Mitigated Negative Declaration was distributed to various state agencies, and that the District has complied with statutory noticing obligations. No specific response is necessary.

B-1

B-2

B-3

B-4

B-1 This comment acknowledges receipt of the project Initial Study/Mitigated Negative Declaration and contains a brief summary of the project. No specific response is necessary.

B-2 Caltrans' responsibility as owner and operator of the State Highway System is noted. The project does not propose work or changes within the right-of-way of the State Highway System. The southwestern terminus of the project at the intersection of Second Street and Corona Avenue is approximately 0.3 mile east of Interstate 15 and as such, no impacts to State Highway facilities will occur.

B-3 The District will include Caltrans on project notifications if the project proposal is modified in a manner that will affect the State Highway System or Caltrans rights-of-way.

B-4 This is a closing statement providing contact information for Caltrans' staff if there are questions regarding the comment letter. No specific response is necessary.

SOBOBA BAND OF LUISEÑO INDIANS
EST. JUNE 19, 1883

July 7, 2015

Attn: Kris Flanigan
Riverside County Flood Control & Water Conservation District
1995 Market Street
Riverside, CA 92501

Re: Notice of Intent to Adopt a Mitigated Negative Declaration for the South Norco Channel Stage 6, Norco MDP Line-1 Stage 5 & MDP Line S-5 Stage 1 Project

C-1 The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. This project location is in close proximity to known village sites and is a shared use area that was used in ongoing trade between the Luiseno and Cahuilla tribes. Therefore it is regarded as highly sensitive to the people of Soboba.

C-2 Soboba Band of Luiseño Indians is requesting the following:

1. To initiate a consultation with the Project Developer and Land owner.
2. The transfer of information to the Soboba Band of Luiseno Indians regarding the progress of this project should be done as soon as new developments occur.
3. Soboba Band of Luiseño Indians continues to act as a consulting tribal entity for this project.
4. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason the Soboba Band of Luiseño Indians requests that a Native American monitoring component be included as a mitigation measure for the negative declaration. The Tribe is requesting that a Treatment and Dispositions Agreement between the developer and The Soboba Band be provided to the Riverside County Flood Control and Water Conservation District prior to the issuance of a grading permit and before conducting any additional archaeological fieldwork.
5. Request that proper procedures be taken and requests of the tribe be honored (Please see the attachment)

C-3 The Soboba Band of Luiseno Indians is requesting a face-to-face meeting between the Riverside County Flood Control and Water Conservation District and the Soboba Cultural Resource Department. Please contact me at your earliest convenience either by email or phone in order to make arrangements.

Sincerely,

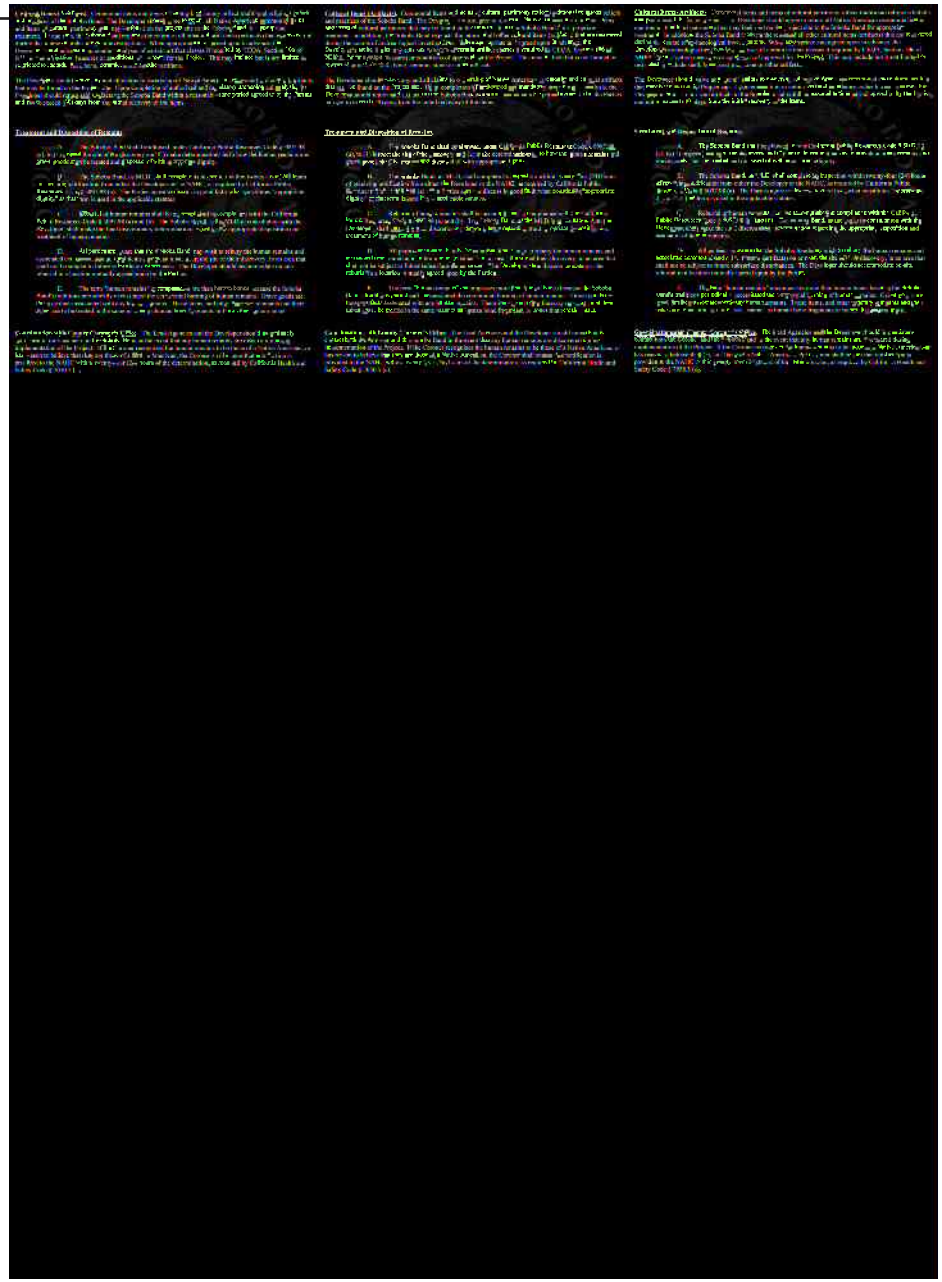
Joseph Ontiveros
Director of Cultural Resources
Soboba Band of Luiseño Indians
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137
Cell (951) 663-5279
jontiveros@soboba-nsn.gov

RECEIVED
JUL 10 2015
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

C-1 The District acknowledges the Soboba Band of Luiseño Indians' (Tribe's) identification of the project area as a highly sensitive Traditional Use Area of the people of Soboba.

C-2 The District acknowledges the Tribe's request to initiate consultation. This District and the Tribe have consulted on the project. The District will continue to inform the Tribe regarding the progress of the project and will continue consulting with the Tribe. The District is coordinating with the Tribe to have a Native American monitor present for excavation at the eastern portion of the project area, in locations of moderate to high potential for archaeological resources. Mitigation measures CUL-1 and CUL-2 have been revised in the Initial Study/Mitigated Negative Declaration (IS/MND) to include the presence of a Native American monitor during ground disturbance activities in indicated areas along the project alignment. Prior to initiating ground disturbance activities, the District and the Tribe will enter into and execute a Treatment and Disposition Agreement. Mitigation measure CUL-3 has been revised to indicate that the treatment and disposition of Native American artifacts, if uncovered, shall be determined by the Native American monitor. The District acknowledges receipt of the procedures for cultural items attached to this letter.

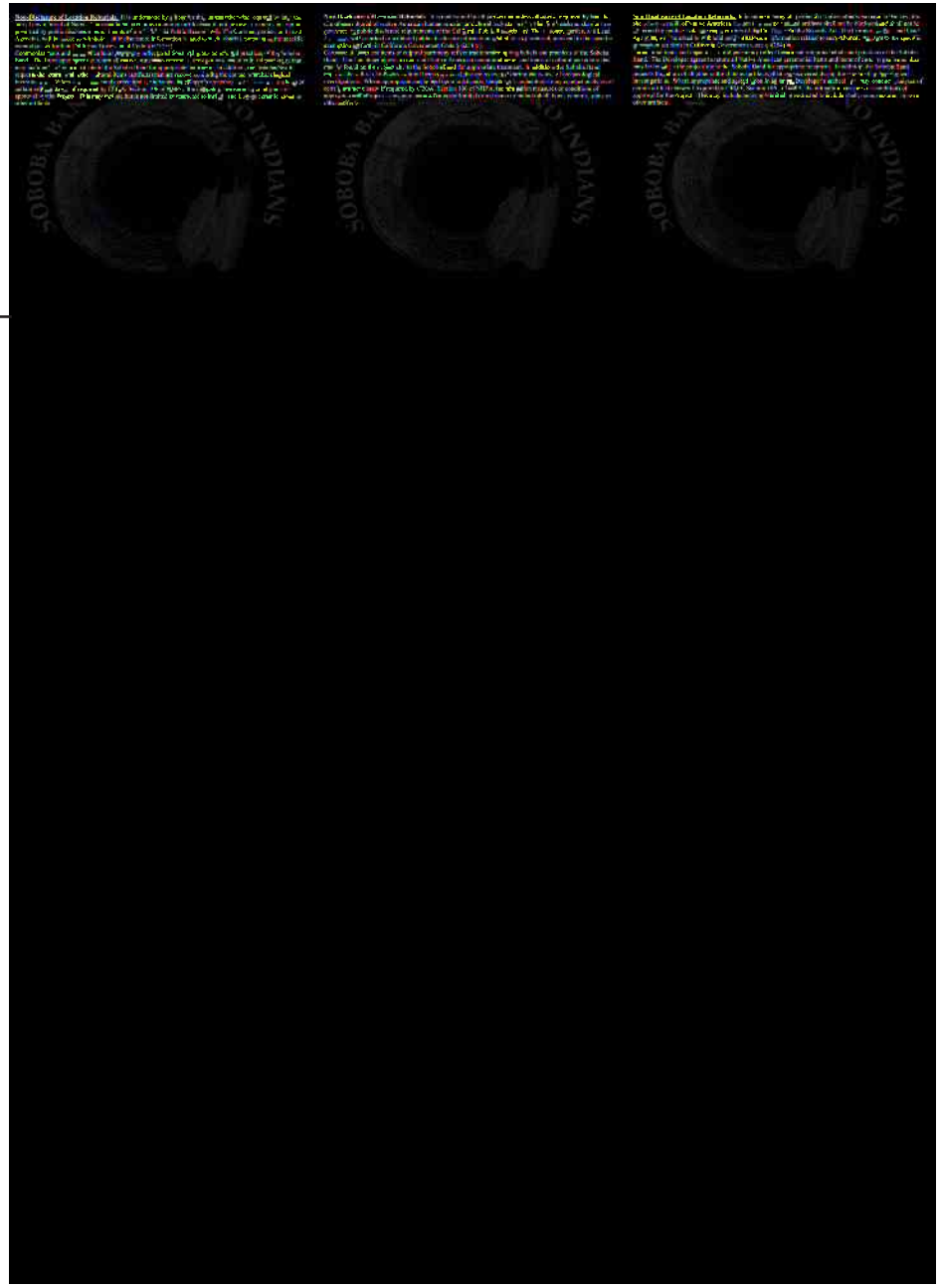
C-3 The Tribe and the District met regarding the project on August 11, 2015. As a result of this meeting, mitigation measures CUL-1 through CUL-3 have been revised, as discussed in response C-2 above.



C-4

C-4 This comment is a list of the procedures provided by the Tribe for cultural items, treatment and disposition of remains, coordination with County Coroner's office, and non-disclosure of reburial locations. Prior to initiating ground disturbance activities, the District and the Tribe will enter into and execute a Treatment and Disposition Agreement that incorporates the listed procedures and memorializes the processes that will occur in the event that tribal and/or archaeological cultural resources are uncovered during construction.

C-4 cont.



State of California - Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764
(909) 484-0459
www.wildlife.ca.gov

EDMUND G. BROWN, Jr., Governor
CHARLTON H. BONHAM, Director

July 28, 2015

Mr. Kris Flanigan
Engineering Project Manager
Riverside County Flood Control and Water
Conservation District
1995 Market Street
Riverside, CA 92501

Subject: Initial Study and Mitigated Negative Declaration
Norco Channel Stage 6, Norco MDP Line-1 Stage 5 & MDP
Line S-5 Stage 1 Project
State Clearinghouse No. 2015061065

Dear Mr. Flanigan:

D-1 The Department of Fish and Wildlife (Department) appreciates the opportunity to comment on the Initial Study (IS) and proposed Mitigated Negative Declaration (MND) for the Norco Channel Stage 6, Norco MDP Line-1 Stage 5 & MDP Line S-5 Stage 1 Project (Project) [State Clearinghouse No. 2015061065]. Pursuant to The Guidelines for the Implementation of CEQA (Cal. Code Regs., tit. 14, § 15000 *et seq.*; hereafter CEQA Guidelines), the Department has reviewed the IS and proposed MND and offers comments and recommendations on those activities involved in the project that are within the Department's area of expertise and germane to its statutory responsibilities, and/or which are required to be approved by the Department (CEQA Guidelines, §§ 15086, 15096 & 15204).

CEQA Role

D-2 The Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of those species (i.e., biological resources), pursuant to the California Endangered Species Act (CESA), and administers the Natural Community Conservation Planning Program (NCCP Program). The Department is a Trustee Agency with responsibility under CEQA for commenting on projects that could affect biological resources. As a Trustee Agency, the Department is responsible for providing, as available, biological expertise to review and comment upon environmental documents and impacts arising from project activities (CEQA Guidelines, § 15386; Fish & G. Code,

D-1 This is an introductory comment that acknowledges the California Department of Fish and Wildlife's (CDFW's or Department's) review of the project Initial Study/Mitigated Negative Declaration (IS/MND) and indicates that the letter contains comments and recommendations for the project activities that are within the Department's area of expertise and are germane to its statutory responsibilities. No specific response is necessary.

D-2 This comment identifies the Department's jurisdiction and responsibilities as applied to the proposed project. No specific response to this comment is necessary.

§ 1802). The Department administers the Natural Community Conservation Planning Program (NCCP).

D-2 cont. The Department will also act as a Responsible Agency based on its discretionary authority regarding project activities that impact streams and lakes (Fish & G. Code, §§ 1600 – 1616), in this case the South Norco Channel, or result in the 'take' of any species listed as candidate, threatened or endangered pursuant to the California Endangered Species Act (CESA, Fish & G. Code, § 2050 et seq.). The Department is providing the following comments as they relate to the project's consistency with the California Environmental Quality Act (CEQA).

Project Description

D-3 The proposed alignment is located east of Corona Avenue, west of Hillside Avenue, south of Hillside Lane, and north of 2nd Street, within the City of Norco, Riverside County, California.

The primary objectives of the project are to stabilize and increase the capacity of the existing earthen channel. Improvements to the South Norco Channel Stage 6 would consist of lining approximately 3,200 linear feet of interim trapezoidal channel with concrete side slopes and cobble-lined natural bottom and the construction of approximately 700 linear feet of reinforced concrete box (RCB) along the existing earthen channel alignment. The open channel extends from the intersection of 2nd Street and Corona Avenue to the southwest corner of the Norco Intermediate School Property adjacent to Temescal Avenue.

Line S-1 would be a below-ground storm drain extending from the South Norco Channel Stage 6 crossing of 3rd Street east to Hillside Avenue, then 150 feet north and 70 feet south within Hillside Avenue. Line S-1 would range between 18-inch and 48-inch diameter reinforced concrete pipe (RCP). Lateral S-1B would be a below-ground storm drain extending from Line S-1 within 3rd Street approximately 110 feet south within Golden West Lane, and would consist of 18-inch and 24-inch diameter RCP.

Line S-5 would be below-ground storm drain extending from the upstream end of South Norco Channel Stage 6, northeast across the Norco Intermediate School, along Hillside Lane, a private street, and then northwithin Hillside Avenue. This facility would range in size from 36-inch diameter RCP to a 6-by-4 foot RCB, and would be approximately 3,250 feet long. An additional reach of 30-inch and 24-inch RCP would extend south approximately 140 feet within Hillside Avenue from the intersection with Hillside Lane.

Biological Resources and Impacts

D-4 Following review of the Biological Resources section of the IS, the Department identified a number of questions, comments and concerns, and requests that each of these be

D-3 This comment summarizes the project description. No specific response is necessary.

D-4 This comment is an introductory statement for the Department's specific comments. Each of the Department's concerns are addressed specifically in responses D-5 through D-7 below.

D-4 cont. addressed prior to adoption of the proposed MND. The Department's questions, comments, and concerns include:

D-5 1. Seasonal Pools and Fairy Shrimp. Page 12 of the IS states that focused branchiopod surveys were conducted between January 8, 2015 and May 26, 2015, during which no listed fairy shrimp species were observed. However, page 14 of the IS states that a fairy shrimp survey is currently being conducted to determine the species present in the pools. Please clarify whether surveys are in fact still ongoing, and whether there is any question of the species present within the seasonal pools. If the surveys have not been completed, the MND will likely need to be revised to include the final results and recirculated, including appropriate mitigation measures (if deemed necessary).

D-6 2. Mitigation for Streambed Alteration. Mitigation Measure BIO-1 states that "CDFW jurisdictional streambed shall be mitigated at a ratio of 0.5:1, or as specified in the associated permit agreements." The form of mitigation (conservation, enhancement, rehabilitation, etc.) is not specified. As different forms of mitigation have different values for habitat, the Department is unable to concur that the proposed mitigation will be adequate to offset the proposed permanent impacts to the South Norco Channel. Furthermore, even if the mitigation were specified as creation of new streambed habitat, a ratio of less than 1:1 would result in a net loss of streambed habitat. The Department recommends that Mitigation Measure Bio-1 be revised to specify the type of mitigation to be used and the location of the proposed mitigation site, along with a proposed acreage that is appropriate given the type of mitigation.

D-7 3. Cumulative Impacts to Groundwater Recharge. Page 26 of the IS states that the potential temporary dewatering during construction and the addition of new impervious surfaces would result in a slight, but not significant, reduction of groundwater recharge for the area. However, the IS does not address the cumulative impacts to groundwater recharge that result from the increasing percentage of impervious surfaces, particularly within watercourses, in the region. California is currently experiencing a drought of historically unprecedented severity, and the Department is concerned that the combination of increased impervious surfaces with the drought could have severe long-term effects on the state's groundwater supplies and the natural communities that depend on them. Therefore, the Department requests that the MND be revised to include an analysis of the cumulative impacts to groundwater recharge, including appropriate mitigation measures (if deemed necessary).

D-8 The Department appreciates the opportunity to comment on the Initial Study and proposed Mitigated Negative Declaration for the Norco Channel Stage 6, Norco MDP Line-1 Stage 5 & MDP Line S-5 Stage 1 Project (SCH No. 2015061065), and requests that the City of Perris address the Department's comments and concerns prior to

D-5 This comment addresses the status and results of fairy shrimp surveys. Wet season surveys were conducted to determine the species of fairy shrimp present at the site, and dry soil samples were collected from the site for culturing. New text has been added to response IV(a) of the IS/MND (page 12) to discuss the results of the dry soil culture. The text in response IV(b) of the IS/MND (page 14) has been revised to indicate that no federally threatened or endangered species were identified at the project site. Although the results of the soil cultures have been incorporated into the document, no recirculation of the IS/MND is required, as the new information does not constitute a "substantial revision" as defined by CEQA Guidelines Section 15073.5.

D-6 This comment addresses appropriate mitigation for streambed alteration impacts. The South Norco Channel was artificially created in an area that historically did not have any drainage features. In other words, no naturally occurring CDFW jurisdictional habitats occur in the project alignment as stated in the response to IV(c). Nevertheless, the proposed project is considered to be CDFW streambed and project construction will result in 2.05 acres of impacts. The channel is disturbed habitat that lacks vegetation except for several small patches of herbaceous wetland which have been included as part of the impacted acreage calculation. Although herbaceous wetland features are present within the channel, the channel itself is a covered facility in the Memorandum of Understanding between the District and the Department that addresses maintenance of channels thereby precluding the patches of herbaceous wetland from being considered CDFW jurisdictional habitat.

As a result of the project's construction, the District is required to apply for a Section 1602 Streambed Alteration Agreement (SAA) from the CDFW. The SAA is a contract between the applicant and CDFW stating what activities can occur in the riparian zone and stream course and outline mitigation required to offset impacts caused by the project. Due to the low quality of created streambed that exists at the project site, the District proposed to mitigate offsite at a ratio of 0.5:1 for acres of impact. During the SAA process, the Department is allowed an opportunity to suggest an alternative mitigation ratio if it does not agree with what has been proposed. It should be noted that the permitting process is ongoing with the Department's SAA staff and an agreement has not been entered into. As such, specific details related to the form of mitigation that will be accomplished are not available at this time however; the District

D-6 cont. will work with the Department through the SAA process to provide a mutually agreeable mitigation for project related impacts. No project related impacts to CDFW jurisdictional areas will be allowed to occur until the District has received a fully executed SAA from the Department.

D-7 This comment addresses the potential for cumulative impacts to groundwater recharge. The Temescal sub-basin of the Upper Santa Ana Valley Groundwater Basin underlies the project alignment. Based on the California's Groundwater Bulletin 118, the Temescal sub-basin has an unknown groundwater storage capacity and an unknown amount of groundwater in storage, but covers an area of 23,500 acres. The project proposes improvements to the earthen South Norco Channel. The improvements would include placement of concrete side slopes and a cobble-lined natural bottom along 3,200 lineal feet of channel. The cobble-lined natural bottom would cover approximately 0.86 acre, which accounts for a minute fraction of a percent (less than one one-thousandth of a percent) of the total area of the sub-basin. The cobble-lined natural bottom would allow some continued infiltration of water to the underlying basin. Water that does not infiltrate would continue through the District's storm drain system to earthen channels further downstream. Based on the overall size of the groundwater basin, the partial infiltration that would occur within the improved, cobble-lined natural bottom, and the fact that downstream facilities include earthen channels where further infiltration into the groundwater basin would occur, impacts associated with the loss of groundwater recharge associated with the project would be less than significant. For these same reasons, the project would not contribute significantly to cumulative impacts associated with loss of groundwater recharge area. The preceding information has been incorporated into the IS/MND, in response VIII(c). No significant impacts would occur and no mitigation is required.

D-8 This is a closing statement requesting that the City of Perris address the comments and providing contact information for Department staff if there are questions regarding the comment letter. The City of Perris does not have jurisdiction for this project, but the District has responded to the comments provided in this letter and revised the IS/MND, as appropriate.

D-8 cont.

adoption of the MND. If you should have any questions pertaining to these comments, please contact Gabriele Quillman at (909) 980-3818 or at gabriele.quillman@wildlife.ca.gov.

Sincerely,

Leslie MacNair
Regional Manager

cc: State Clearinghouse, Sacramento

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INITIAL STUDY CHECKLIST REFERENCE LIST

1. California Department of Transportation (Caltrans) Scenic Highway Mapping System website. Available at: http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm. Accessed December 15, 2014.

2. California Department of Conservation, Important Farmland Maps. Available at: http://www.conservation.ca.gov/dlrp/fmmp/Pages/county_info.aspx. Accessed December 15, 2014.

3. City of Norco, Zoning Map. Available at: http://www.ci.norco.ca.us/civicax/filebank/blobdload.aspx?BlobID=2803. Updated May 21, 2012.

4. County of Riverside, Riverside County Land Information System website. Available at: http://tlmabld5.agency.tlma.co.riverside.ca.us/website/rclis/. Accessed January 12, 2015.

5. HELIX Environmental Planning, Inc., *General Biological Resources Analysis for South Norco Channel Project.* 2015.

6. HELIX Environmental Planning, Inc., *Jurisdictional Delineation Report.* 2015.

7. Applied Earthworks, Inc., Cultural Resources Report for the Proposed Riverside County Flood Control and Water Conservation District South Norco Channel, Line S-1 in the City of Norco, Riverside County, California. January 2015.

8. Applied Earthworks, Inc., Paleontological Resource Assessment for the South Norco Channel Line S-1 Project, City of Norco, Riverside County, California. December 2014.

9. Geocon West, Inc., Revised Geotechnical Investigation, Proposed Storm Drain and Channel Improvements, Hillside Lane, Third Street, and Temescal Road, Norco, California. July 31, 2012, revised January 2, 2013.

10. Geocon West, Inc., Soil and Groundwater Management Plan, South Norco Channel Stage 6, Third Street and East of Temescal Avenue, Norco, California. November 6, 2012.

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Appendix A

AIR QUALITY EMISSIONS CALCULATIONS

South Norco Channel, Stage 6

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	10.80	0.00	0
Other Asphalt Surfaces	1.70	Acre	1.70	74,052.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2014
Utility Company					
CO2 Intensity	0	**CH4 Intensity**	0	**N2O Intensity**	0

1.3 User Entered Comments & Non-Default Data

Land Use - Based on input from Project engineer
Construction Phase - Construction Schedule based on input from Project engineer.
Off-road Equipment - Equipment based on input from project engineer.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	196.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	PhaseEndDate	10/28/2016	10/31/2016
tblConstructionPhase	PhaseEndDate	11/21/2016	10/31/2016
tblConstructionPhase	PhaseEndDate	2/11/2016	1/28/2016
tblConstructionPhase	PhaseStartDate	1/29/2016	2/1/2016
tblConstructionPhase	PhaseStartDate	11/1/2016	10/11/2016
tblConstructionPhase	PhaseStartDate	1/22/2016	1/8/2016
tblGrading	MaterialExported	0.00	26,600.00
tblLandUse	LotAcreage	0.00	10.80
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Utility Trenching
tblOffRoadEquipment	PhaseName		Utility Trenching
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	8.7923	95.3724	50.5818	0.1104	1.3218	4.1629	5.4847	0.2680	3.8321	4.1001	0.0000	11,276.96	11,276.965	2.8933	0.0000	11,337.72
Total	**8.7923**	**95.3724**	**50.5818**	**0.1104**	**1.3218**	**4.1629**	**5.4847**	**0.2680**	**3.8321**	**4.1001**	**0.0000**	**11,276.96**	**11,276.965**	**2.8933**	**0.0000**	**11,337.72**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	8.7923	95.3724	50.5818	0.1104	1.0217	4.1629	5.1846	0.2352	3.8321	4.0673	0.0000	11,276.96	11,276.965	2.8933	0.0000	11,337.72
Total	**8.7923**	**95.3724**	**50.5818**	**0.1104**	**1.0217**	**4.1629**	**5.1846**	**0.2352**	**3.8321**	**4.0673**	**0.0000**	**11,276.96**	**11,276.965**	**2.8933**	**0.0000**	**11,337.72**

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N20	CO2e
Percent	**0.00**	**0.00**	**0.00**	**0.00**	**22.70**	**0.00**	**5.47**	**12.23**	**0.00**	**0.80**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Utility Trenching	Trenching	1/1/2016	1/21/2016	5	15	
2	Site Preparation	Site Preparation	1/8/2016	1/28/2016	5	15	
3	Grading	Grading	2/1/2016	10/31/2016	5	196	
4	Paving	Paving	10/11/2016	10/31/2016	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 98

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Paving	Paving Equipment	0	8.00	130	0.36
Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Scrapers	0	8.00	361	0.48
Utility Trenching	Off-Highway Trucks	1	6.00	400	0.38
Utility Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Pavers	1	8.00	125	0.42
Paving	Rollers	1	8.00	80	0.38
Site Preparation	Off-Highway Trucks	2	6.00	400	0.38
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Cranes	1	4.00	226	0.29
Grading	Off-Highway Trucks	3	6.00	400	0.38
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Rubber Tired Loaders	3	8.00	199	0.36
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Signal Boards	2	8.00	6	0.82
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Off-Highway Trucks	1	6.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Utility Trenching	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	11	28.00	0.00	3,325.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area
Clean Paved Roads

3.2 Utility Trenching - 2016
Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0470	11.3940	6.2031	0.0130		0.5577	0.5577		0.5131	0.5131		1,348.810	1,348.8107	0.4069		1,357.354
Total	**1.0470**	**11.3940**	**6.2031**	**0.0130**		**0.5577**	**0.5577**		**0.5131**	**0.5131**		**1,348.810**	**1,348.8107**	**0.4069**		**1,357.354**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0287	0.2995	6.6000e-	0.0559	4.7000e-	0.0564	0.0148	4.3000e-	0.0153		55.7858	55.7858	3.0500e-		55.8498
Total	**0.0213**	**0.0287**	**0.2995**	**6.6000e-**	**0.0559**	**4.7000e-**	**0.0564**	**0.0148**	**4.3000e-**	**0.0153**		**55.7858**	**55.7858**	**3.0500e-**		**55.8498**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0470	11.3940	6.2031	0.0130		0.5577	0.5577		0.5131	0.5131	0.0000	1,348.810	1,348.8107	0.4069		1,357.354
Total	**1.0470**	**11.3940**	**6.2031**	**0.0130**		**0.5577**	**0.5577**		**0.5131**	**0.5131**	**0.0000**	**1,348.810**	**1,348.8107**	**0.4069**		**1,357.354**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0287	0.2995	6.6000e-	0.0559	4.7000e-	0.0564	0.0148	4.3000e-	0.0153		55.7858	55.7858	3.0500e-		55.8498
Total	**0.0213**	**0.0287**	**0.2995**	**6.6000e-**	**0.0559**	**4.7000e-**	**0.0564**	**0.0148**	**4.3000e-**	**0.0153**		**55.7858**	**55.7858**	**3.0500e-**		**55.8498**

3.3 Site Preparation - 2016
Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.0941	22.7880	12.4062	0.0260		1.1154	1.1154		1.0261	1.0261		2,697.621	2,697.6214	0.8137		2,714.709
Total	**2.0941**	**22.7880**	**12.4062**	**0.0260**	**0.0000**	**1.1154**	**1.1154**	**0.0000**	**1.0261**	**1.0261**		**2,697.621**	**2,697.6214**	**0.8137**		**2,714.709**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0573	0.5989	1.3300e-	0.1118	9.3000e-	0.1127	0.0296	8.6000e-	0.0305		111.5715	111.5715	6.1000e-		111.6997
Total	**0.0427**	**0.0573**	**0.5989**	**1.3300e-**	**0.1118**	**9.3000e-**	**0.1127**	**0.0296**	**8.6000e-**	**0.0305**		**111.5715**	**111.5715**	**6.1000e-**		**111.6997**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	2.0941	22.7880	12.4062	0.0260		1.1154	1.1154		1.0261	1.0261	0.0000	2,697.621	2,697.6214	0.8137		2,714.709
Total	**2.0941**	**22.7880**	**12.4062**	**0.0260**	**0.0000**	**1.1154**	**1.1154**	**0.0000**	**1.0261**	**1.0261**	**0.0000**	**2,697.621**	**2,697.6214**	**0.8137**		**2,714.709**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0573	0.5989	1.3300e-	0.1118	9.3000e-	0.1127	0.0296	8.6000e-	0.0305		111.5715	111.5715	6.1000e-		111.6997
Total	**0.0427**	**0.0573**	**0.5989**	**1.3300e-**	**0.1118**	**9.3000e-**	**0.1127**	**0.0296**	**8.6000e-**	**0.0305**		**111.5715**	**111.5715**	**6.1000e-**		**111.6997**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5456	0.0000	0.5456	0.0596	0.0000	0.0596			0.0000			0.0000
Off-Road	6.1057	70.5682	32.5652	0.0708		3.0458	3.0458		2.8021	2.8021		7,350.559	7,350.5594	2.2172		7,397.120
Total	**6.1057**	**70.5682**	**32.5652**	**0.0708**	**0.5456**	**3.0458**	**3.5914**	**0.0596**	**2.8021**	**2.8617**		**7,350.559**	**7,350.5594**	**2.2172**		**7,397.120**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3066	4.8190	3.7705	0.0125	0.2956	0.0740	0.3696	0.0809	0.0681	0.1490		1,257.706	1,257.7062	9.0800e-		1,257.896
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1194	0.1605	1.6770	3.7200e-	0.3130	2.6200e-	0.3156	0.0830	2.4000e-	0.0854		312.4003	312.4003	0.0171		312.7591
Total	**0.4260**	**4.9795**	**5.4475**	**0.0162**	**0.6086**	**0.0766**	**0.6852**	**0.1639**	**0.0705**	**0.2344**		**1,570.106**	**1,570.1065**	**0.0262**		**1,570.656**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2455	0.0000	0.2455	0.0268	0.0000	0.0268			0.0000			0.0000
Off-Road	6.1057	70.5682	32.5652	0.0708		3.0458	3.0458		2.8021	2.8021	0.0000	7,350.559	7,350.5594	2.2172		7,397.120
Total	**6.1057**	**70.5682**	**32.5652**	**0.0708**	**0.2455**	**3.0458**	**3.2913**	**0.0268**	**2.8021**	**2.8289**	**0.0000**	**7,350.559**	**7,350.5594**	**2.2172**		**7,397.120**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3066	4.8190	3.7705	0.0125	0.2956	0.0740	0.3696	0.0809	0.0681	0.1490		1,257.706	1,257.7062	9.0800e-		1,257.896
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1194	0.1605	1.6770	3.7200e-	0.3130	2.6200e-	0.3156	0.0830	2.4000e-	0.0854		312.4003	312.4003	0.0171		312.7591
Total	**0.4260**	**4.9795**	**5.4475**	**0.0162**	**0.6086**	**0.0766**	**0.6852**	**0.1639**	**0.0705**	**0.2344**		**1,570.106**	**1,570.1065**	**0.0262**		**1,570.656**

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8997	19.7386	11.6708	0.0215		1.0391	1.0391		0.9582	0.9582		2,188.942	2,188.9422	0.6408		2,202.398
Paving	0.2969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1967**	**19.7386**	**11.6708**	**0.0215**		**1.0391**	**1.0391**		**0.9582**	**0.9582**		**2,188.942**	**2,188.9422**	**0.6408**		**2,202.398**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0640	0.0860	0.8984	1.9900e-	0.1677	1.4000e-	0.1691	0.0445	1.2900e-	0.0458		167.3573	167.3573	9.1500e-		167.5495
Total	**0.0640**	**0.0860**	**0.8984**	**1.9900e-**	**0.1677**	**1.4000e-**	**0.1691**	**0.0445**	**1.2900e-**	**0.0458**		**167.3573**	**167.3573**	**9.1500e-**		**167.5495**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8997	19.7386	11.6708	0.0215		1.0391	1.0391		0.9582	0.9582	0.0000	2,188.942	2,188.9422	0.6408		2,202.398
Paving	0.2969					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.1967**	**19.7386**	**11.6708**	**0.0215**		**1.0391**	**1.0391**		**0.9582**	**0.9582**	**0.0000**	**2,188.942**	**2,188.9422**	**0.6408**		**2,202.398**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0640	0.0860	0.8984	1.9900e-	0.1677	1.4000e-	0.1691	0.0445	1.2900e-	0.0458		167.3573	167.3573	9.1500e-		167.5495
Total	**0.0640**	**0.0860**	**0.8984**	**1.9900e-**	**0.1677**	**1.4000e-**	**0.1691**	**0.0445**	**1.2900e-**	**0.0458**		**167.3573**	**167.3573**	**9.1500e-**		**167.5495**

South Norco Channel, Stage 6

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	10.80	0.00	0
Other Asphalt Surfaces	1.70	Acre	1.70	74,052.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2014
Utility Company					
CO2 Intensity	0	**CH4 Intensity**	0	**N2O Intensity**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -
Land Use - Based on input from Project engineer
Construction Phase - Construction Schedule based on input from Project engineer.
Off-road Equipment - Equipment based on input from project engineer.
Off-road Equipment - Equipment based on input from project engineer.
Off-road Equipment - Equipment based on input from project engineer.
Off-road Equipment - Equipment based on input from project engineer.
Grading -
Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	196.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	PhaseEndDate	10/28/2016	10/31/2016
tblConstructionPhase	PhaseEndDate	11/21/2016	10/31/2016
tblConstructionPhase	PhaseEndDate	2/11/2016	1/28/2016
tblConstructionPhase	PhaseStartDate	1/29/2016	2/1/2016
tblConstructionPhase	PhaseStartDate	11/1/2016	10/11/2016
tblConstructionPhase	PhaseStartDate	1/22/2016	1/8/2016
tblGrading	MaterialExported	0.00	26,600.00
tblLandUse	LotAcreage	0.00	10.80
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Utility Trenching
tblOffRoadEquipment	PhaseName		Utility Trenching
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Grading
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.6799	7.8180	3.9637	9.0100e-	0.1145	0.3264	0.4409	0.0223	0.3003	0.3226	0.0000	838.4071	838.4071	0.2122	0.0000	842.8638
Total	**0.6799**	**7.8180**	**3.9637**	**9.0100e-**	**0.1145**	**0.3264**	**0.4409**	**0.0223**	**0.3003**	**0.3226**	**0.0000**	**838.4071**	**838.4071**	**0.2122**	**0.0000**	**842.8638**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.6799	7.8180	3.9637	9.0100e-	0.0851	0.3264	0.4115	0.0191	0.3003	0.3194	0.0000	838.4063	838.4063	0.2122	0.0000	842.8630
Total	**0.6799**	**7.8180**	**3.9637**	**9.0100e-**	**0.0851**	**0.3264**	**0.4115**	**0.0191**	**0.3003**	**0.3194**	**0.0000**	**838.4063**	**838.4063**	**0.2122**	**0.0000**	**842.8630**

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N20	CO2e
Percent	**0.00**	**0.00**	**0.00**	**0.00**	**25.67**	**0.00**	**6.67**	**14.39**	**0.00**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Utility Trenching	Trenching	1/1/2016	1/21/2016	5	15	
2	Site Preparation	Site Preparation	1/8/2016	1/28/2016	5	15	
3	Grading	Grading	2/1/2016	10/31/2016	5	196	
4	Paving	Paving	10/11/2016	10/31/2016	5	15	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 98

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Paving	Paving Equipment	0	8.00	130	0.36
Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Scrapers	0	8.00	361	0.48
Utility Trenching	Off-Highway Trucks	1	6.00	400	0.38
Utility Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Pavers	1	8.00	125	0.42
Paving	Rollers	1	8.00	80	0.38
Site Preparation	Off-Highway Trucks	2	6.00	400	0.38
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Cranes	1	4.00	226	0.29
Grading	Off-Highway Trucks	3	6.00	400	0.38
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Rubber Tired Loaders	3	8.00	199	0.36
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Signal Boards	2	8.00	6	0.82
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Off-Highway Trucks	1	6.00	400	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Utility Trenching	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	11	28.00	0.00	3,325.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area
Clean Paved Roads

3.2 Utility Trenching - 2016
Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.8500e-	0.0855	0.0465	1.0000e-		4.1800e-	4.1800e-		3.8500e-	3.8500e-	0.0000	9.1772	9.1772	2.7700e-	0.0000	9.2353
Total	**7.8500e-**	**0.0855**	**0.0465**	**1.0000e-**		**4.1800e-**	**4.1800e-**		**3.8500e-**	**3.8500e-**	**0.0000**	**9.1772**	**9.1772**	**2.7700e-**	**0.0000**	**9.2353**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-	2.2000e-	2.3000e-	1.0000e-	4.1000e-	0.0000	4.1000e-	1.1000e-	0.0000	1.1000e-	0.0000	0.3855	0.3855	2.0000e-	0.0000	0.3859
Total	**1.5000e-**	**2.2000e-**	**2.3000e-**	**1.0000e-**	**4.1000e-**	**0.0000**	**4.1000e-**	**1.1000e-**	**0.0000**	**1.1000e-**	**0.0000**	**0.3855**	**0.3855**	**2.0000e-**	**0.0000**	**0.3859**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.8500e-	0.0855	0.0465	1.0000e-		4.1800e-	4.1800e-		3.8500e-	3.8500e-	0.0000	9.1771	9.1771	2.7700e-	0.0000	9.2353
Total	**7.8500e-**	**0.0855**	**0.0465**	**1.0000e-**		**4.1800e-**	**4.1800e-**		**3.8500e-**	**3.8500e-**	**0.0000**	**9.1771**	**9.1771**	**2.7700e-**	**0.0000**	**9.2353**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-	2.2000e-	2.3000e-	1.0000e-	4.1000e-	0.0000	4.1000e-	1.1000e-	0.0000	1.1000e-	0.0000	0.3855	0.3855	2.0000e-	0.0000	0.3859
Total	**1.5000e-**	**2.2000e-**	**2.3000e-**	**1.0000e-**	**4.1000e-**	**0.0000**	**4.1000e-**	**1.1000e-**	**0.0000**	**1.1000e-**	**0.0000**	**0.3855**	**0.3855**	**2.0000e-**	**0.0000**	**0.3859**

3.3 Site Preparation - 2016
Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.1709	0.0931	1.9000e-		8.3700e-	8.3700e-		7.7000e-	7.7000e-	0.0000	18.3543	18.3543	5.5400e-	0.0000	18.4706
Total	**0.0157**	**0.1709**	**0.0931**	**1.9000e-**	**0.0000**	**8.3700e-**	**8.3700e-**	**0.0000**	**7.7000e-**	**7.7000e-**	**0.0000**	**18.3543**	**18.3543**	**5.5400e-**	**0.0000**	**18.4706**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-	4.4000e-	4.6000e-	1.0000e-	8.2000e-	1.0000e-	8.3000e-	2.2000e-	1.0000e-	2.2000e-	0.0000	0.7709	0.7709	4.0000e-	0.0000	0.7718
Total	**3.0000e-**	**4.4000e-**	**4.6000e-**	**1.0000e-**	**8.2000e-**	**1.0000e-**	**8.3000e-**	**2.2000e-**	**1.0000e-**	**2.2000e-**	**0.0000**	**0.7709**	**0.7709**	**4.0000e-**	**0.0000**	**0.7718**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0157	0.1709	0.0931	1.9000e-		8.3700e-	8.3700e-		7.7000e-	7.7000e-	0.0000	18.3543	18.3543	5.5400e-	0.0000	18.4706
Total	**0.0157**	**0.1709**	**0.0931**	**1.9000e-**	**0.0000**	**8.3700e-**	**8.3700e-**	**0.0000**	**7.7000e-**	**7.7000e-**	**0.0000**	**18.3543**	**18.3543**	**5.5400e-**	**0.0000**	**18.4706**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-	4.4000e-	4.6000e-	1.0000e-	8.2000e-	1.0000e-	8.3000e-	2.2000e-	1.0000e-	2.2000e-	0.0000	0.7709	0.7709	4.0000e-	0.0000	0.7718
Total	**3.0000e-**	**4.4000e-**	**4.6000e-**	**1.0000e-**	**8.2000e-**	**1.0000e-**	**8.3000e-**	**2.2000e-**	**1.0000e-**	**2.2000e-**	**0.0000**	**0.7709**	**0.7709**	**4.0000e-**	**0.0000**	**0.7718**

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0535	0.0000	0.0535	5.8400e-000	0.0000	5.8400e-000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5984	6.9157	3.1914	6.9300e-000		0.2985	0.2985		0.2746	0.2746	0.0000	653.4949	653.4949	0.1971	0.0000	657.6344
Total	**0.5984**	**6.9157**	**3.1914**	**6.9300e-000**	**0.0535**	**0.2985**	**0.3520**	**5.8400e-000**	**0.2746**	**0.2805**	**0.0000**	**653.4949**	**653.4949**	**0.1971**	**0.0000**	**657.6344**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0296	0.4803	0.3631	1.2300e-000	0.0285	7.2400e-000	0.0357	7.8200e-000	6.6600e-000	0.0145	0.0000	111.9698	111.9698	8.0000e-000	0.0000	111.9866
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0110	0.0162	0.1684	3.7000e-000	0.0301	2.6000e-000	0.0304	8.0000e-000	2.4000e-000	8.2300e-000	0.0000	28.2049	28.2049	1.5200e-000	0.0000	28.2368
Total	**0.0406**	**0.4965**	**0.5314**	**1.6000e-000**	**0.0586**	**7.5000e-000**	**0.0661**	**0.0158**	**6.9000e-000**	**0.0227**	**0.0000**	**140.1747**	**140.1747**	**2.3200e-000**	**0.0000**	**140.2234**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0241	0.0000	0.0241	2.6300e-000	0.0000	2.6300e-000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5984	6.9157	3.1914	6.9300e-000		0.2985	0.2985		0.2746	0.2746	0.0000	653.4941	653.4941	0.1971	0.0000	657.6336
Total	**0.5984**	**6.9157**	**3.1914**	**6.9300e-000**	**0.0241**	**0.2985**	**0.3226**	**2.6300e-000**	**0.2746**	**0.2772**	**0.0000**	**653.4941**	**653.4941**	**0.1971**	**0.0000**	**657.6336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0296	0.4803	0.3631	1.2300e-000	0.0285	7.2400e-000	0.0357	7.8200e-000	6.6600e-000	0.0145	0.0000	111.9698	111.9698	8.0000e-000	0.0000	111.9866
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0110	0.0162	0.1684	3.7000e-000	0.0301	2.6000e-000	0.0304	8.0000e-000	2.4000e-000	8.2300e-000	0.0000	28.2049	28.2049	1.5200e-000	0.0000	28.2368
Total	**0.0406**	**0.4965**	**0.5314**	**1.6000e-000**	**0.0586**	**7.5000e-000**	**0.0661**	**0.0158**	**6.9000e-000**	**0.0227**	**0.0000**	**140.1747**	**140.1747**	**2.3200e-000**	**0.0000**	**140.2234**

3.5 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0143	0.1480	0.0875	1.6000e-000		7.7900e-000	7.7900e-000		7.1900e-000	7.1900e-000	0.0000	14.8933	14.8933	4.3600e-000	0.0000	14.9849
Paving	2.2300e-					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0165**	**0.1480**	**0.0875**	**1.6000e-000**		**7.7900e-000**	**7.7900e-000**		**7.1900e-000**	**7.1900e-000**	**0.0000**	**14.8933**	**14.8933**	**4.3600e-000**	**0.0000**	**14.9849**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-	6.6000e-	6.9000e-	2.0000e-	1.2300e-	1.0000e-	1.2400e-	3.3000e-	1.0000e-	3.4000e-	0.0000	1.1564	1.1564	6.0000e-	0.0000	1.1577
Total	**4.5000e-**	**6.6000e-**	**6.9000e-**	**2.0000e-**	**1.2300e-**	**1.0000e-**	**1.2400e-**	**3.3000e-**	**1.0000e-**	**3.4000e-**	**0.0000**	**1.1564**	**1.1564**	**6.0000e-**	**0.0000**	**1.1577**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0143	0.1480	0.0875	1.6000e-000		7.7900e-000	7.7900e-000		7.1900e-000	7.1900e-000	0.0000	14.8933	14.8933	4.3600e-000	0.0000	14.9849
Paving	2.2300e-					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0165**	**0.1480**	**0.0875**	**1.6000e-000**		**7.7900e-000**	**7.7900e-000**		**7.1900e-000**	**7.1900e-000**	**0.0000**	**14.8933**	**14.8933**	**4.3600e-000**	**0.0000**	**14.9849**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5	Bio- CO2	NBio-	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-	6.6000e-	6.9000e-	2.0000e-	1.2300e-	1.0000e-	1.2400e-	3.3000e-	1.0000e-	3.4000e-	0.0000	1.1564	1.1564	6.0000e-	0.0000	1.1577
Total	**4.5000e-**	**6.6000e-**	**6.9000e-**	**2.0000e-**	**1.2300e-**	**1.0000e-**	**1.2400e-**	**3.3000e-**	**1.0000e-**	**3.4000e-**	**0.0000**	**1.1564**	**1.1564**	**6.0000e-**	**0.0000**	**1.1577**

Appendix B

GENERAL BIOLOGICAL RESOURCES ANALYSIS

HELIX
Environmental Planning

South Norco Channel, Line S-1 Project

General Biological Resources Analysis

February 27, 2015

W. Larry Sward
Principal Biologist

Prepared for:
Riverside County Flood Control and Water Conservation District
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South Norco Channel Project
General Biological Resources Analysis

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

LIST OF TABLES

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EXECUTIVE SUMMARY

Riverside County Flood Control and Water Conservation District's (District's) proposed South Norco Channel Project (Project) is located in the City of Norco (City), Riverside County, California. A preliminary consistency analysis of the Project with the County of Riverside's (County's) Multiple Species Habitat Conservation Plan (MSHCP) is provided in this report. While the Project area is within the Cities of Riverside and Norco Area Plan, none of the parcels that compose the study area are within any Criteria Cell, Cell Group, or Sub Unit. There is no proposed Core, Linkage, or Constrained Linkage within the Project area. Since the Study Area is not within any Sub Unit, there are no Planning Species to be addressed. The proposed Project is not expected to affect implementation of the MSHCP.

The 19.5-acre study area is comprised of all or portions of 13 parcels that are within an urban residential area of the City. The Study Area is mostly linear and traverses along the edge of the parcels.

Although the Norco Channel is an intermittent drainage that is both Waters of the U.S. (WUS) and California Department of Fish and Wildlife (CDFW) streambed, it is a maintained flood channel and is essentially unvegetated. The channel is artificially created and is not the redirection of a naturally occurring stream, and as such, the Norco Channel is not considered to be a Riparian/Riverine resource pursuant to the MSHCP. Further, a habitat assessment determined that the intermittent drainage channel does not contain suitable habitat for listed riparian bird species such as the least Bell's vireo (*Vireo bellii pusillus*) or southwestern willow flycatcher (*Empidonax traillii extimus*).

The seasonal basins located at the southern terminus of the project study area have potential to support sensitive fairy shrimp. Focused fairy shrimp surveys began in January 2015. As the basins are an artificial creation from past grading, they are not a Riparian/Riverine habitat. However, if the basins support sensitive fairy shrimp, they will then be considered a Riparian/Riverine habitat and require avoidance or mitigation of impacts under the MSHCP. Preliminary results of the surveys have not documented any sensitive fairy shrimp species. If that proves to be the case, the Project would not affect any Riparian/Riverine resource and a Determination of Biologically Equivalent or Superior Preservation (DBESP) would not be required. A DBESP will only be required if sensitive fairy shrimp are present and the basins are not 100 percent avoided.

None of the study area is identified by the MSHCP as within the Criteria Area Species Survey Area (CASSA) and Narrow Endemic Plant Species Survey Area (NEPSSA). Surveys for NEPSSA or CASSA species are not required. No NEPSSA or CASSA species was observed on the Project site and none would be affected. In addition, special status plant species not covered by the MSHCP were not observed and are not expected to occur within the survey area as a result of the absence of suitable habitat.

The project occurs on 13 assessor's parcel numbers (APNs) and the MSHCP identifies one of those APNs as requiring a habitat assessment for burrowing owl (*Athene cunicularia*), and

surveys if potential habitat occurs. The habitat assessment was negative for the project site and therefore focused burrowing owl surveys are not recommended.

Based on an analysis of preliminary design concepts, the Project is expected to be consistent with the MSHCP based on the following:

- No MSHCP criteria cell would be affected by the proposed Project.
- The Project would be consistent with MSHCP Section 6.1.2 because no Riverine/Riparian resources, including vernal pools, occur within the proposed Project footprint.
- Fairy shrimp surveys commenced in January 2015 and are thus far negative for sensitive species.
- The Project would be consistent with MSHCP Section 6.1.3 because NEPSSA species are not expected to occur on site and were not observed during surveys.
- The Project is consistent with MSHCP Section 6.1.4 as the project occurs adjacent to residential areas and is not adjacent to the MSHCP preserve.
- The Project would be consistent with MSHCP Section 6.3.2 because no burrowing owls, active burrow locations, or suitable habitat characteristics were observed on the property during the habitat assessment.

Impacts to upland habitats and associated species will be addressed through participation in the MSHCP, which for public projects is typically addressed through payment of a fee calculated as 5 percent of the total cost of the project, which is subject to adjustment or elimination as appropriate for District projects.

The proposed project would likely result in project effects to areas under state and federal jurisdiction for which permits from the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW would be required.

1.0 INTRODUCTION

The purpose of this report is to provide biological data available on Riverside County Flood Control and Water Conservation District's (District)' proposed South Norco Channel, Line S-1 Project (Project) located in the City of Norco (City), Riverside County, California. This report provides the County of Riverside (County), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and the public with information necessary to satisfy review of the proposed Project under the California Environmental Quality Act (CEQA) and other federal, state, and County regulations.

1.1 PROJECT LOCATION

The 19.5-acre Project study area is located within the City and bounded to the west by Corona Avenue, to the east by Hillside Avenue, to the north by Hillside Lane, and to the south by Second Street (Figures 1 and 2). The study area is situated in Sections 7 and 18 of Township 3 South, Range 6 West of the U.S. Geological Survey (USGS) 7.5-minute Corona North quadrangle (Figure 2). Elevations within the study area range from approximately 640 to 705 feet above mean sea level. The study area sits on all or part of 13 parcels that total 59.43 acres (Table 1). The actual Project study area occupies only 19.5 acres.

Table 1
ASSESSOR'S PARCEL NUMBERS (APNs) AND AREA (acre)

APN	AREA*
123100001	26.59
123130010	2.11
123160025	0.02
123160026	1
123160028	0.24
123160029	0.58
123190035	0.07
123200007	0.8
123220001	19.24
125130014	0.27
125130015	0.13
125140025	0.69
125160005	7.69
TOTAL ACRES	**59.43****

* Acreage shown is from Riverside County Land Information System (RCLIS) website.

**Total acres is for list of APNs wholly or partly affected by the project, and not the project or study area acreage.

The Project is located in the Cities of Riverside and Norco Area Plan of the Multiple Species Habitat Conservation Plan (MSHCP) but not with a subunit or criteria cell (Dudek and Associates [Dudek] 2003). There is no proposed Core, Linkage, or Constrained Linkage within the Project area. There are no Regional Conservation Authority (RCA)-conserved, Public/Quasi Public lands, or conservation easements in the project area. Since the Project Area is not within any Sub Unit, there are no Planning Species to be addressed. APN 123100001 requires a habitat assessment for burrowing owl (Table 1).

1.2 LAND USE/SITE HISTORY

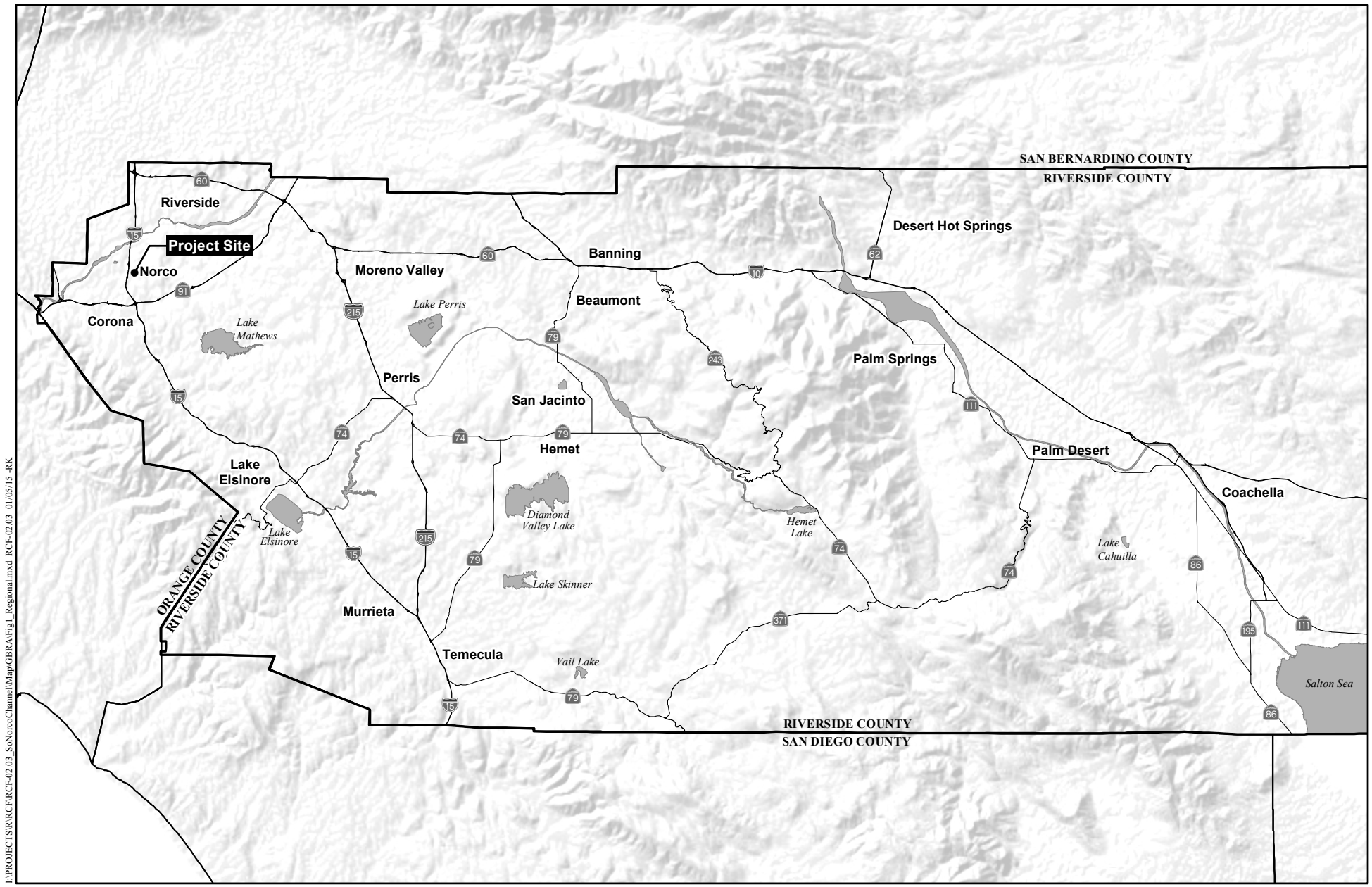
The entire study area and surrounding areas have been developed or disturbed by human activities (Figure 3). The proposed Project is within an area that is primarily residential. Other land uses in the Project area include Norco Intermediate School, Norco High School, a constructed flood control channel that conveys storm water and nuisance water, and equestrian and agricultural uses (i.e., plant nurseries along the south side of Hillside Lane).

The District has a Memorandum of Understanding (MOU) with the CDFW to maintain the channel (Appendix A). As a result, the channel is barren when soil and hydrological conditions appear to be suitable for riparian vegetation.

1.3 PROPOSED PROJECT

The primary objective of the Project is to stabilize the existing earthen channel. The existing channel is open and extends from the intersection of Second Street and Corona Avenue, northeasterly to the southwestern corner of the Norco Intermediate School property adjacent to Temescal Avenue. Improvements to the South Norco Channel Stage 6 consist of lining approximately 1,160 lineal feet (LF) of trapezoidal channel with concrete side slopes and bottom and an impervious bottom of concrete and grouted riprap. A concrete box will also be installed along 700 LF of the channel, beginning the channel crossing at Temescal Avenue and extending 700 feet upstream. Channel construction elsewhere will consist of non-grouted cobbles in the bottom along 2,610 LF with concrete sides. The sections that are entirely concrete will be at the southern and northern ends, and at road crossings. The cobble-lined channel bottom will be 4 feet wide, except in the southern most section where it is 12 feet wide. The overall channel width increases north to south: in the north, the channel is 25 feet wide; the middle channel sections are 30 feet wide; and in the south, the channel is 35 feet wide. Overall, the channel will be shifted to the west and an access road would be constructed on the east side of the channel. Access to this road from city streets will be provided on the north and south ends of the channel. Access into the channel will also be constructed at the north and south ends, and at Temescal and 3rd Streets.

Line S-1 is a below-ground storm drain extending from the South Norco Channel Stage 6 crossing of Third Street easterly within Third Street approximately 2,330 LF to Hillside Avenue, then northerly and southerly within Hillside Avenue approximately 150 and 70 LF respectively. Line S-1 sizes range from 18-inch to 48-inch diameter reinforced concrete pipe (RCP). Lateral S-1B is a below-ground storm drain extending from Line S-1 within Third Street approximately 110 LF southerly within Golden West Lane. Lateral S-1B consists of 18-inch and 24-inch diameter RCP.



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Regional Location

SOUTH NORCO CHANNEL

HELIX Environmental Planning

N 0 10 Miles

Figure 1